SAN JUAN HARBOR SUBMERGED AQUATIC VEGETATION MITIGATION PROJECT, SAN JUAN, PUERTO RICO

DRAFT ENVIRONMENTAL ASSESSMENT

U.S. Army Corps of Engineers
Jacksonville District

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EXECUTIVE SUMMARY

Mitigation is required as a result of widening the Puerto Nuevo Channel in San Juan Harbor, which impacted an estimated 1.2 acres of sea grass (*Halophila decipiens*) and marine macro-algae. The mitigation originally proposed involved raising the bottom elevation of a portion of San Juan Harbor to support sea grass. This mitigation plan presents (among other concerns) engineering concerns over the confinement of the material used for raising the elevation. Extensive and costly structures would be needed to contain the material and prevent migration of material into the navigation channel.

The new mitigation proposal would involve filling of approximately 4 acres (including side slopes) of certain dredged holes in the nearby Condado Lagoon with approximately 46,000 cubic yards of suitable material to a depth of -12 feet to -15 feet resulting in 1.2 acres at an elevation suitable for sea grass. The fill material would come from the recently shoaled areas of the La Esperanza Ecosystem Restoration project located along the western shore of San Juan Bay. An alternative borrow source would be the San Antonio channel in San Juan Harbor. In La Esperanza, one borrow source would be the north-facing opening into San Juan Bay. The east-facing opening could also provide some material if needed. See enclosed maps and drawings for additional details. Both of these areas have experienced substantial shoaling since the completion of the La Esperanza Ecosystem Restoration Project on May 20, 2005.

The filling of dredged holes in the Condado Lagoon was previously proposed in 2004 as a "beneficial use of dredged material" project under Section 204 of the Water Resources Development Act of 1992 (a Continuing Authority Program). In addition, restoration of sea grass beds in Condado Lagoon would support a goal of the San Juan Bay Estuary Program's Comprehensive Conservation and Management Plan.

Unlike a "beneficial use of dredged material" project, the purpose of this effort is mitigation for the unavoidable impacts of the expansion of the San Juan Harbor Navigation Project. The proposed action would not jeopardize the continued existence of any listed threatened or endangered species and would not destroy or adversely modify designated critical habitat (*Acropora* coral). Subject to concurrence by the Commonwealth of Puerto Rico, the proposed action is consistent with the Coastal Zone Management program (see Appendix B of the EA for the Coastal Zone Consistency Statement). The proposed action would comply with the guidelines pursuant to Section 404(b) of the Clean Water Act (see Appendix A of the EA). The proposed action would not impact any property eligible for inclusion in the National Register of Historic Places. Measures to eliminate, reduce, or avoid potential impacts include the following: (1) locating the borrow and fill sites outside of established coral reef areas, (2) providing a net gain of habitat for sea grass and other submerged vegetation, (3) avoiding eligible historic resources, (4) following standard manatee protection measures for any water based activity in manatee habitat, (5) following the sea turtle and smalltooth sawfish construction conditions, (6) monitor for and avoid destruction of migratory birds (including eggs, chicks, and active nests) in nesting habitat, (7) survey any pipeline corridor to avoid impacts to coral (8) monitor and manage turbidity, and (9) sampling and testing to ensure suitability of borrow material.

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TABLE OF CONTENTS

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1 PROJECT PURPOSE AND NEED

1.1 PROJECT AUTHORITY.

In response to requests from the Puerto Rico government, studies of the authorized San Juan Harbor Federal Navigation Project were completed and improvements were proposed in a Survey Report dated 1974. A Final Environmental Impact Statement (FEIS) was filed in 1976. The Congress of the United States authorized the preparation of a Phase I General Design Memorandum (GDM) in the Water Resources Development Act (WRDA) of 1976 (Public Law 94-587 dated 22 October 1976). The Phase I GDM and S-EIS were prepared in 1982. The S-EIS incorporated new information provided by the U.S. Fish and Wildlife Service (FWS) on significant wildlife habitat areas, fisheries resources and submerged aquatic vegetation (SAV) in the Puerto Nuevo-Army Terminal channel area. The Congress authorized the deep draft navigation project recommended in the Phase I GDM in WRDA of 1986 (Public Law 99-662 dated 17 November 1986) (**Figure 1**). The San Juan Harbor improvements project authorized by WRDA of 1986 was re-authorized to include the recommendations made in the 1994 General Reevaluation Report (GRR) and Environmental Assessment (EA) by Section 301 of WRDA of 1996. The San Juan Harbor SAV Mitigation Project is a component of the San Juan Harbor Federal Navigation Project reauthorized by Section 301 of the WRDA of 1996. The non-Federal sponsor for the project is the Puerto Rico Ports Authority (PRPA).

1.2 PROJECT LOCATION.

San Juan Harbor is located within the San Juan metropolitan area along the north coast of Puerto Rico. The Condado Lagoon is part of the San Juan Bay Estuary system (SJBES), connected to the San Juan Harbor by the San Antonio Channel and to the Atlantic Ocean through an opening known as El Boquerón. The Esperanza Peninsula is a low sandy pit located in the northwestern side of the San Juan Harbor (**Figure 2**).

1.3 PROJECT NEED OR OPPORTUNITY.

In 2001 the San Juan Harbor Federal Navigation Channel improvements were completed as re-authorized by Section 301 of WRDA of 1996. SAV mitigation is required for widening of the Puerto Nuevo Channel, where impacts to an estimated 1.2 acres of *Halophila decipiens* and marine macro-algae occurred. In order to determine the location and design of a mitigation site in the San Juan Harbor to compensate for the loss of SAV, the *2003 San Juan Harbor Mitigation Baseline Survey and Conceptual Design Report* was developed and circulated to Federal and Commonwealth agencies for review and comment. As a result, the plan calls for the restoration of approximately 1.2 acres of SAV in a 10-acre fill template within three years of placement of suitable sediment to support maturation of SAV (**Figure 3**). A combination of geotech-tubes, silt curtains and small riprap was recommended in order to stabilize and contain the material to be placed.

In recent years, several meetings between the U.S. Army Corps of Engineers (Corps), Jacksonville District, PRPA (non-Federal sponsor), FWS, the National Marine Fisheries Service (NMFS), and the San Juan Bay Estuary Program (SJBEP) staff have been conducted to discuss the status of the San Juan Harbor SAV Mitigation Project. During these meetings, the resource agencies have expressed concerns about the mitigation site location, as proposed in 2003 (**Figure 3**). Some of the resource agencies' concerns about the implementation of the mitigation project near to the Puerto Nuevo Channel, are: 1) material stabilization to create and maintain the proposed shoal area, 2) impacts/perturbations to the mitigation project from navigation and operation activities, 3) potential future expansion/widening of the channel that may impact the mitigation project, and 4) likelihood of mitigation success at the proposed site. It was also recommended by the resource agencies to evaluate the relocation of the mitigation site and to consider the integration of the mitigation project into the SJBEP Water Quality Improvement and Seagrass Restoration Project at the Condado Lagoon.

Restoration of seagrass beds in the Condado Lagoon is one of the goals of the SJBEP's Comprehensive Conservation and Management Plan (CCMP), Action Plan HW-2, completed in August 2000 (http://www.estuario.org/index.php/ccmp-english). The 102-acre (0.42 square kilometers) lagoon has suffered severe degradation of its water quality, benthic and fish habitat due to dredging operations during the 1950's (CCMP 2000). The lagoon was used as a "borrow area" to generate fill for nearby areas (**Figure 4**). As a result, tidal currents and wind action are not often enough to produce the adequate water circulation between the approximately 35 feet (10.8 m) deep bottom and surface waters, impairing the lagoon's water quality and living resources. The water quality within the deep areas of the Condado Lagoon is poor and there is no significant aquatic life due to the low levels of oxygen and reduced light penetration. Originally, it had an average depth of 7.6 feet (2.3 m) and did not exceed 23 feet (7 m) (CCMP 2000). Deep holes or depressions, such as the ones within the Condado Lagoon, typically act as sinks for organically enriched sediments and have very low dissolved oxygen levels near the bottom. Such conditions generally result in very low diversity of benthic flora and fauna, or in some cases the sediments are totally devoid of macrobiota (Haberer 2005).

The proposed source of sediments for the filling of the lagoon's artificial depressions would be from La Esperanza Peninsula located in the northwestern side of the San Juan Harbor and/or the San Antonio Channel in San Juan Harbor. From 1962 to 1965, the San Juan Harbor Navigation Project was developed in San Juan Harbor. This project included, among other works, the construction of the Puerto Nuevo Port facilities and the deepening and widening of the harbor's entrance channel, as well as the dredging of a new navigation channel, known today as the Puerto Nuevo Channel. A substantial amount of the dredged material from the development of these two channels was disposed at the northwestern section of the harbor, to protect Cataño's Bay View coastline from wave action and erosion. The two man-made islands created by the placement of dredged material eventually formed what is known today as La Esperanza Peninsula. Over the past 40 years, La Esperanza Peninsula has been migrating and changing in shape due to prevailing winds, tides, wave action, and annual swells produced by northern cold fronts. The eastern end of La Esperanza Peninsula curved around to the southwest as it continued to move, forming a hook shape pointing to the southwest of Bay View. This long hook significantly impairs water circulation inside a shallow embayment by trapping and concentrating nutrients and sediment-laden water discharged by the Malaria Canal (SJBEP 2010). In 2005, the La Esperanza Peninsula was dredged by the Corps under the authority of Section 1135 of WRDA of 1986 as amended, to restore water quality of the Esperanza Cove and

wildlife habitat on the Esperanza Peninsula. However, due to the littoral drift and wave action, the La Esperanza Peninsula is now in need of a maintenance dredging.

The proposed compensatory mitigation project consists of the beneficial use and placement of suitable dredged material from La Esperanza Peninsula Section 1135 project footprint into an artificial depression of approximately 4 acres within the Condado Lagoon. It is expected that by providing appropriate elevations will encourage SAV (e.g. seagrass) natural recruitment and also improve connectivity of the mitigation site to the adjacent seagrass bed community. Success for purposes of this mitigation project is defined as achievement of the target acreage (1.2 acres) and elevations of site construction. The proposed base fill elevation is estimated to be between 12 feet (3.6 m) to 15 feet (4.5 m). It is estimated that approximately 46,000 cubic yards of suitable dredged material is needed to achieve these elevations. The proposed handling of the dredged material could involve several methods for transporting all suitable material from the La Esperanza Peninsula to the artificial depressions in the lagoon. A combination of scow barge and pumping through a floating and/or submerged pipeline could be implemented for transporting the material along the San Antonio Channel into the lagoon.

It is expected that increasing the area occupied by seagrass will enhance the fisheries of the Condado Lagoon, including species of commercial importance. Sport fishermen who currently use the San Antonio Bridge may benefit significantly from this action. Endangered species such as the green sea turtle (*Chelonia mydas*) and the West Indian (Antillean) manatee (*Trichechus manatus manatus*), which depend almost exclusively on seagrasses for their dietary needs, will be positively affected from an increase in their food supply. An increase in the living resources of the lagoon will enhance the recreational activities that can be performed by local residents and the tourist staying at nearby hotels. Water quality also will improve through the functions provided by seagrasses, such as sediment stabilization and oxygen production (CCMP 2000).

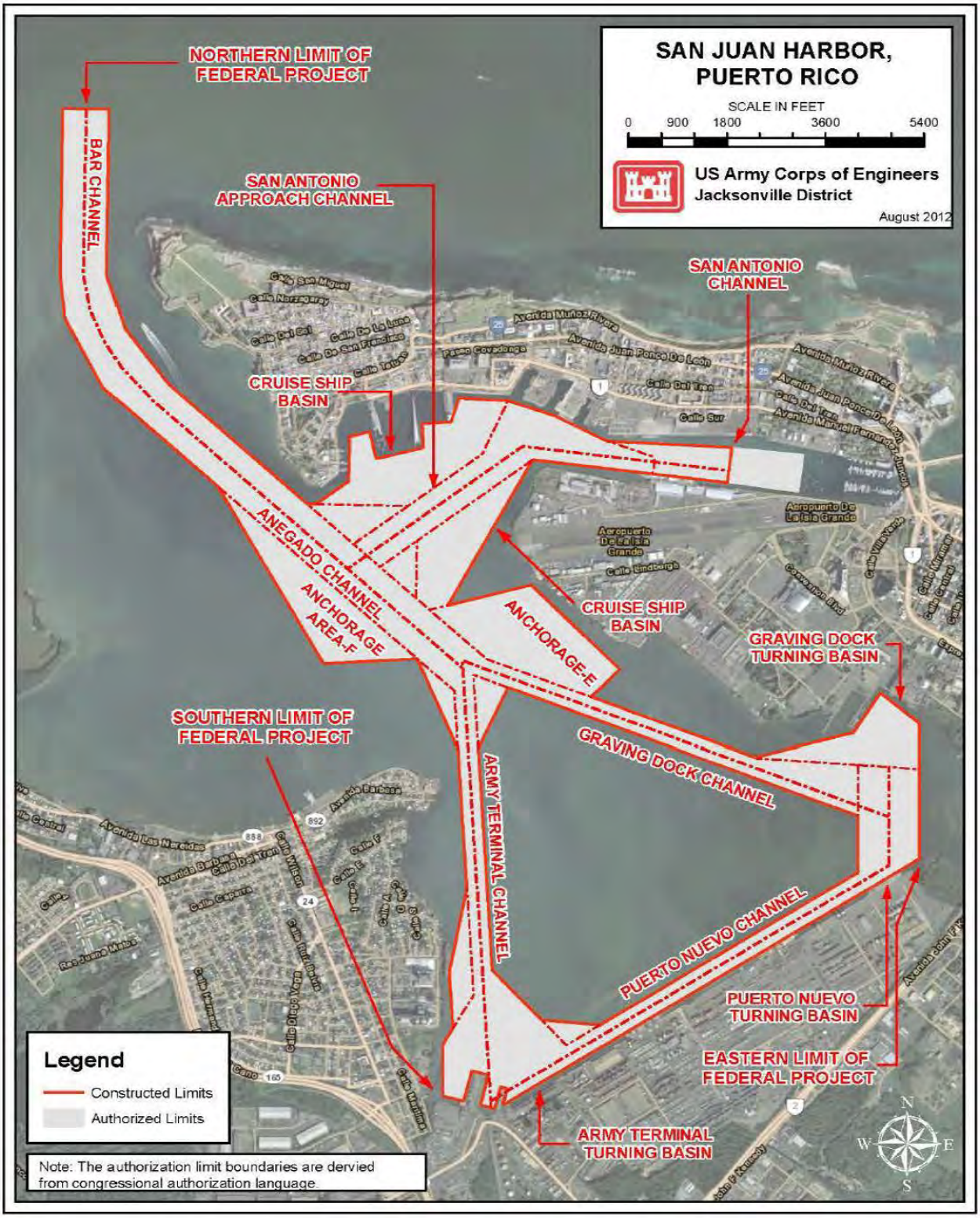


Figure 1. San Juan Harbor Federal Navigation Project.

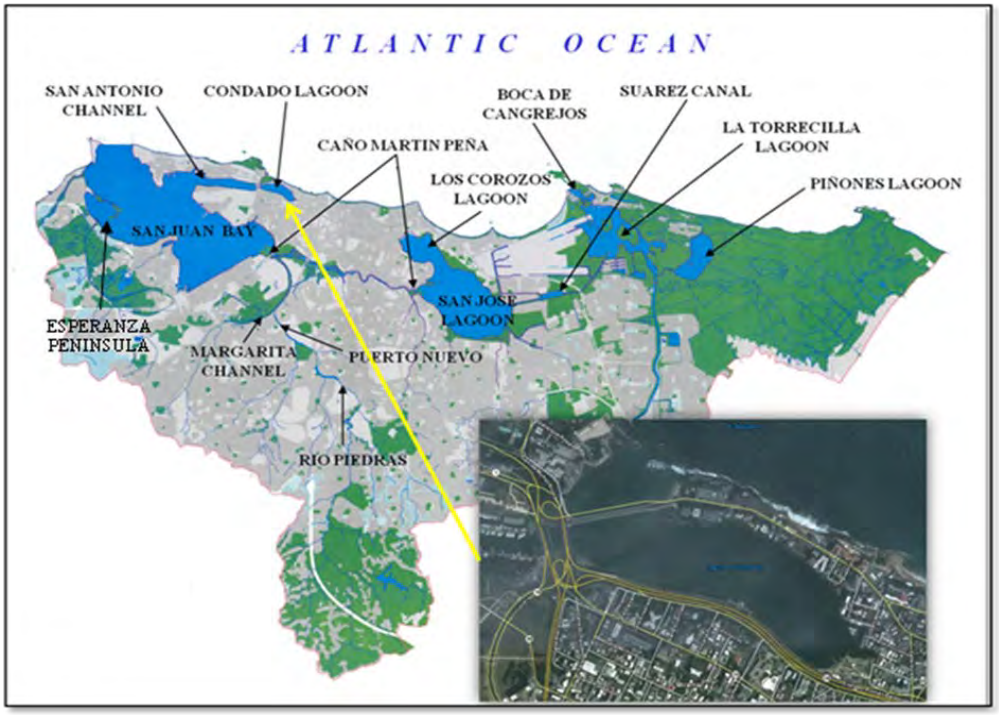


Figure 2. Location Map of the San Juan Harbor and SJBES.

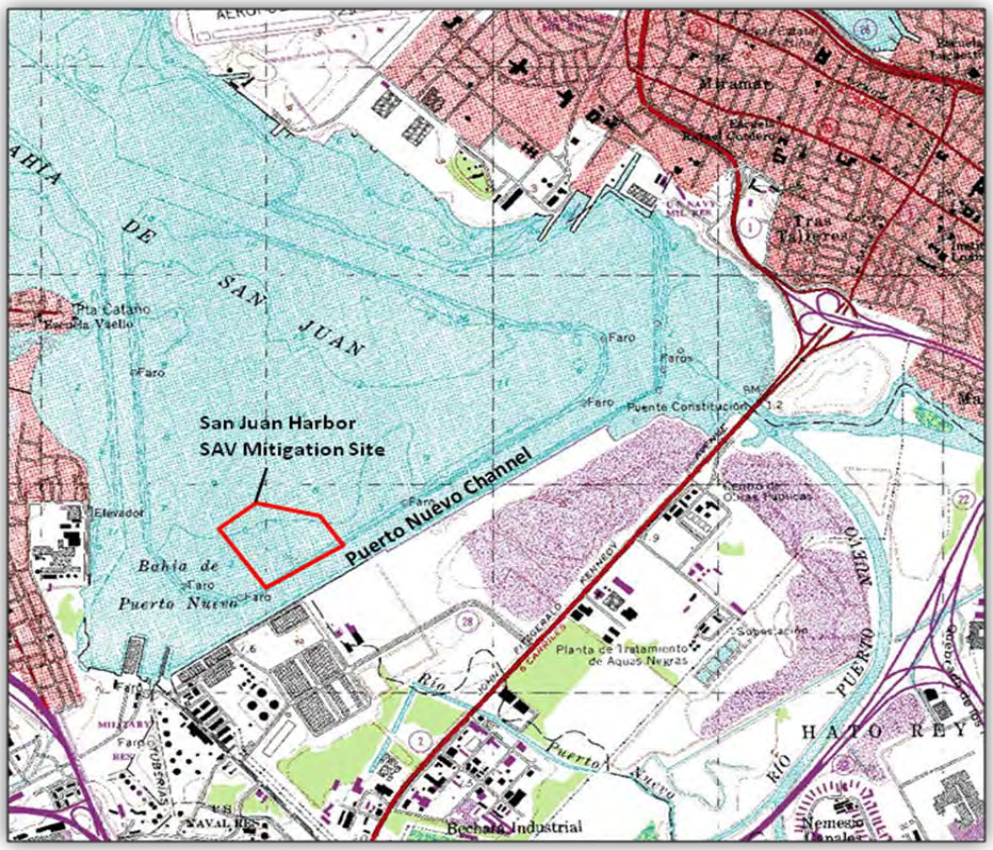


Figure 3. Location of the Mitigation Site Proposed in 2003.

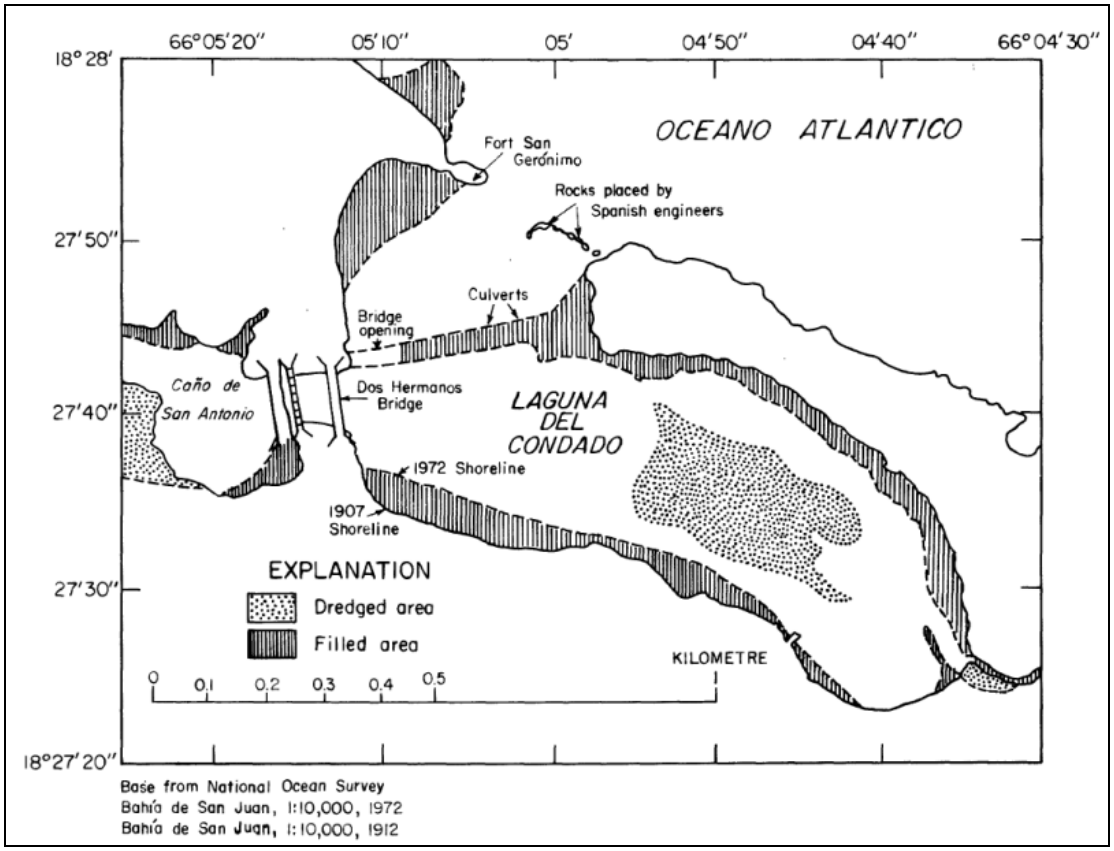


Figure 4. Comparison of 1900 and 1972 shorelines and areas of internal dredging of Condado Lagoon (USGS 1976).

1.4 AGENCY GOAL OR OBJECTIVE.

1.4.1 OBJECTIVE

The goal of the proposed project is to compensate for approximately 1.2 acres of SAV impacted as direct result of widening the Puerto Nuevo Channel. This project will also contribute to the overall purpose of the SJBEP's CCMP.

1.4.2 PROPOSED ACTION

The Jacksonville District proposes the San Juan Harbor Submerged SAV Mitigation Project in the Condado Lagoon. The project will consist of the placement of approximately 46,000 cubic yards into an artificial depression of approximately 4 acres within the Condado Lagoon. The recommended base fill elevation is estimated to be between 12 feet (3.6 m) to 15 feet (4.5 m). Suitable dredged material will be obtained from La Esperanza Peninsula Section 1135 footprint area or from the San Antonio Channel in San Juan Harbor.

1.5 RELATED ENVIRONMENTAL DOCUMENTS.

The following is a list of environmental documents related to the San Juan Harbor Fedaral Navigation Project and the ecosystem restoration of La Esperanza Peninsula:

- San Juan Harbor Mitigation Baseline Survey and Conceptual Design Report (Dial Cordy 2003).

- San Juan Harbor Federal Navigation Project Limited Reevaluation Report and Environmental Assessment (USACE 2002).

- Section 1135 – Environmental Restoration Report and Final Environmental Assessment. La Esperanza Península, Cataño, Puerto Rico (USACE 1999).

- San Juan Harbor Navigation Improvement General Reevaluation Report and Environmental Assessment (USACE 1994).

- Phase I General Design Memorandum and Supplement to Final Environmental Impact Statement, San Juan Harbor, Puerto Rico. Survey Review Report – Navigation (USACE 1982).

- Final Environmental Impact Statement, San Juan Harbor, Puerto Rico. Survey Review Report – Navigation (USACE 1975).

1.6 DECISION TO BE MADE.

This EA will evaluate the environmental effects of the proposed project and evaluate alternatives to accomplish that goal.

1.7 SCOPING AND ISSUES.

A scoping letter dated January 22, 2013, was issued for this action. The following issues were identified during scoping and by the preparers of this EA to be relevant to the proposed action and appropriate for detailed evaluation:

a. Temporary impacts to water quality
b. Endangered species
c. Essential Fish Habitat (EFH)
d. Recreation/Public Safety
e. Source of suitable dredged material
f. Handling of Solid Wastes

1.7.1 ISSUES ELIMINATED FROM DETAIL ANALYSIS.

No issues were specifically identified for elimination.

1.8 PERMITS, LICENSES, AND ENTITLEMENTS.

Full compliance with the Clean Water Act (CWA), the National Historic Preservation Act (NHPA), the Fish and Wildlife Coordination Act (FWCA), the Endangered Species Act (ESA), the Clean Air Act (CAA), the Coastal Zone Management Act (CZMA) and the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) will be achieved prior to construction. The proposed work requires a Water Quality Certification (WQC) from the Puerto Rico Environmental Quality Board (PREQB) and a CZMA consistency determination from the Puerto Rico Planning Board (PRPB). Appendix B includes a complete Application for Certification of Consistency with the Puerto Rico Coastal Management Program. Refer also to Sections 4.35 and 4.36, Environmental Compliance and Commitments.

2 ALTERNATIVES

This section describes in detail the no-action alternative, the proposed action, and other reasonable alternatives that were studied in detail. Then based on the information and analysis presented in the sections on the Affected Environment (chapter 3) and the Environmental Effects (chapter 4), this section presents the beneficial and adverse environmental effects of all alternatives in comparative form, providing a clear basis for choice among the options for the decision maker and the public.

2.1 DESCRIPTION OF ALTERNATIVES.

The purpose of the proposed mitigation project is to compensate for approximately 1.2 acres of SAV, comprised of *Halophila decipiens* (commonly known as paddle grass) and marine macro-algae, impacted during the Puerto Nuevo Channel widening. The alternatives presented will evaluate different options applicable to the mitigation project.

2.1.1 ALTERNATIVE 1: NO ACTION.

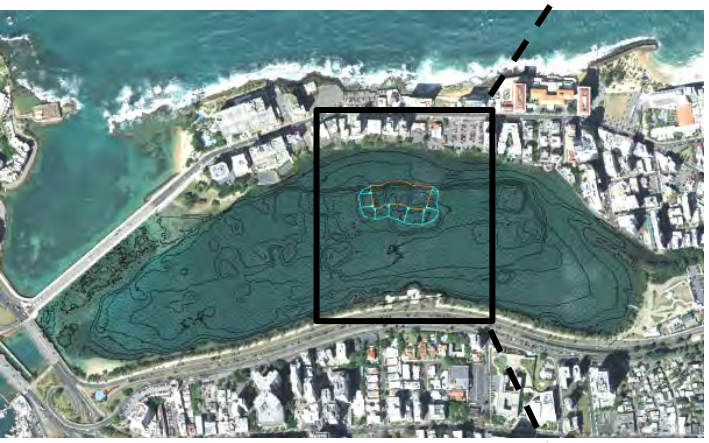
Alternative 1 is the No Action Alternative. This alternative evaluates the concept of not performing the required SAV mitigation. The No Action Alternative would prevent the compensation for SAV impacts and will not provide benefits to the ecological integrity of the SJBES.

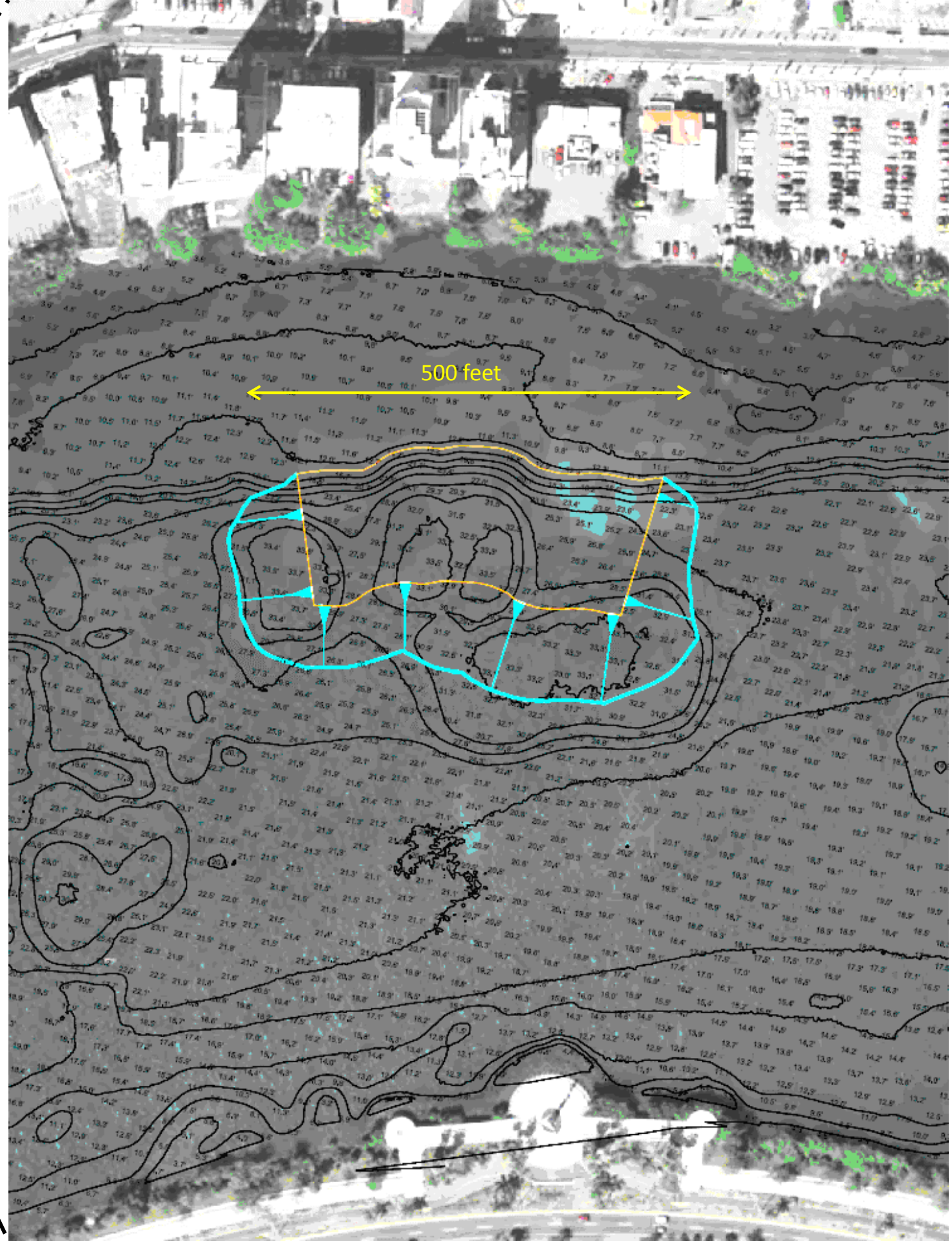
2.1.2 ALTERNATIVE 2: IMPLEMENTING THE MITIGATION PROJECT AT THE CONDADO LAGOON (PREFERRED ALTERNATIVE).

Alternative 2 is the preferred alternative and evaluates transporting suitable dredged material obtained from the La Esperanza Peninsula through the San Antonio Channel into a deep depression of the lagoon. By filling the deep depression, 1.2 acres would be restored to the natural depths of the lagoon. This action would promote the proliferation of seagrass beds, and enhance and increase benthic and fish habitat at the Condado Lagoon.

In 2011, Tetra Tech, Inc. under contract with the SJBEP conducted a detailed bathymetric survey of the present extension and depth of the depressions and a benthic community map of the Condado Lagoon. This information is being used to assist in determining the depression to be restored, volume of material needed to fill it, and benthic community in the proposed depression. The recommended depth of 12.0 ft (3.6 m) NAD 83 was determined from several characterization surveys of marine resources conducted within the Lagoon. Based on the areas surveyed, the biotic community was most diverse and *Halophila decipiens* had the highest in water depths ranging between 9 to 19 ft (2.7 to 5.8 m) in the central and eastern regions of the Lagoon. More specifically, the baseline results suggest a preferred depth of 13.3 ft (4.0 m) for *H. decipiens*. Restoring the dredged depression to 12.0 ft (3.6 m) would allow for some settlement and equilibration of the imported material as spreading is likely to occur from wind, wave and currents. The proposed restoration depths are also consistent with the Corps' Preliminary Restoration Plan (PRP) for Condado Lagoon, which investigates the use of suitable dredged material for ecosystem restoration in the Condado Lagoon as part of the San Juan Harbor Maintenance Dredging (USACE 2003). Volumes of required material were estimated based on the 2011 bathymetric survey of Condado Lagoon. Based on this survey, the Corps has estimated that approximately 46,000 cy of suitable dredged material is needed to restore the selected depression (see Figure 5).

Mitigation Site for
San Juan Harbor
in Condado Lagoon





The use of dredged material in the mitigation project poses many advantages, however numerous factors must be considered in determining the use of dredged material for mitigation. Surficial sediments collected in 2011 and 2013 from La Esperanza Peninsula suggest that this material is likely suitable for restoring the artificial depressions in Condado Lagoon, and could support restoration of a viable seagrass community. The presence of potential contaminants is a concern of all resource agencies. Disposal of contaminated dredged material may result in a deterioration of aquatic environment. To avoid using contaminated material, additional sampling and laboratory analysis to evaluate toxicity of material to be dredged will be performed prior to implementation of the project. It is estimated that 46,000 cubic yards of material is available at La Esperanza Peninsula Section 1135 footprint area. This support the volume needed, if this alternative is implemented.

Several methods to transport the dredged material from the La Esperanza Peninsula to the lagoon are available. The proposed handling of the dredged material could involve several methods for transporting all suitable material from the La Esperanza Peninsula to the artificial depression site in the lagoon. A combination of scow barge and pumping through a floating and/or submerged pipeline could be implemented for transporting the material along the San Antonio Channel into the lagoon. It should be noted that the Corps does not normally specify the type of dredging equipment to be used. This is generally left to 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, 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.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_1110-2-5025.pdf.

Some clearing and grubbing of woody vegetation (mostly Australian pine) at the La Esperanza borrow sites may be required.

2.2 ISSUES AND BASIS FOR CHOICE.

The alternative plans were evaluated based upon the coordination outcomes with Federal and Commonwealth agencies, as well as interested organizations.

2.3 ALTERNATIVES ELIMINATED FROM DETAILED EVALUATION.

As discussed in section 1.3 above, several meetings between the Corps, PRPA, FWS, NMFS, and SJBEP staff have been conducted to discuss the status of the mitigation project. The resource agencies have expressed concerns about the mitigation site location, in particular the likelihood of mitigation success as proposed in 2003 and recommended to evaluate the relocation of the mitigation site and to consider the integration of the mitigation project into the SJBEP Water Quality Improvement and Seagrass Restoration Project at the Condado Lagoon. For those reasons, no further analysis was conducted and it was eliminated as an alternative.

Under Alternative 1: No Action, the Corps would not be fulfilling its responsibility. Furthermore, this action would prevent the compensation for SAV impacts and will not provide benefits to the ecological integrity of SJBES.

A detailed analysis of the No Action and Preferred Alternative will be carried throughout the remainder of this document.

2.4 ALTERNATIVES NOT WITHIN JURISDICTION OF LEAD AGENCY.

To the Corps' knowledge, there are no alternatives that are not within jurisdiction of the lead agency.

2.5 COMPARISON OF ALTERNATIVES.

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

Table 1. Summary of Direct and Indirect Impacts

Alternative Environmental Factor	Alternative 1 No Action	Alternative 2 Implementing the Mitigation Project at the Condado Lagoon
Protected Species	No change	Improve habitat for sea turtles, manatee, managed fish species, migratory birds
Hard Ground	No change	No change
Shoreline Erosion	No change	No change
Vegetation	No change	Provides Habitat for Submerged Aquatic Vegetation
Water Quality	No change	Initial temporary increase in turbidity. Long-term may improve water quality at placement and borrow sites.
Historic Properties	No change	No change
Recreation	No change	Improve fishing in Condado Lagoon
Aesthetics	No change	No change
Navigation	No change	No change
Economics	No change	Cost of mitigation is within range of other mitigation efforts
Energy Requirements and Conservation	No change	Energy will be expended to dredge and transport material
Essential Fish Habitat	No change	Expected to provide Submerged Aquatic Vegetation Habitat
Invasive Species	No change	May reduce shoaling and rate of Australian Pine invasion at La Esperanza borrow site

2.6 MITIGATION.

The proposed action is itself mitigation which provides a net benefit to the environment (habitat for submerged aquatic vegetation). A mitigation plan was developed in accordance with Section

2036 of the Water Resources Development Act of 2007 (WRDA 2007), (see copy of the mitigation plan in Appendix D).

3 AFFECTED ENVIRONMENT

The Affected Environment section succinctly describes the existing environmental resources of the areas that may reasonably be affected if any of the alternatives were implemented. This section describes only those environmental resources that are relevant to the decision to be made. It does not describe the entire existing environment, but only those environmental resources that would affect or that would be affected by the alternatives if they were implemented. This section, in conjunction with the description of the No Action Alternative, forms the base line conditions for determining the environmental impacts of the proposed action and reasonable alternatives.

3.1 GENERAL ENVIRONMENTAL SETTING.

The Condado Lagoon supports an estuarine ecosystem with a variety of habitats and plant and animal communities. Mangrove, coral, hardbottom, and seagrass bed communities associated with the lagoon serve as either temporary or permanent habitats, as well as nurseries and spawning grounds for adult and juvenile species of fish and invertebrates (USFWS, 2005 – Harberer 2005). Comprehensive species inventories of the resources and animal communities of the Condado Lagoon were completed by Marine Resources, Inc. (2005), CSA Group (2008), and Tetra Tech, Inc. (2011), and used in this EA to support the following flora and fauna evaluation of the existing environment, along with data gathered from the SJBEP. Figures 6 through 8 show the boundaries and extent of benthic communities within the Condado Lagoon.

3.2 VEGETATION.

3.2.1 SUBMERGED AQUATIC VEGETATION (SAV)

SAV within the Condado Lagoon consists of seagrass and algae. Four species of seagrasses have been documented to occur in the Condado Lagoon (MRI, 2005). Reported types of seagrasses are shoal grass (*Halodule wrightii*), paddle grass (*Halophila decipiens*), manatee grass (*Syringodium filiforme*) and turtle grass (*Thalassia testudinum*). However, during the 2008 and 2011 surveys *S. filiforme* was not observed throughout the lagoon. Three seagrass species were observed during the 2011 benthic survey: *H. decipiens, T. testudinum, and H. wrightii*. *H. decipiens* was the dominant seagrass. No *H. decipiens* occurrences were recorded below 6 m (20 ft) at any of the investigated sites. *H. decipiens* was most abundant in the mid depth range 2.7 to 5.8 m (9.0 to 19.0 ft), but did not occur any deeper than 5.7m (19 ft). *T. testudinum* had the second highest number of occurrences. No *T. testudinum* was found deeper than 6.7 m (22.0 ft). The highest numbers of *T. testudinum* were recorded at shallow (1.8 to 2.4 m [6 to 8 ft)]) and mid-range depths (2.7 to 5.8 m [9 to 19ft]). *H. wrightii* was sighted in only one quadrat at a depth of 5.2 m (17.0 ft).

A total of 13 different genera of macroalgae were observed during the 2011 benthic surveys. The different macroalgae genus observed were: *Acetabularia, Amphiroa, Batophora, Caulerpa, Dictyopteris, Dictyota, Gracilaria, Halimeda, Jania, Laurencia, Padina, Sargassum,* and *Udotea. Caulerp*a spp., *Dictyota* spp., *Acetabularia* spp., and *Laurencia* spp. were the dominant genera. No macroalgae were recorded below 8 m (26 ft).

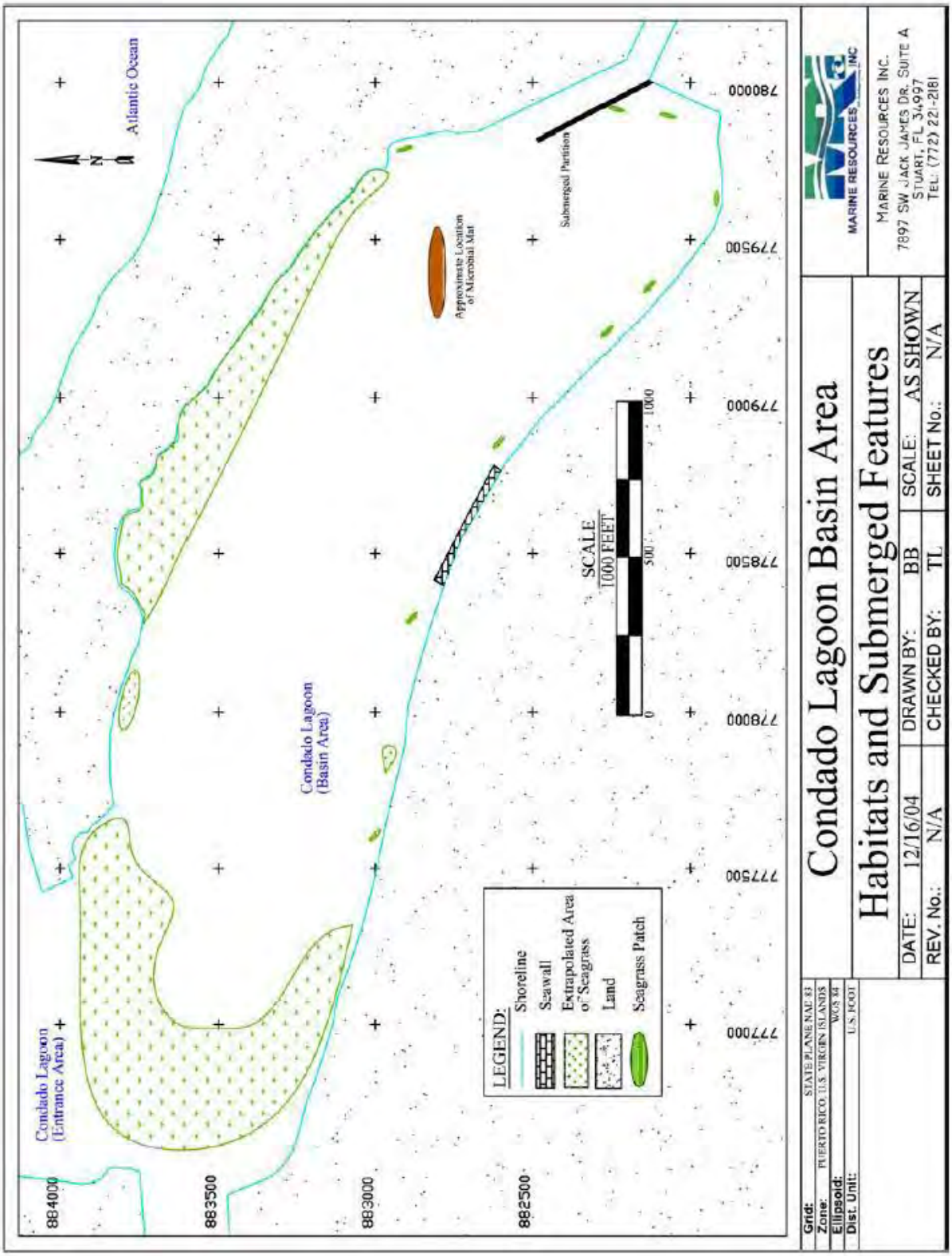


Figure 6. Habitats and submerged features associated with Basin Area substrates (MRI, 2004)

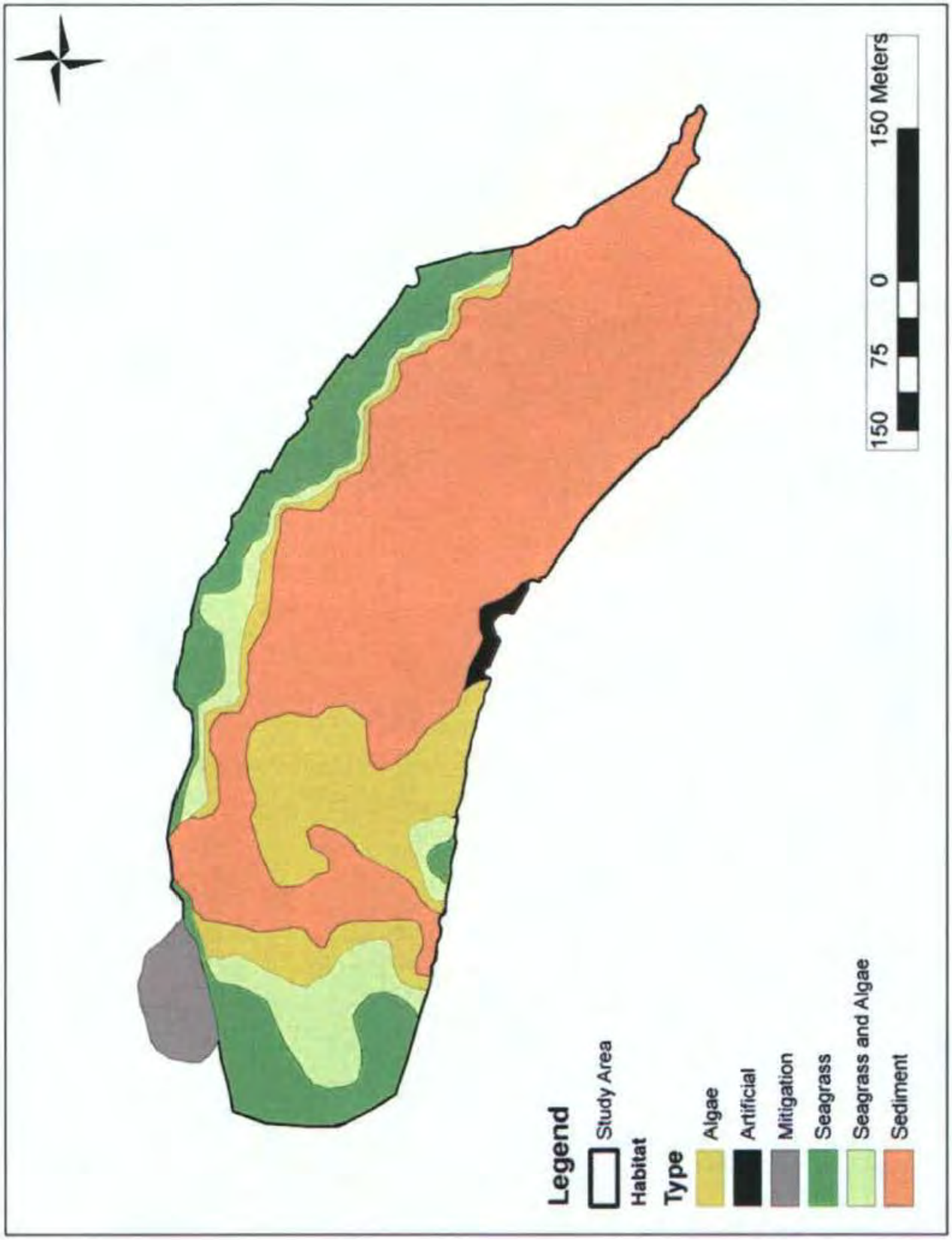


Figure 7. Benthic habitat map of the seafloor of Condado Lagoon (CSA, 2008)

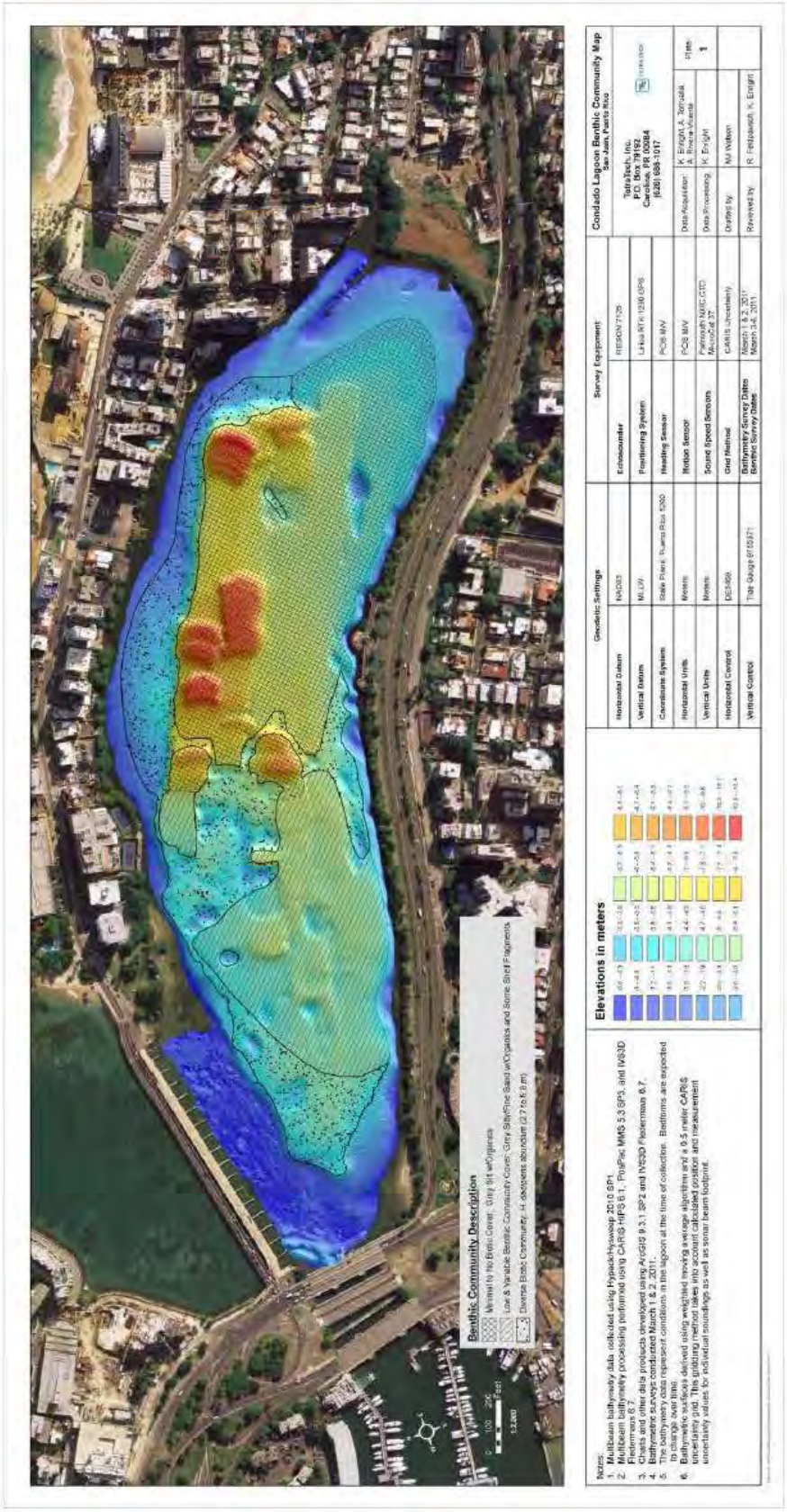


Figure_8. Benthic community map of the Condado Lagoon (Tetra Tech, 2011)

3.2.2 MANGROVE (WETLANDS)

Through the years, mangroves have been cleared around the shoreline of the Condado Lagoon for various reasons such as dredging and filling. Some mangrove still exists along the shoreline fringe. However, the growth of mangroves around the lagoon is restricted due to the shoreline stabilization (riprap) placed along some of the shoreline. The mangrove species found around the Condado Lagoon are: red (*Rhyzophora mangle*), black (*Avicennia germinans*), and white (*Laguncularia racemosa*). In an attempt to increase the acres of mangroves around the shoreline of the Condado Lagoon, the SJBEP has in place a program to plant mangroves, which consists of restoring a portion of the fringing mangrove wetland along the shoreline of the Lagoon. The mangrove restoration effort is listed in the CCMP as Action HW-3.

3.3 THREATENED AND ENDANGERED SPECIES.

The Endangered Species Act (ESA) protects plant and animal species, and their habitats, that are listed as endangered and threatened. The proposed mitigation project would include activities in the Condado Lagoon, San Juan Harbor, San Antonio Channel as well as La Esperanza Peninsula, which are located within the range of the endangered and threatened species listed in Table 2. There is no information on the presence of listed or proposed for listing coral species within the project area. For that reason, coral species are not further discussed in the document.

Table 2. Threatened and Endangered Species with potential to occur in the vicinity of the proposed project.

Common Name	Scientific Name	Group	Status
Antillean manatee	*Trichechus manatus manatus*	Mammal	Endangered
Green sea turtle	*Chelonia mydas*	Reptile	Threatened
Hawksbill sea turtle	*Eretmochelys imbricata*	Reptile	Endangered
Leatherback sea turtle	*Dermochelys coriacea*	Reptile	Endangered
Yellow Shouldered Black Bird	Agelaius xanthomus	Bird	Endangered
Brown pelican	*Pelecanus occidentalis*	Bird	Delisted – Monitoring Plan
Staghorn and Elkhorn Coral	*Acropora*	Coral	Endangered and Critical Habitat

Antillean manatee: The Antillean manatee inhabits the coastal waters of Puerto Rico, and has been documented both feeding and traveling in the San Juan Harbor and Condado Lagoon area. Seagrass beds in the Lagoon provide suitable foraging habitat for the species. Furthermore, the location of the Lagoon provides suitable shelter for the species (SJBEP, 2011). The FWS has jurisdiction for protection of the manatee under ESA, and NMFS has jurisdiction under the Marine Mammal Protection Act. This species is also protected by Law Number 241 (Wildlife Law of the Commonwealth of Puerto Rico) and Regulation Number 6766, which regulates the management of threatened and endangered species in Puerto Rico.

Sea turtles: The island of Puerto Rico provides nesting and foraging habitat for three species of sea turtles: the leatherback, hawksbill and green turtle, all listed as either endangered or threatened. The sandy beach north of Dos Hermanos Bridge, supports nesting habitat for the leatherback and hawksbill sea turtle (USFWS, 2005 – Harberer 2005). Nesting activities have been reported on several occasions. The FWS and NMFS have jurisdiction for protection of sea turtles under the ESA. This species is also protected by Law Number 241 and Regulation 6766

of the Commonwealth of Puerto Rico. Seagrass areas, like those found in the Condado Lagoon, are important grazing areas for the green sea turtle. Hawksbill sea turtles have been reported in San Juan Bay.

Yellow shouldered black bird: This species is endemic to Puerto Rico and formerly widespread throughout the mainland and offshore islands of Isla de Vieques and Isla Mona. Major threats affecting the populations include: brood-parasitism, predation by non-native carnivores, and loss of breeding habitat from (BirdLife, 2011; USFWS, 1996). Nesting habitats include mudflats and salt ponds, offshore mangrove cayes, and black mangrove forests.

Brown pelican: The brown pelican is a common resident along protected shorelines around Puerto Rico most of the year, particularly in winter when the North American migrants augment local numbers. The FWS report that the brown pelican frequently feeds in the Condado Lagoon and La Esperanza Peninsula area. Although, the FWS has developed a Post-Delisting Monitoring Plan, designed to monitor and verify that the recovered, delisted population remains secure from the risk of extinction once the protections of the ESA are removed. The FWS can relist the brown pelican if future monitoring or other information shows it is necessary to prevent a significant risk to the brown pelican. However, with removal of the brown pelican from the list of threatened and endangered species, federal agencies will no longer be required to consult with the FWS to ensure any action they authorize, fund, or carry out will not harm the species.

Acropora Coral: Designated Critical Habitat for Acropora coral includes San Juan Bay, Condado Lagoon, and the connecting channel.

However, according to 50 CFR 226.216, the federally authorized and constructed channels are excluded from Critical Habitat designation.

It is further stated that "The physical feature essential to the conservation of elkhorn and staghorn corals is: substrate of suitable quality and availability to support larval settlement and recruitment, and reattachment and recruitment of asexual fragments. 'Substrate of suitable quality and availability' is defined as natural consolidated hard substrate or dead coral skeleton that is free from fleshy or turf macroalgae cover and sediment cover."

Not mentioned but important to Acropora survival are also the water quality, wave, and current environment. Water quality considerations would include clarity, salinity, sedimentation, dissolved oxygen, and nutrient level.

The borrow and fill sites are not good habitat for coral. Potential pipeline corridors in the inner San Juan Bay, Condado Lagoon, and the connecting channel generally do not have the water clarity or wave/current energy to support staghorn or elkhorn coral.

4 ENVIRONMENTAL EFFECTS

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

4.1 GENERAL ENVIRONMENTAL EFFECTS

The proposed action is to create habitat for submerged aquatic vegetation as mitigation for the San Juan Harbor Navigation Project.

4.2 VEGETATION

Dredged holes in the Condado Lagoon would be filled to an elevation between -12 feet and -15 feet to support 1.2 acres of sea grass and other submerged aquatic vegetation. The borrow sites do not support submerged aquatic vegetation. The La Esperanza borrow sites are rapidly shoaling areas being invaded by Australian pine. The San Antonio Channel is a deep channel that does not support submerged aquatic vegetation. However, possible pipeline corridors in Condado Lagoon and the channel connecting to San Juan Harbor may cross beds of sea grass or other submerged aquatic vegetation.

4.3 THREATENED AND ENDANGERED SPECIES

The proposed action would create habitat for the green sea turtle and the manatee. With the standard manatee protection measures for all in water work, the proposed action may affect but is not likely to adversely affect manatees. With the sea turtle and smalltooth sawfish construction conditions, the proposed action may affect but is not likely to adversely affect green or hawksbill sea turtles. Acropora coral are not likely to occur at the borrow sites or the fill site. Pipeline corridors would be surveyed for coral. Consultation would be reinitiated if Acropora coral cannot be avoided.

4.4 HARDGROUNDS

No coral reef or other hardgrounds would be impacted by the proposed dredging and filling.

4.5 FISH AND WILDLIFE RESOURCES

The proposed action would provide habitat for fish, invertebrates, manatees, sea turtles, and birds.

4.6 ESSENTIAL FISH HABITAT ASSESSMENT

The project description is in section 2.1. Mitigation of impacts is in section 2.6. Section 3.0 describes the “existing conditions” of the Essential Fish Habitat (EFH), Federally managed fisheries, and associate species such as major prey species, including affected life history stages. The following paragraphs describe the individual and cumulative impacts of the proposed action(s) and alternatives on EFH, Federally managed fisheries, and associate species such as

major prey species, including affected life history stages.

The mitigation site, borrow sites, possible pipeline routes, and transit areas are located in estuarine environments. The greater San Juan Estuary contains habitat for corals, other hard grounds, and sea grass which support (or potentially could support) associated sports/commercial fish, spiny lobster, queen conch, and aquarium trade species.

Neither the borrow sites nor the mitigation site currently provide quality habitat within the project footprint. The mitigation site is a dredged hole that is currently too deep to support sea grass or experience good water circulation. The La Esperanza borrow site is likely to benefit from removal of shoaled areas that tend to reduce flow and circulation to the lagoon and are susceptible to invasion by Australian pine. The San Antonio Channel borrow site is a navigation channel that is subject to frequent use and periodic maintenance. The proposed mitigation would improve habitat at the mitigation site, it would counteract shoaling at the La Esperanza borrow sites, and would have little impact on the San Antonio navigation channel borrow site.

The pipeline impacts would be limited to a narrow corridor. We will survey any pipeline corridors in Condado Lagoon, San Juan Harbor, and the channel that connects the two for presence of coral. If listed or proposed threatened or endangered coral cannot be avoided (e.g., by re-routing or bridging over), we will re-initiate consultation with the protected resources element of NMFS. Any impacts to sea grass from pipelines would be minor and temporary. Transit of the areas by dredges or other project vessels would have little impact on benthic habitat.

4.7 HISTORIC PROPERTIES

The project would not affect any historic property eligible for listing on the National Register of Historic Places.

4.8 SOCIO-ECONOMIC

The proposed mitigation cost is comparable to other sea grass mitigation efforts. The cost is not out-of-line with other mitigation projects which typically range from $100,000 to $1,000,000 per acre restored. Being a relatively small effort, this project does not experience the economy-of-scale for larger projects. Additional environmental and/or navigation benefits may accrue from the dredging of La Esperanza or the San Antonio Channel.

4.9 AESTHETICS

During dredging operations, the visual landscape and water clarity would be affected. After construction, the visual landscape would not be affected and some improvement in water quality may be observed.

4.10 RECREATION

There would be no adverse impact on boating once construction is completed. Fishing may improve in the Condado Lagoon.

4.11 COASTAL BARRIER RESOURCES

No coastal barrier resource unit would be impacted by the project.

4.12 WATER QUALITY

The dredging and filling operations would generate some turbidity. Water quality may improve after construction.

4.13 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

No hazardous, toxic, or radioactive waste would be encountered or released by the project. The Esperanza borrow sites consist mostly of recently accreted material. There is no indication of recent or former spills or discharges likely to contaminate the material. Similarly, the San Antonio Channel is an active channel that has been dredged with no indication of recent or former discharges likely to cause contamination. The fill/mitigation site is a cluster of dredged holes in Condado Lagoon with no indication of recent or former discharges likely to cause contamination.

4.14 AIR QUALITY

Dredging operations are typically powered by diesel engines. Depending on the size, type, age, and condition of the equipment, various emissions can be expected for the duration of the operation. The project area is in attainment for regulated air pollutants. The proposed activity will occur in a coastal area that experiences nearly constant on-shore trade winds and sea breezes. The proposed activity's contribution to air pollution would be negligible.

4.15 NOISE

Dredging operations generate noise. The borrow sites are located in or near San Juan Harbor with its associated contribution to background noise. The Condado Lagoon experiences noise from busy highways and background noise from wind and Ocean waves. Depending on the placement of a booster pump, nighttime operations may generate perceptible noise around the Condado Lagoon area.

4.16 PUBLIC SAFETY

Dredging is a hazardous activity. Human health and safety are a priority for Corps dredging operations. The contractor is required to have a “Site Safety and Health Officer (SSHO)” with a number of specified duties relative human health and safety.

4.17 ENERGY REQUIREMENTS AND CONSERVATION

Dredging operations are generally powered by diesel motors. Newer and more efficient diesel plants tend to be more competitive and efficient. However, procurement is subject to many contracting requirements, the availability of bidders in the dredging industry, and other market forces.

4.18 NATURAL OR DEPLETABLE RESOURCES

Quality sand is a vanishing resource in Puerto Rico. The proposed action will use approximately 46,000 cubic yards of material that is mostly less than construction grade without further processing.

4.19 SCIENTIFIC RESOURCES

The San Juan Harbor, La Esperanza, and Condado Lagoon have been the subject of much scientific investigation. The proposed action is largely supported by scientific evidence and the results of the restoration will be of interest to the scientific community.

4.20 NATIVE AMERICANS

No Native Americans would be impacted. There are no recognized distinct indigenous groups in Puerto Rico.

4.21 REUSE AND CONSERVATION POTENTIAL

The small amount of solid waste generated by the operation is subject to recycle and reuse.

4.22 URBAN QUALITY

The proposed mitigation would benefit this natural environment which is set in an urbanized area.

4.23 SOLID WASTE

Operation of dredging equipment may generate a small amount of solid waste. Dredged material is not considered "solid waste" especially when used for ecosystem restoration or mitigation purposes. The contractor is required in contract specifications to obtain a "permit or license for and the location of the solid waste disposal area" and "the Contractor shall comply with Federal, Commonwealth and local regulations pertaining to the use of the solid waste disposal site." In addition, "the Contractor shall comply with all applicable Federal, StateCommonwealthTerritorial, or local laws and regulations". This may include, but is not limited to, applicable requirements for an approved solid waste management plan in Puerto Rico. If any Clearing and Grubbing of vegetation at La Esperanza is required, disposal or reuse of the removed vegetation may be subject to solid waste requirements.

4.24 DRINKING WATER

The proposed activity would be in a marine or estuarine environment not used as a source of drinking water.

4.25 INVASIVE SPECIES

The removal of shoaled material from La Esperanza would slow the invasion of Australian pine into the two openings of the lagoon. Since construction of the La Esperanza Ecosystem Restoration Project was completed on May 20, 2005, there has been an accumulation of sediment in the two opening constructed for circulation in the lagoon. The accumulation appears to be an ongoing process that eventually leads to invasion by Australian pine. While the dredging would be mostly in areas without established Australian pine, the dredging would at least temporarily counteract the accumulation of sediment that leads to invasion by the plant and would improve circulation in the lagoon.

4.26 CUMULATIVE IMPACTS

Cumulative impact is the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7).

There have been a number of activities in and around San Juan Harbor and Condado Lagoon. There has been a general trend of increasing human activity. Activity in the area is expected to continue if not increase in the future. However, the proposed action is not expected to contribute to the cumulative impacts. The purpose of the proposed action is to mitigate for the incremental impact of expansion of San Juan Harbor.

4.27 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.27.1 IRREVERSIBLE

An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. One example of an irreversible commitment might be the mining of a mineral resource. The dredging of sand from one or more of the borrow sites reduces the availability of that resource for other purposes. However, continued shoaling and sediment accumulation would make more material available over time. The consumption of fuel for the operation may also be considered an irreversible commitment of resources.

4.27.2 IRRETRIEVABLE

An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. An example of an irretrievable loss might be where a type of vegetation is lost due to road construction. There would be no temporary loss of a resource that is currently used or enjoyed.

4.28 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

There would be a temporary increase in turbidity and sedimentation during dredging and placement operations. Some shifting and sorting of the placed material would occur initially. There would be no long term turbidity and sedimentation impacts. Removal of sediments from the borrow sites may improve water quality.

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

The shore-term impacts of dredging and filling would be outweighed by long-term benefit of the mitigation.

4.30 INDIRECT EFFECTS

The creation of additional benthic habitat would benefit the larger San Juan Estuary system.

4.31 COMPATIBILITY WITH FEDERAL, STATE, AND LOCAL OBJECTIVES

The proposed action would further the goals of the of the San Juan Bay Estuary Program's Comprehensive Conservation and Management Plan. The proposed action would be compatible with the Coastal Consistency Management program and local development plans.

4.32 CONFLICTS AND CONTROVERSY

Objection to the mitigation is not expected. Some would like to have seen the mitigation occur sooner and/or more restoration performed.

4.33 UNCERTAIN, UNIQUE, OR UNKNOWN RISKS

Improvements in water quality due to pollution control efforts in Condado Lagoon would enhance the establishment of sea grass and other submerged aquatic vegetation. Conversely, poor water quality would reduce the level of success.

4.34 PRECEDENT AND PRINCIPLE FOR FUTURE ACTIONS

The filling of dredged holes to encourage submerged aquatic vegetation has been practiced in a number of locations. Success in Condado Lagoon might encourage other efforts of a similar nature.

4.35 ENVIRONMENTAL COMMITMENTS

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

- Following standard manatee protection measures for any water based activity in manatee habitat
- Following the sea turtle and smalltooth sawfish construction conditions
- Use the specified source(s) of suitable fill material
- Place the material within the specified fill site
- Comply with all applicable Commonwealth and local requirements
- Survey for and avoid destruction of migratory birds or their eggs
- Survey any pipeline corridors to avoid impacts to coral
- Monitor and manage turbidity as required

4.36 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

4.36.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

Environmental information on the project has been compiled and this Environmental Assessment has been prepared. The project is in compliance with the National Environmental Policy Act.

4.36.2 ENDANGERED SPECIES ACT OF 1973

Consultation was initiated with NMFS and USFWS by letter of April 22, 2014. With respect to the USFWS, the proposed activity (with the manatee protection measures for in-water activities) may affect but is not likely to adversely affect the manatee. With respect to the NMFS, the proposed action may affect but is not likely to adversely affect green or hawksbill Sea Turtles.

The activity would be in designated Critical Habitat for Acropora coral. Pipeline corridors would be surveyed for coral. If any coral found cannot be avoided by rerouting or bridging, consultation would be re-initiated. Pending a reply from NMFS and USFWS, the proposed action is in compliance.

4.36.3 FISH AND WILDLIFE COORDINATION ACT OF 1958

This project has been coordinated with the U.S. Fish and Wildlife Service (USFWS). A Coordination Act Report (CAR) dated November 30, 1993, was submitted by the USFWS (USACE 1994, attachment B). This project is in full compliance with the Act.

4.36.4 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA)

The Corps determined that the proposed action will not affect historic properties included in or eligible for inclusion in the National Register of Historic places. By letter dated April 22, 2014, consultation with the Puerto Rico Historic Preservation Officer was initiated 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. A copy of the letter(s) indicated above has been placed in Appendix C.

The proposed activity is also in compliance with the following:

-Archeological Resources Protection Act (96-95)
-Native American Graves Protection Act (PL 101-601)
-American Indian Religious Freedom Act (PL 95-341)
-Executive Order 11593 (Protection and Enhancement of the Cultural Environment)
-Executive Order 13007 (Indian Sacred Sites)
-Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments)
-Presidential Memo of 1994 on Government to Government Relations with Native American Tribal Governments
-Abandoned Shipwrecks Act
-Native American Graves Protection and Repatriation Act
-Archeological Resources Protection Act

4.36.5 CLEAN WATER ACT OF 1972

The project is in compliance with this Act. A Section 401 water quality certification will be obtained for the proposed activity. All State water quality standards would be met. A Section 404(b) evaluation is included in this report as Appendix A. On May 23, 2014, a Notice of Availability of the Draft Finding of no Significant Impact and Environmental Assessment was issued with a comment period and opportunity to request a public hearing in accordance with the requirements of Section 404(a) of the Clean Water Act.

4.36.6 CLEAN AIR ACT OF 1972

Established under the Clean Air Act (section 176(c)(4)), the General Conformity Rule plays an important role in helping states and tribes improve air quality in those areas that do not meet the National Ambient Air Quality Standards (NAAQS). Under the General Conformity Rule, federal agencies must work with State, Tribal and local governments in a nonattainment or maintenance area to ensure that federal actions conform to the air quality plans established in the applicable state or tribal implementation plan. The Environmental Protection Agency lists (40 CFR 81) a non-attainment area in Puerto Rico for the substance Lead in the vicinity of a Battery Recycling facility in Arecibo. Maintenance areas in Puerto Rico include the municipality of Guaynabo for particles in the air with a diameter of 10 micrometers or less (PM-10). The proposed action would be in an attainment area. No air quality permits would be required for this project.

4.36.7 COASTAL ZONE MANAGEMENT ACT OF 1972

A federal consistency determination was made in accordance with 15 CFR 930 Subpart C. A copy of the application to the Puerto Rico Planning Board is included in this report as Appendix B.

4.36.8 FARMLAND PROTECTION POLICY ACT OF 1981

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

4.36.9 WILD AND SCENIC RIVER ACT OF 1968

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

4.36.10 MARINE MAMMAL PROTECTION ACT OF 1972

Manatees could occur in and around the borrow sites, the mitigation site, and the greater San Juan Estuary System. Standard manatee protection measures are required for all in-water work. The proposed action is not likely to adversely affect manatees.

4.36.11 ESTUARY PROTECTION ACT OF 1968

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

4.36.12 FEDERAL WATER PROJECT RECREATION ACT

The principles of the Federal Water Project Recreation Act, (Public Law 89-72) as amended, have been fulfilled by complying with the recreation cost sharing criteria as outlined in Section 2 (a), paragraph (2). Another area of compliance includes the public beach access requirement on which the renourishment project hinges (Section 1, (b)).

4.36.13 SUBMERGED LANDS ACT OF 1953

The project would occur on submerged lands of the State of Florida. The project has been coordinated with the State and is in compliance with the act.

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

There are no designated coastal barrier resource units in the project area that would be affected by this project. These acts are not applicable.

4.36.15 RIVERS AND HARBORS ACT OF 1899

The proposed work would occur in but not obstruct navigable waters of the United States.

4.36.16 ANADROMOUS FISH CONSERVATION ACT

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

4.36.17 MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT

The Migratory Bird Treaty Act prohibits the destruction of migratory birds or their eggs, chicks, and active nests. The only area that might have nesting migratory birds would be the portion of the La Esperanza borrow area above high water (either along the shore or in vegetation). Contractors would be required to survey for migratory birds and their eggs, chicks, or active nest and to avoid actions resulting in their destruction.

4.36.18 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 disposal of material for beach nourishment or to the placement of material for a purpose other than disposal (i.e. placement of rock material as an artificial reef or the construction of artificial reefs as mitigation). Therefore, the Marine Protection, Research and Sanctuaries Act does not apply to this project. The disposal activities addressed in this EA have been evaluated under Section 404 of the Clean Water Act.

4.36.19 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

An Essential Fish Habitat Assessment (see paragraph 4.6) was sent to the National Marine Fisheries Service by letter of April 22, 2014 (copy in part 2 of Appendix C). If, in response, the NMFS provides Essential Fish Habitat Conservation Recommendations, the Corps has 30 days to indicate if such recommendations will not be followed. The NMFS can elevate such a decision to the Chief of Engineers.

4.36.20 UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970.

The purpose of PL 91-646 is to ensure that owners of real property to be acquired for Federal and Federally assisted projects are treated fairly and consistently and that persons displaced as a direct result of such acquisition will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. There would be no private real estate acquired for the proposed action.

4.36.21 E.O. 11990, PROTECTION OF WETLANDS

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

4.36.22 E.O. 11988, FLOOD PLAIN MANAGEMENT

The project is in the base flood plain (100-year flood) and has been evaluated in accordance with this Executive Order. The proposed borrow and fill would occur in tidal waters and would have little impact on flooding of surrounding coastal lands.

4.36.23 E.O. 12898, ENVIRONMENTAL JUSTICE

The proposed action would not result in adverse human health or environmental effects. There is no known "subsistence consumption of fish and wildlife" in the project area. Even so, the proposed action would benefit habitat for submerged aquatic vegetation and associated fisheries by mitigating for adverse impacts from improvements to San Harbor.

4.36.24 E.O. 13089, CORAL REEF PROTECTION

While the proposed action would not directly impact coral reef, coral reef does occur in the San Juan Bay and Codado Lagoon. Reef species may transit or visit the borrow sites or the mitigation sites but are not likely to be adversely affected.

4.36.25 E.O. 13112, INVASIVE SPECIES

The mitigation site and the San Antonio channel borrow site are not subject to any invasive species threat known at this time. The La Esperanza borrow sites are experiencing shoaling that appears to lead to invasion by Australian pine. The proposed borrow may counteract the shoaling and subsequent invasion by Australian pine.

4.36.26 E.O. 13186, MIGRATORY BIRDS.

Migratory birds are likely to use the shoaled areas at the La Esperanza borrow site. If there is nesting at La Esperanza, it would be above the high water mark. For use of the La Esperanza borrow sites, the contractor is required to monitor for nesting migratory birds. The contractor is not allowed to destroy migratory birds or their eggs, hatchlings, or active nests.

5 LIST OF PREPARERS

5.1 PREPARERS

Name	Title	Role
Wilberto Cubero	Environmental Scientist	Author
Kenneth Dugger	Biologist	Author
David McCullough	Archeologist	Cultural Resources
Steve Conger	Civil Engineer	Construction specifications Information
Bernard Seifert	Geologist	Geotechnical information
Johann Sasso	Tech	Logistic Support, San Juan POC

5.2 REVIEWERS

Name	Title
Ivan Acosta	Civil Engineer, Chief of Special Projects Section
Javier Cortes	Environmental Engineer
Nelson Colon	Project Manager

6 PUBLIC INVOLVEMENT

6.1 SCOPING AND DRAFT EA

A scoping letter dated January 22, 2013, was issued for this action. The Scoping Letter and comments received are in Appendix C. The draft EA and Finding of No Significant Impact (FONSI) will be made available to the public by notice of availability (NOA). A copy of the NOA and comments received will be placed in Appendix C in the final EA. The final EA will incorporate comments received.

6.2 AGENCY COORDINATION

Any agency coordination letters are in Appendix C.

6.3 LIST OF RECIPIENTS

Mailing lists are attached to the Scoping Letter and the NOA in Appendix C.

6.4 COMMENTS RECEIVED AND RESPONSE

6.4.1 SCOPING LETTER.

Issues identified in response to the scoping letter of January 22, 2013, are related to the following topics:

a. Temporary impacts to water quality
b. Endangered species
c. Essential Fish Habitat (EFH)
d. Recreation/Public Safety
e. Source of suitable dredged material
f. Handling of Solid Wastes

These issues have been largely address in this Environmental Assessment.
See Appendix C, part 1 for copy of scoping letter and responses.

6.4.2 ENDANGERED SPECIES ACT AND ESSENTIAL FISH HABITAT COORIDINATION.

Consultation was initiated with the FWS and NMFS by letter of April 22, 2014, pursuant to Section 7 of the Endangered Species Act (see 4.36.2). An Essential Fish Habitat Assessment was forwarded to NMFS by letter of April 22, 2014 (see 4.36.19).

By letter of May 5, 2014, the FWS concurred that the proposed action would not adversely affect the manatee with application of the manatee conservation measures included in the letter (copy in Appendix C to this document).

See Appendix C, part 2 for a copy of these letters and the responses of FWS and NMFS.

6.4.3 NOTICE OF AVAILABILITY OF THE DRAFT FONSI/EA

A Notice of Availability of the Draft Finding of no Significant Impact (FONSI) and Environmental Assessment (EA) was issued on May 23, 2014. Comments received on the draft FONSI/EA (see Appendix C, part 3) will be incorporated into the final FONSI/EA.

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INDEX

APPENDIX A - SECTION 404(B) EVALUATION

SECTION 404(b) EVALUATION

SAN JUAN HARBOR
MITIGATION
SAN JUAN, PUERTO RICO

I. Project Description

a. Location: Mitigation (fill) site in Dredged Holes, Condado Lagoon. Borrow sites in the La Esperanza Ecosystem Restoration Project and/or the San Antonio Navigation Channel in San Juan Harbor.

b. General Description: Fill dredged hole up to -12 feet to -15 feet to support sea grass and other submerged aquatic vegetation (SAV).

c. Authority and Purpose: Mitigation is for expansion of San Juan Harbor (Puerto Nuevo Channel) which impacted 1.2 acres of sea grass and other SAV.

d. General Description of Dredged or Fill Material

(1) General Characteristics of Material: Shoaled material of medium grained sandy material from the La Esperanza borrow sites. Similar material from the San Antonio Channel (an active and maintained navigation channel)

(2) Quantity of Material: Approximately 46,000 cubic yards.

(3) Source of Material: Dredging of La Esperanza shoaled areas and/or the San Antonio navigation channel.

e. Description of the Proposed Discharge Site(s)

(1) Location: See maps in main text of the Environmental Assessment.

(2) Size: Approximately 4 acres of lagoon bottom resulting in approximately 1.2 acres at an elevation to support SAV.

(3) Type of Site: Dredged holes in open water in tidal lagoon.

(4) Type(s) of Habitat: Fill site is a dredged hole with poor circulation, poor light penetration to the bottom, and no coral or other hardground or SAV.

(5) Timing and Duration of Discharge: Duration of the discharge would vary depending on the type and size of equipment used. Not counting set-up, preparation and down time; the discharge would not likely take more than 6 months.

f. Description of Disposal Method: Various dredging and dredged material transport methods could be used. To go under the bridge between Condado Lagoon and San Juan Harbor, the material would likely be pumped through a pipeline. The actual excavation from the borrow sites might involve a pipeline suction dredge or a mechanical dredge could be used to place the material into a barge or a pumpout station.

II. Factual Determinations

a. Physical Substrate Determinations

(1) Substrate Elevation and Slope: See maps and drawings in EA for details.

(2) Sediment Type: The discharge would consist of dredged material containing a preponderance of fine to coarse sand to ensure stability (Tetra Tech. 2001a) and suitability for submerged aquatic vegetation. Mineral particles less than 0.21 mm and organics will be no more than a minor fraction of the capping material. To ensure stability of the fill material below the cap, material with excessive fines

and organics is to be avoided. Also, to minimize undesirable biological activity (gas production, swelling, or shrinkage), material with excessive organics is to be avoided.

Once the material is characterized at the borrow sites, it will be evaluated for suitability. At this time, we expect the material will be suitable and we do not anticipate the need for capping. Capping the fill would only be required if there is not enough high quality material available.

(3) Dredged/Fill Material Movement: The fill material will achieve a slope such that approximately 4 acres of the dredge hole would be filled to provide 1.2 acres at an elevation suitable for Submerge Aquatic Vegetation.

(4) Physical Effects on Benthos: The fill would cover about 4 acres of dredge holes to provide 1.2 acres of habitat.

(5) Other Effects: The resulting habitat at the discharge site would be enhanced.

(6) Actions Taken to Minimize Impacts: The fill site was selected to efficiently improve habitat with the least amount of dredging and fill material.

b. Water Circulation. Fluctuation and Salinity Determinations

(1) Water. Consider effects on:

(a) Salinity: Minimal change.

(b) Water Chemistry: Improved oxygen levels.

(c) Clarity: Largely unchanged.

(d) Color: Largely unchanged.

(e) Odor: Largely unchanged. Anoxic waters in dredge hole displaced.

(f) Taste: Not applicable.

(g) Dissolved Gas Levels: Anoxic waters in dredge hole displaced.

(h) Nutrients: Better flushing of nutrients.

(i) Eutrophication: Anoxic waters in dredge hole displaced.

(j) Others as Appropriate

(2) Current Patterns and Circulation.

(a) Current Patterns and Flow: Largely unchanged.

(b) Velocity: Largely unchanged.

(c) Stratification: Largely unchanged.

(d) Hydrologic Regime: Largely unchanged.

(3) Normal Water Level Fluctuations: Largely unchanged.

(4) Salinity Gradients: Largely unchanged.

(5) Actions That Will Be Taken to Minimize Impacts: Except during the dredging and filling operation, no impacts or actual improvement in water quality.

c. Suspended Particulate/Turbidity Determinations

(1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site: Largely unchanged.

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

(a) Light Penetration: With filling of dredged hole, better light penetration to the bottom.

(b) Dissolved Oxygen: Better circulation and oxygenation.

(c) Toxic Metals and Organics: No release of harmful levels.

(d) Pathogens: None expected.
(e) Aesthetics: Some impact on turbidity during construction.
(f) Others as Appropriate

(3) Effects on Biota
(a) Primary Production, Photosynthesis: Create habitat for SAV.
(b) Suspension/Filter Feeders: Provide food and habitat.
(c) Sight Feeders: Provide food and habitat.

(4) Actions taken to Minimize Impacts: See commitments in the Environmental Assessment (Executive Summary, 4.35 Environmental Commitments and 4.36 Compliance With Environmental Requirements).

d. Contaminant Determinations: No harmful release expected.

e. Aquatic Ecosystem and Organism Determinations

(1) Effects on Plankton: Minimal impact.

(2) Effects on Benthos: Will provide benthic habitat for SAV.

(3) Effects on Nekton: Would benefit as a result of benthic habitat improvements (food chain).

(4) Effects on Aquatic Food Web: Will contribute to food chain.

(5) Effects on Special Aquatic Sites
(a) Sanctuaries and Refuges. None affected.
(b) Wetlands. Minimal impact. No direct impact.
(c) Mud Flats. Minimal impact.
(d) Vegetated Shallows: Will create habitat for SAV
(e) Coral Reefs. Minimal impact. No direct impact.
(f) Riffle and Pool Complexes: No impact. None present.

(6) Threatened and Endangered Species: Could benefit the manatee and green sea turtle.

(7) Other Wildlife

(8) Actions to Minimize Impacts: See commitments in the Environmental Assessment (Executive Summary, 4.35 Environmental Commitments and 4.36 Compliance With Environmental Requirements).

f. Proposed Disposal Site Determinations

(1) Mixing Zone Determination: No affect once constructed.

(2) Determination of Compliance with Applicable Water Quality Standards: Will comply with water quality standards.

(3) Potential Effects on Human Use Characteristic
(a) Municipal and Private Water Supply: No affect.
(b) Recreational and Commercial Fisheries: Could benefit fishing.
(c) Water Related Recreation. No affect once constructed.
(d) Aesthetics: No affect once constructed.
(e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves: Minimal impact.

g. Determination of Cumulative Effects on the Aquatic Ecosystem: Action does not contribute to cumulative effects, but mitigates for impacts.

h. Determination of Secondary Effects on the Aquatic Ecosystem: Any secondary effects are likely not harmful.

III. Findings of Compliance or Non-Compliance With the Restrictions on Discharge

a. Adaptation of the Section 404(b)(l) Guidelines 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 earlier plan to mitigate for impacts presented concerns over confinement of the fill material.

c. Compliance with Applicable State Water Quality Standards: Will comply.

d. Compliance with Applicable Toxic Effluent Standard or Prohibition Under Section 307 Of the Clean Water Act: No toxic substances involved.

e. Compliance with Endangered Species Act of 1973. Complies.

f. Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection. Research, and Sanctuaries Act of 1972. None.

g. Evaluation of Extent of Degradation of the Waters of the United States. Yes.

(1) Significant Adverse Effects on Human Health and Welfare

(a) Municipal and Private Water Supplies

(b) Recreation and Commercial Fisheries

(c) Plankton

(d) Fish

(e) Shellfish

(f) Wildlife

(g) Special Aquatic Sites

(2) Significant Adverse Effects on Life Stages of Aquatic Life and Other Wildlife Dependent on Aquatic Ecosystems

(3) Significant Adverse Effects on Aquatic Ecosystem Diversity, Productivity and Stability

(4) Significant Adverse Effects on Recreational, Aesthetic, and Economic Values

h. Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem: Yes

i. On the Basis of the Guidelines. the Proposed Disposal Site(s) for the Discharge of Dredged or Fill Material is specified as complying with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects on the aquatic ecosystem. These include compliance with any conditions placed on the water quality certification and the environmental commitments indicated in the Environmental Assessment.

FINDING OF COMPLIANCE
FOR
THE SAN JUAN HARBOR MITIGATION EFFORT

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

2. The proposed action would provide habitat for sea grass, other submerged aquatic vegetation, and associated organisms.

3. The planned disposal of dredged material at site two would not violate any applicable State water quality standards. The disposal operation will not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.

4. Use of the selected disposal site will not harm any endangered species or their critical habitat.

5. The Proposed disposal of dredged material will not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing, plankton, fish, shellfish, wildlife, and special aquatic sites. The life stages of aquatic life 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.

6. Appropriate steps to minimize potential adverse impacts of the discharge on aquatic systems include use of suitable dredged material to fill and cap the habitat creation site and other measures indicated in the Environmental Assessment.

7. On the basis of the guidelines the proposed disposal site for the discharge of dredged material is specified as complying with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects to the aquatic ecosystem.

APPENDIX B - COASTAL ZONE MANAGEMENT CONSISTENCY

COASTAL ZONE MANAGEMENT PROGRAM
FEDERAL CONSISTENCY EVALUATION PROCEDURES

MITIGATION FOR
SAN JUAN HARBOR PROJECT
SAN JUAN, PUERTO RICO

Applicability of the Coastal Zone Management Act.

The following table summarizes the process and procedures under the Coastal Zone Management Act for Federal Actions and for non-Federal Applicants*.

Item	Non-Federal Applicant (15 CFR 930, subpart D)	Federal Action (15 CFR 930, subpart C)
Enforceable Policies	Reviewed and approved by NOAA	Same
Effects Test	Direct, Indirect (cumulative, secondary), adverse or beneficial	Same
Review Time	6 months from state receipt of Consistency Certification (30-days for completeness notice) Can be altered by written agreement between State and applicant	60 Days, extendable (or contractible) by mutual agreement
Consistency	Must be Fully Consistent	To Maximum Extent Practicable**
Procedure Initiation	Applicant provides Consistency Certification to State	Federal Agency provides "Consistency Statement" to State
Appealable	Yes, applicant can appeal to Secretary (NOAA)	No (NOAA can "mediate")
Activities	Listed activities with their geographic location (State can request additional listing within 30 days)	Listed or Unlisted Activities in State Program
Activities in Another State	Must have approval for interstate reviews from NOAA	Interstate review approval NOT required
Activities in Federal Waters	Yes, if activity affects state waters	Same

* There are separate requirements for activities on the Outer Continental Shelf (subpart E) and for "assistance to an applicant agency" (subpart F).
** Must be fully consistent except for items prohibited by applicable law (generally does not count lack of funding as prohibited by law, 15 CFR 930.32).

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

REPLY TO
ATTENTION OF

May 23, 2014

Planning Division
Environmental Branch

Ms. Rose Ortiz
Coastal Zone Management Consistency Office
Puerto Rico Planning Board
P.O. Box 41119, Minillas Station
San Juan, Puerto Rico 00940

Dear Ms. Ortiz:

I have enclosed seven copies of an application for Certification of Consistency with the Puerto Rico Coastal Management Program for the San Juan Harbor Mitigation Project in San Juan, Puerto Rico. This project involves the filling of 4 acres (including side slopes) of dredged holes in the Condado Lagoon with 46,000 cubic yards of dredged material to create 1.2 acres of habitat to an elevation of -12 feet to -15 feet for submerged aquatic vegetation. The dredged material would come from two shoaled areas in the La Esperanza Ecosystem Restoration Project and/or the San Antonio Channel of San Juan Harbor (see enclosed maps, drawings, and description).

The following additional information on this project is available on the internet http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalDocuments.aspx#Puerto_Rico:

- The Notice of Availability of the Draft Finding of No Significant Impact
- The Environmental Assessment
- Maps, drawings, and other information

If you have any questions, please contact Kenneth Dugger at 904-232-1686 (kenneth.r.dugger@usace.army.mil).

Sincerely,

/Signed/

Eric P. Summa
Chief, Environmental Branch

Enclosures

JP-833
Rev. MAR 2005

Commonwealth of Puerto Rico
Office of the Governor
Puerto Rico Planning Board
Physical Planning Area
Land Use Planning Bureau

Application for Certification of Consistency with the Puerto Rico Coastal Management Program

General Instructions:

A. Attach a 1:20,000 scale, U.S. Geological Survey topographic quadrangular base map of the site.

B. Attach a reasonably scaled plan or schematic design of the proposed object, indicating the following:

1. Peripheral areas

2. Bodies of water, tidal limit and natural systems.

C. You may attach any further information you consider necessary for proper evaluation of the proposal.

D. If any information requested in the questionnaire does not apply in your case, indicate by writing "N/A"(not applicable).

E. Submit a minimum of seven (7) copies of this application.

DO NOT WRITE IN THIS BOX

Type of application: _____ Application Number: _____

Date received: _____ Date of Certification: _____

Evaluation result: ☐ Objection ☐ Acceptance ☐ Negotiation

Technician: _____ Supervisor: _____

Comments: _____

1. Name of Federal Agency: U.S Army Corps of Engineers, Jacksonville, District
2. Federal Program Catalog Number: 12.107 (navigation) [www.cfda.gov]
3. Type of Action:

   ■ Federal Activity ☐ License or permit ☐ Federal Assistance

4. Name of Applicant: Eric P. Summa, Chief Environmental Branch

   Postal Address: P.O. Box 4970, Jacksonville, Florida 32203-4412

   Telephone: 904 232-1665 Fax: 904 232-3442

5. Project name: San Juan Harbor Mitigation

6. Physical Description of Project Location (area, facilities such as vehicular access, drainage, storm and sanitary sewer placement, etc.): Fill dredged hole in Condado Lagoon using Borrow sites in La Esperanza and/or San Antonio Channel

Lambert Coordinates: X = 13007024.960 Y = 5116421.127

7. Type of construction or other work proposed:

☐ drainage ☐ channeling ☐ landfill ☐ sand extraction

☐ pier ☐ bridge ☐ residential ☐ tourist

others (specify and explain) Mitigation for Navigation Project

Description of proposed work: Fill 4 acres of dredged holes in Condado Lagoon to elevation -12 feet to -15 feet to create 1.2 acres of habitat for submerged aquatic vegetation. Borrow of 46,000 cubic yards of suitable material from the La Esperanza restoration project and/or San Anatonio channel in San Juan Harbor

8. Natural, artificial, historic or cultural systems likely to be affected by the project

Place an X opposite any of the systems indicated below that are in the project area or its surroundings, which are likely to be affected by that activity. Indicate the distance from the project to any outside system that would likely be affected.

System	Within Project	Outside Project	Distance (meters)	Local name of affected system
beach, dunes				
marshes				
coral, reefs				
river, estuary	X			San Juan Estuary
bird sanctuary				
pond, lake, lagoon				
agricultural unit				
forest, wood				
cliff, breakwater				
cultural or tourist area				
other (explain)				

Describe the likely impact of the project on the identified system (s).

Positive ■ Negative ☐

Explain:

Project is to mitigate for 1.2 acres of impact from improvements to San Juan Harbor

9. Indicate permits, approvals and endorsements of the proposal by Federal and Puerto Rican government agencies. Evidence of such support should be attached to the proposal.

	Yes	No	Pending	Application Number
a. Planning Board	☐	☐	☒	_____
b. Regulation and Permits Administration	☐	☐	☐	_____
c. Environmental Quality Board	☐	☐	☒	_____
d. Department of Natural Resources	☐	☐	☒	_____
e. State Historic Preservation Office	☐	☐	☒	_____
f. U.S. Army Corps of Engineers	☐	☐	☐	_____
g. U.S. Coast Guard	☐	☐	☐	_____
h. Other (s) (specify)	☐	☐	☐	_____

CERTIFICATION

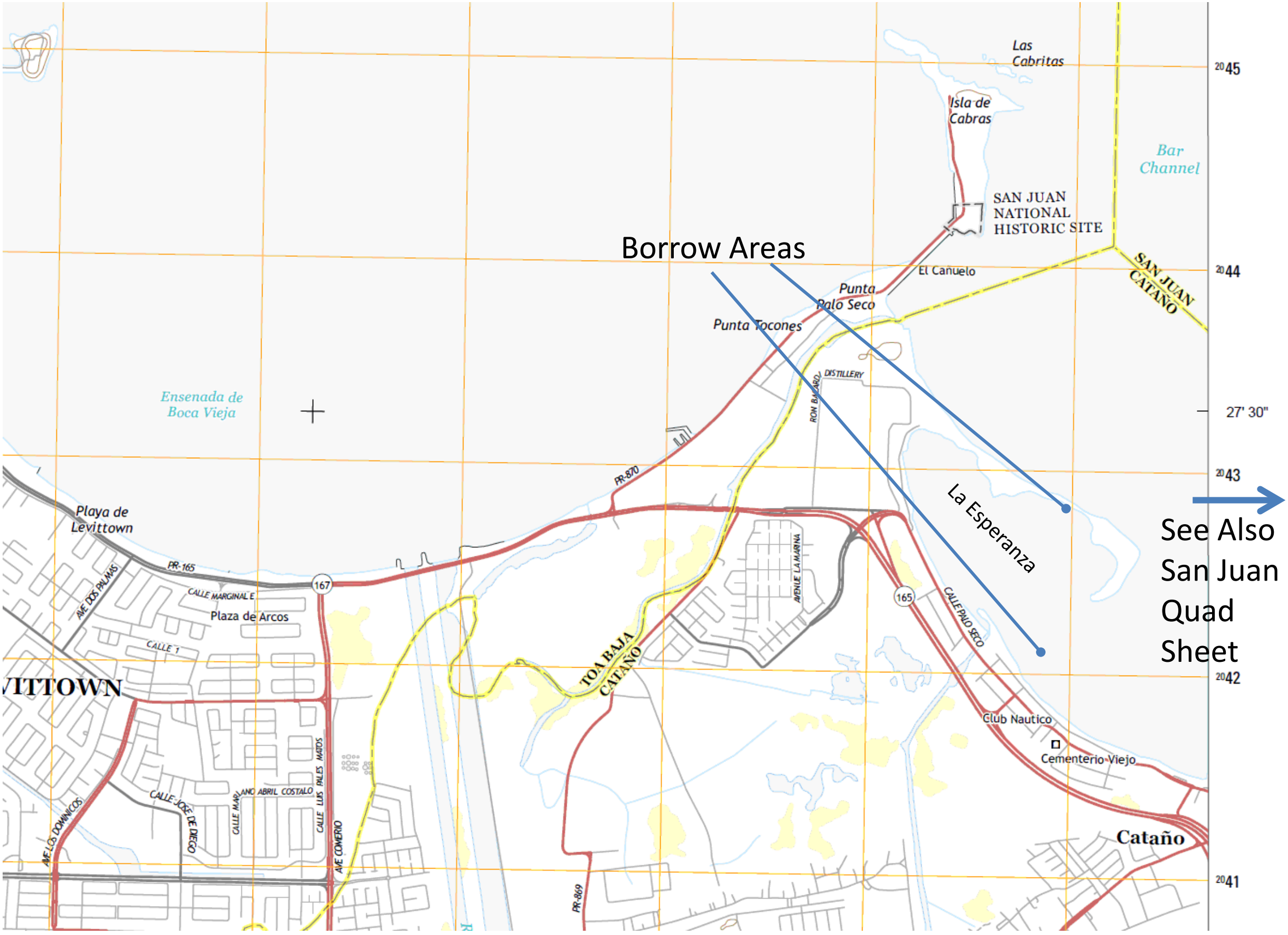
I CERTIFY THAT (project name) the San Juan Harbor Mitigation Project is consistent with the Puerto Rico Coastal Zone Management Program, and that to the best of my knowledge the above information is true.

Eric P. Summa
Name (legible)

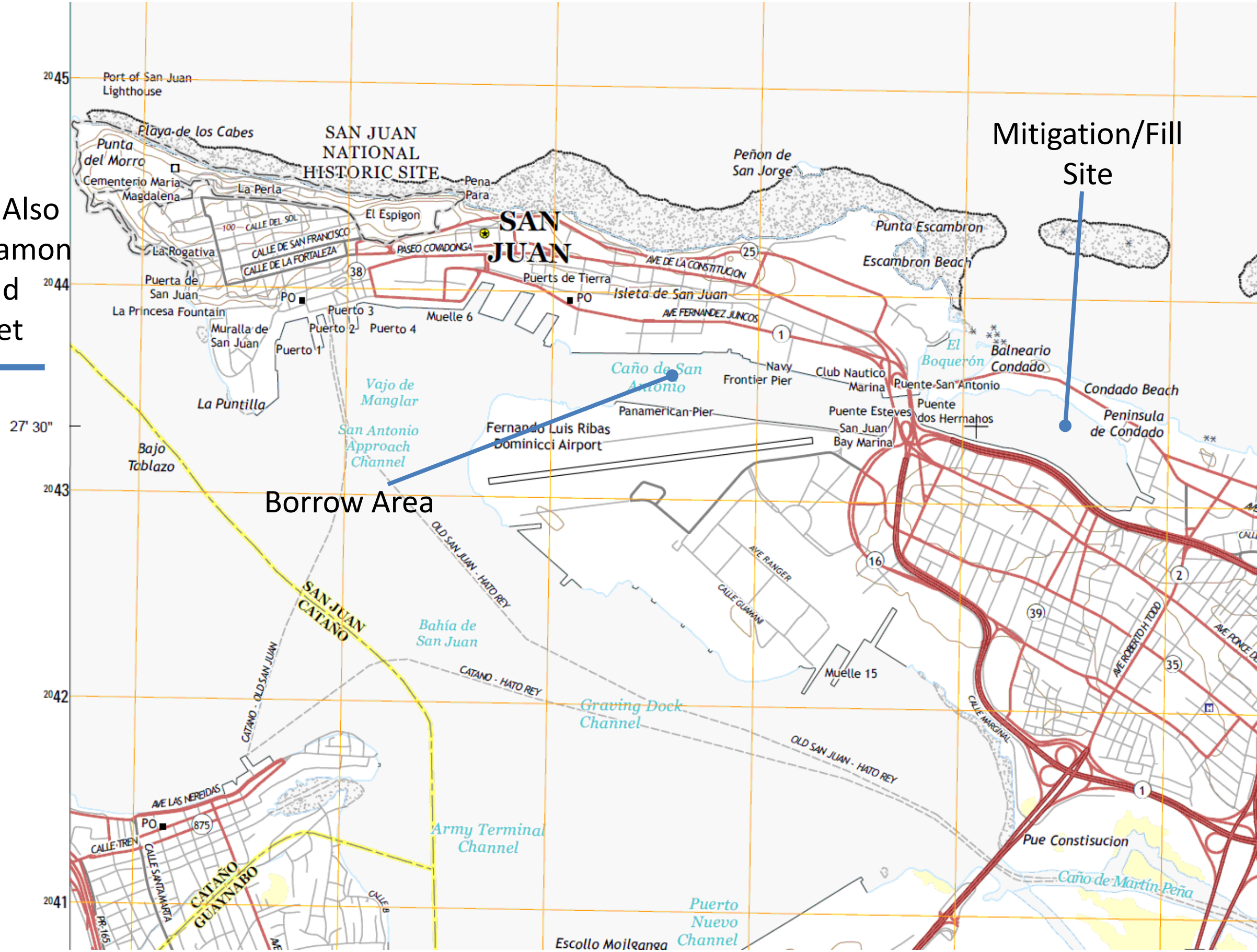
_____
Signature

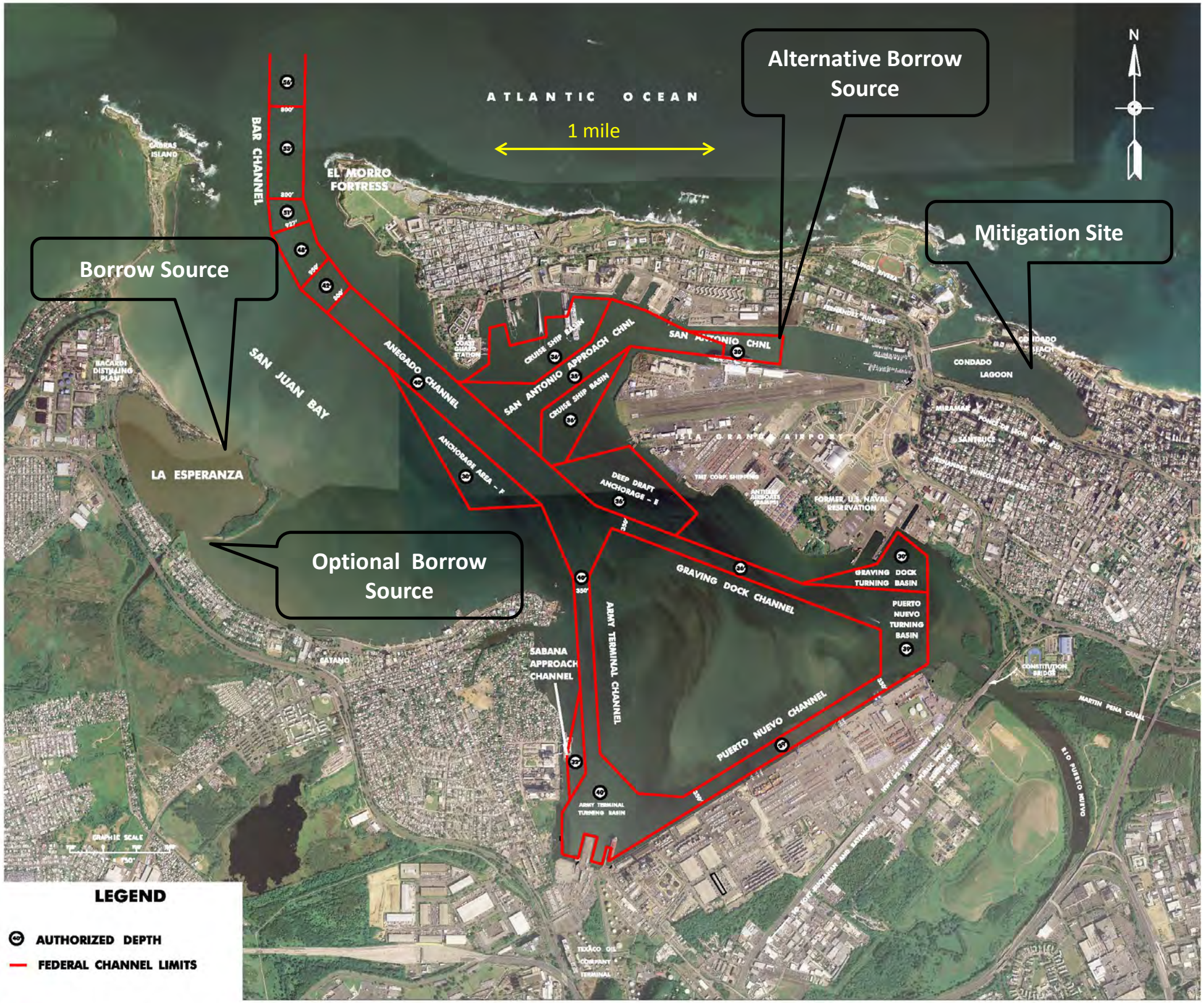
Chief, Environmental Branch
Position

_____
Date



See Also San Juan Quad Sheet

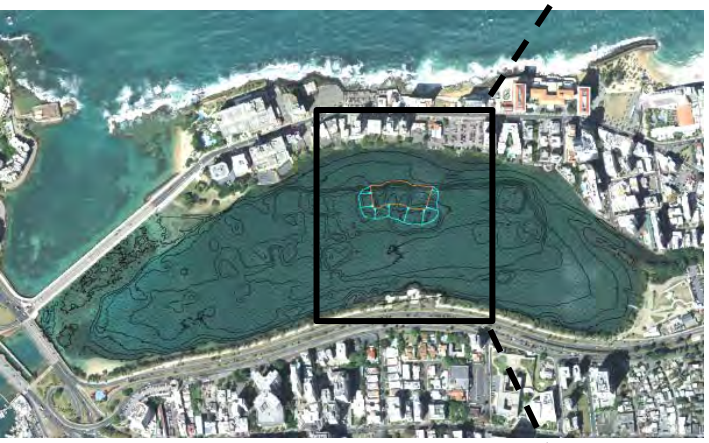

See Also Bayamon Quad Sheet
Mitigation/Fill Site
Borrow Area
SAN JUAN NATIONAL HISTORIC SITE
SAN JUAN
Port of San Juan Lighthouse
Playa de los Cabes
Punta del Morro
Cementerio Maria Magdalena
La Perla
Pena Para
El Espigon
Peñon de San Jorge
Punta Escambron
Escambron Beach
CALLE DEL SOL
CALLE DE SAN FRANCISCO
CALLE DE LA FORTALEZA
PASEO COVADONGA
AVE DE LA CONSTITUCION
La Rogativa
Puerta de San Juan
La Princesa Fountain
Muralla de San Juan
Puerto 1
Puerto 2
Puerto 3
Puerto 4
Muelle 6
Puerts de Tierra
Isleta de San Juan
AVE FERNANDEZ JUNCOS
Vajo de Manglar
La Puntilla
Caño de San Antonio
Navy Frontier Pier
Club Nautico Marina
Puente San Antonio
El Boquerón
Balneario Condado
Condado Beach
Peninsula de Condado
Panamerican Pier
Puente Esteves
Puente dos Hermanos
San Juan Bay Marina
Fernando Luis Ribas Dominicci Airport
San Antonio Approach Channel
Bajo Toblazo
OLD SAN JUAN - HATO REY
AVE RANGER
CALLE GUAYMANI
Bahía de San Juan
SAN JUAN CATAÑO
CATANO - OLD SAN JUAN
CATANO - HATO REY
Muelle 15
Graving Dock Channel
CALLE MARGINAL
AVE ROBERTO H TODD
AVE LAS NEREIDAS
CALLE TREN
CALLE SANTAMARTA
CATAÑO GUAYNABO
Army Terminal Channel
Pue Constisucion
Caño de Martín Peña
Puerto Nuevo Channel
Escollo Mojiganga
27' 30"
2045
2044
2043
2042
2041

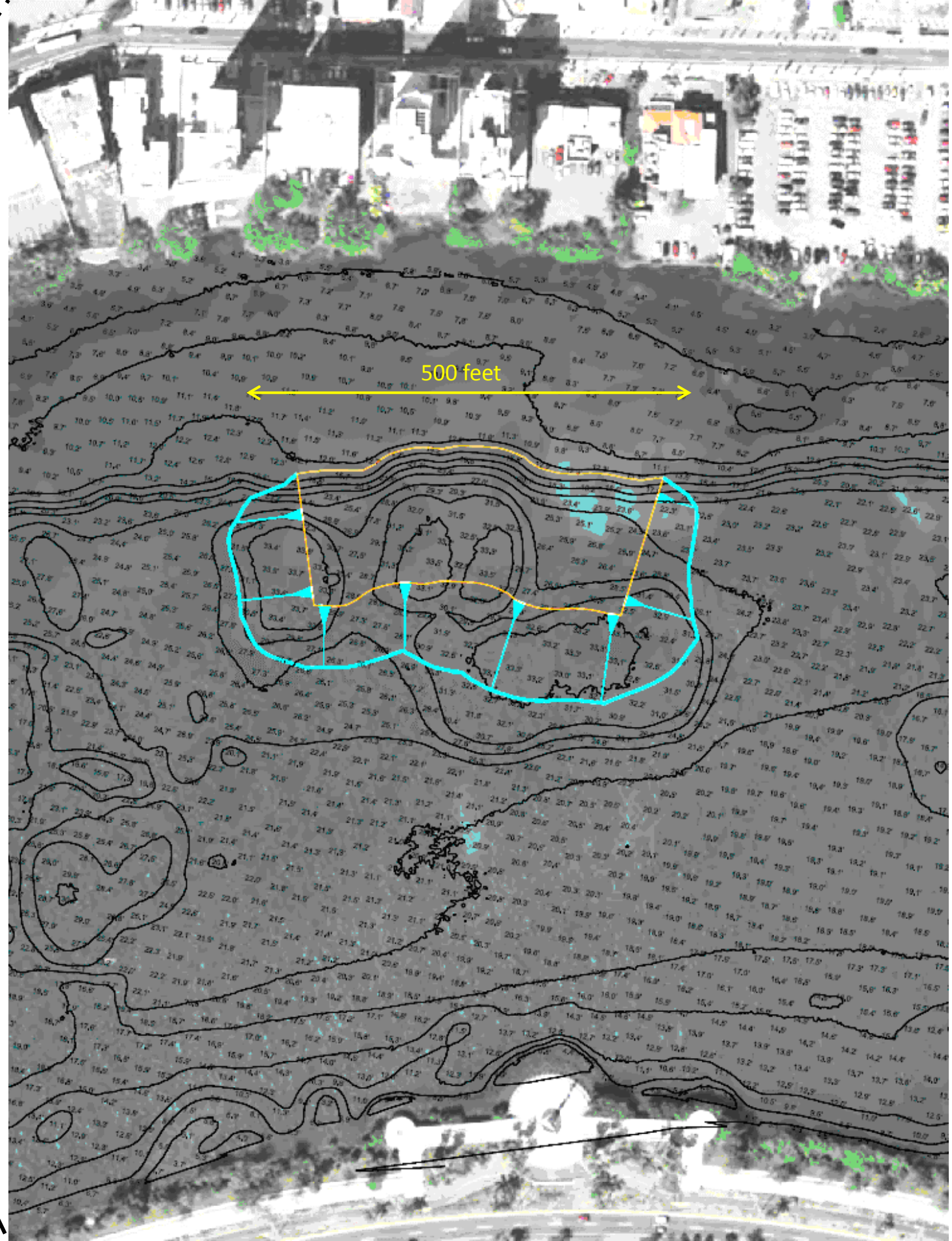


US Army Corps of Engineers
Jacksonville District

SAN JUAN HARBOR NAVIGATION PROJECT

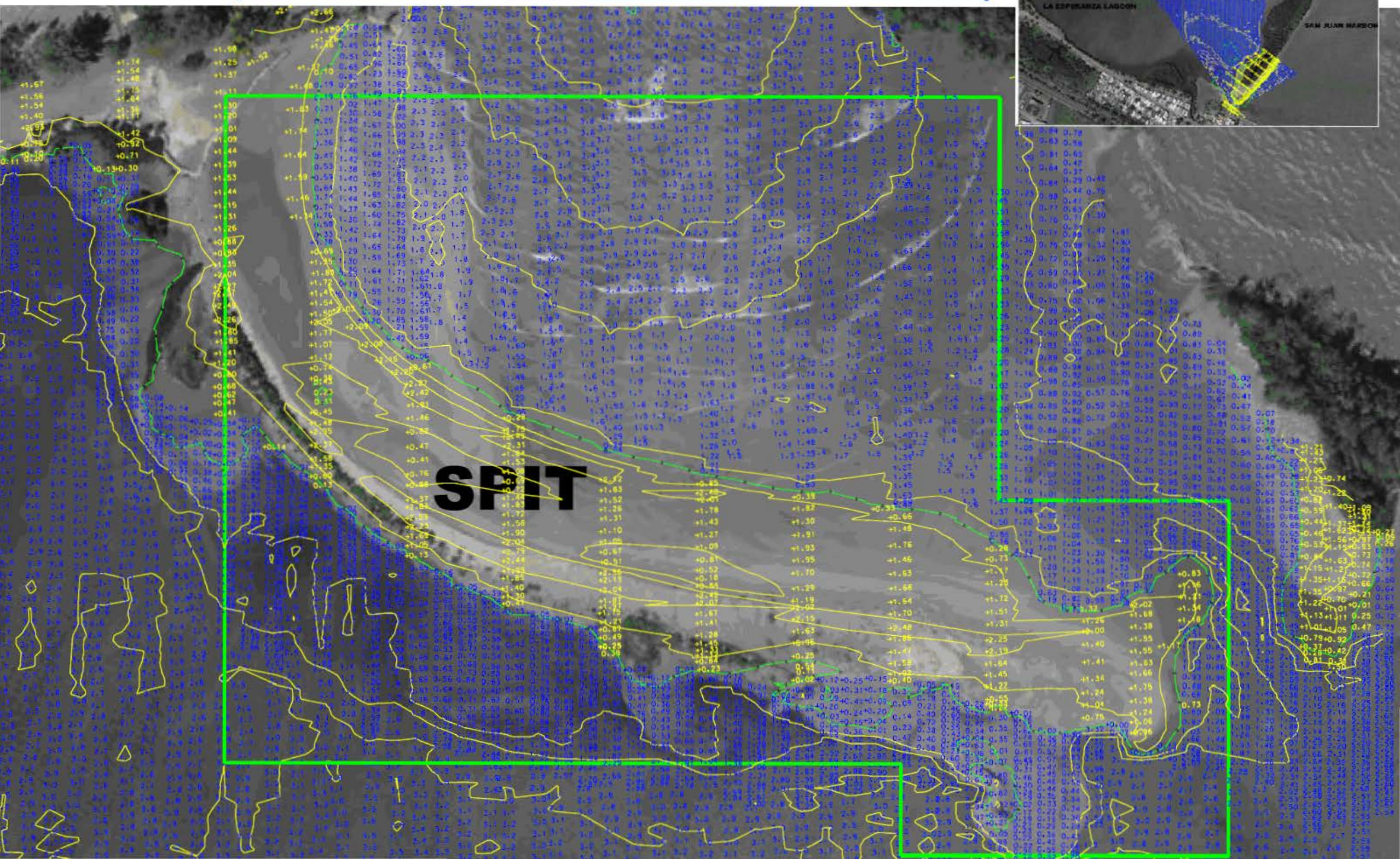
Mitigation Site for
San Juan Harbor
in Condado Lagoon

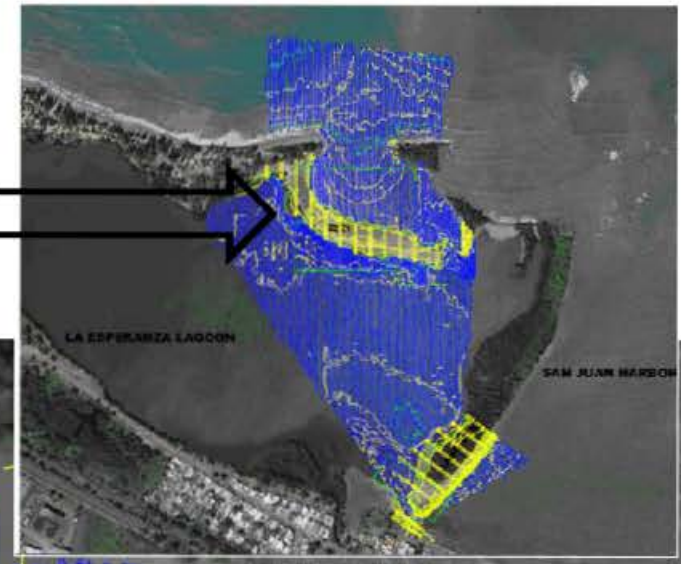




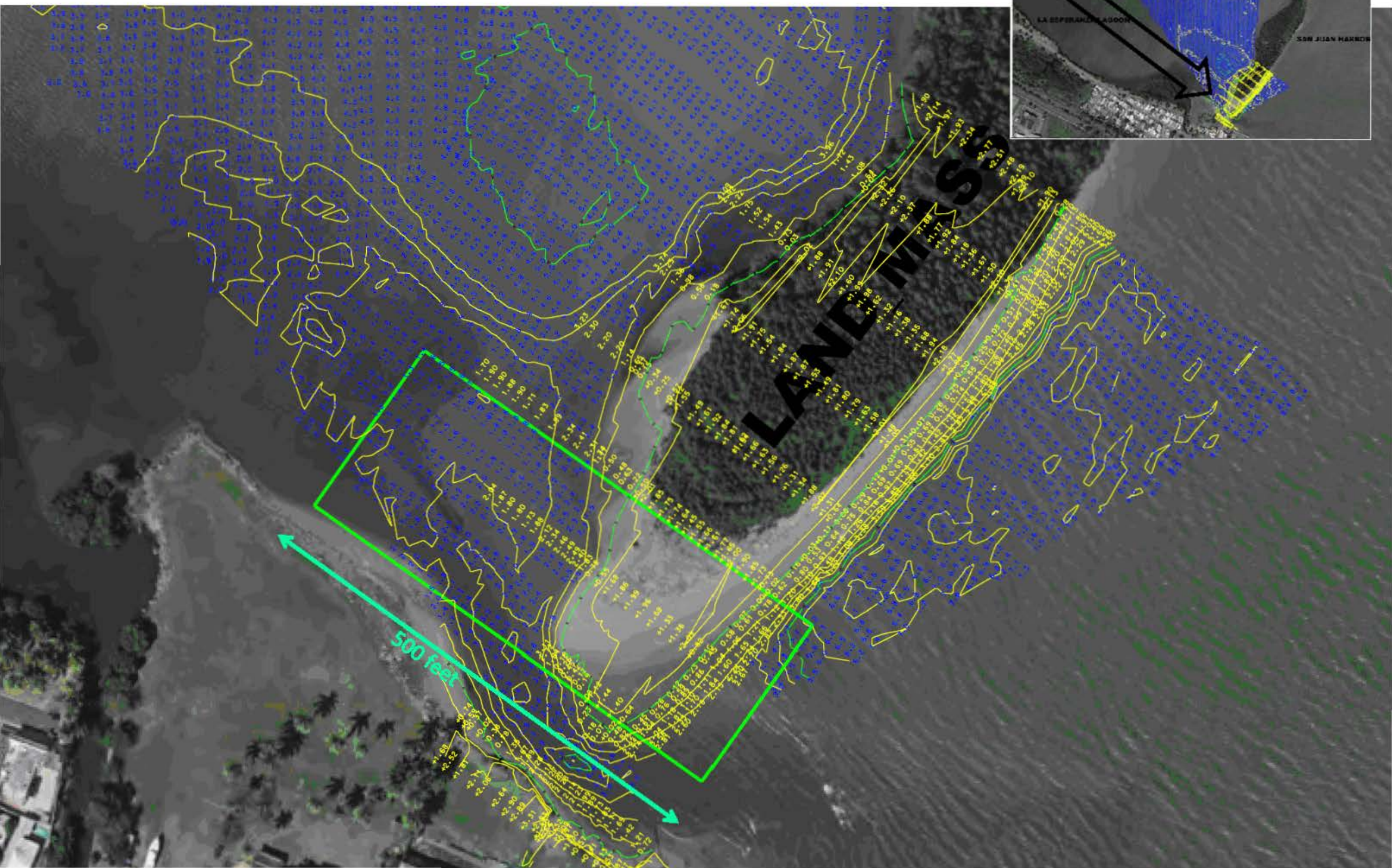
Borrow Site, La Esperanza, North Opening

800 feet

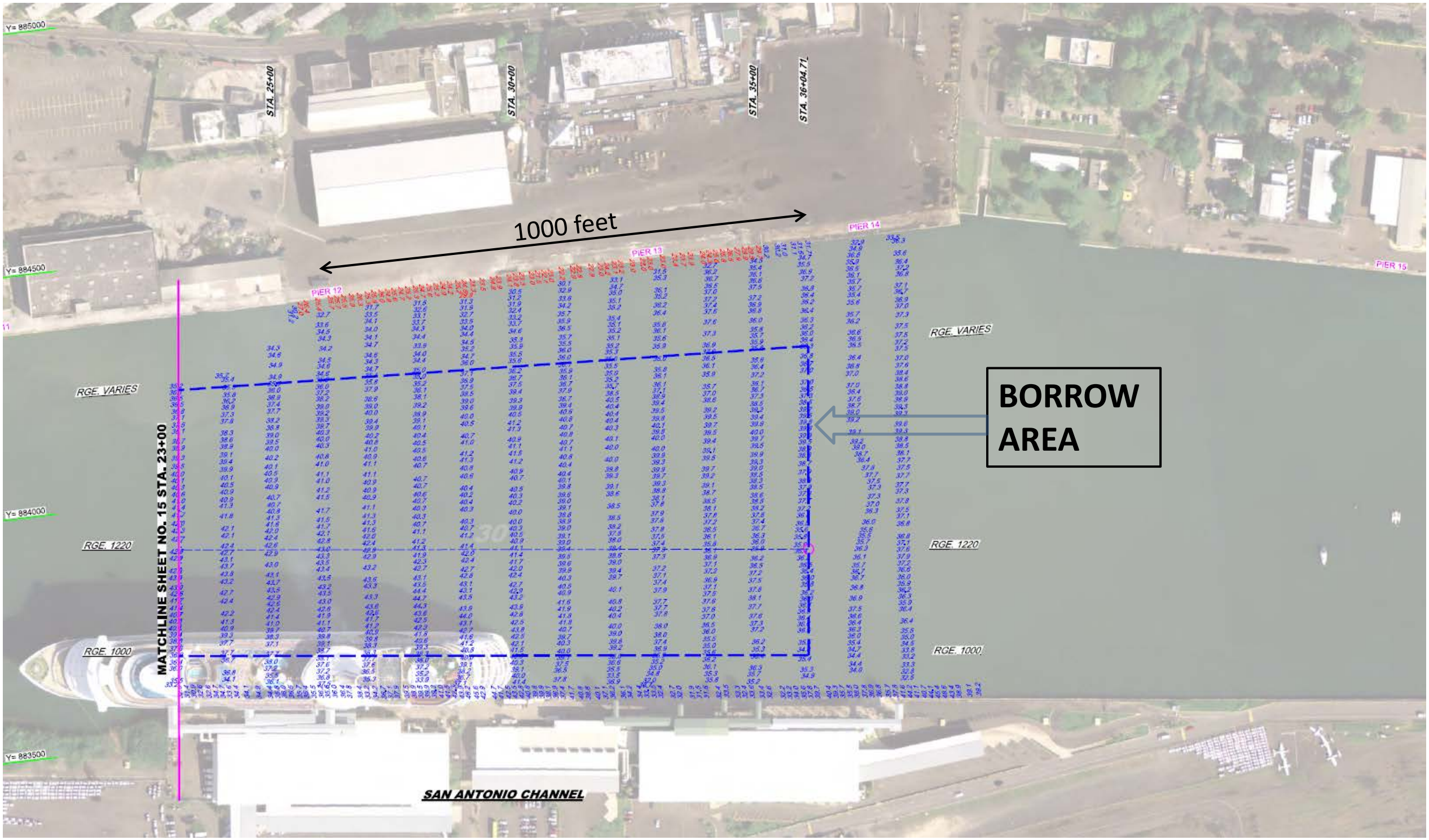




Borrow Site, La Esperanza, East Opening

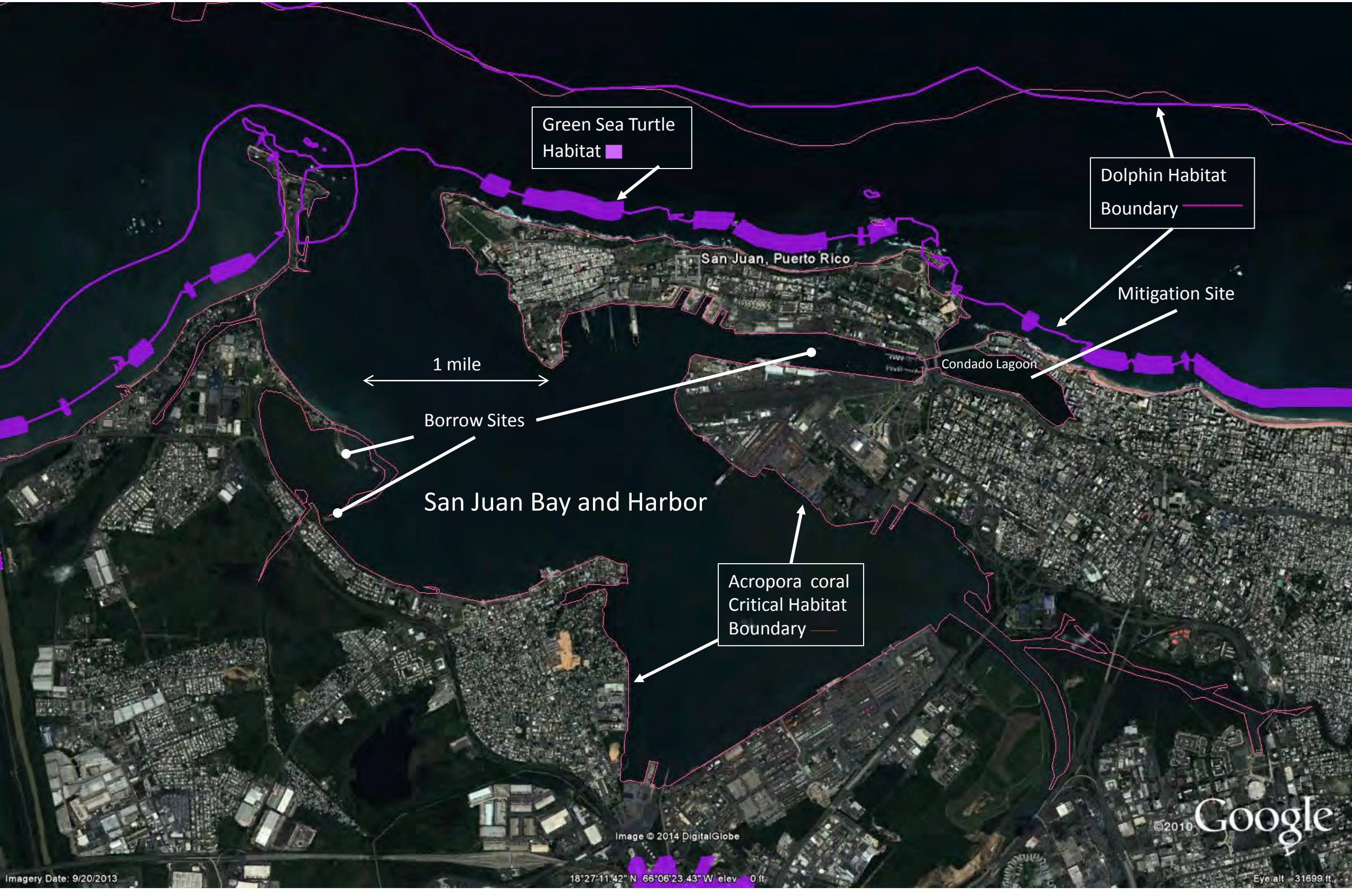


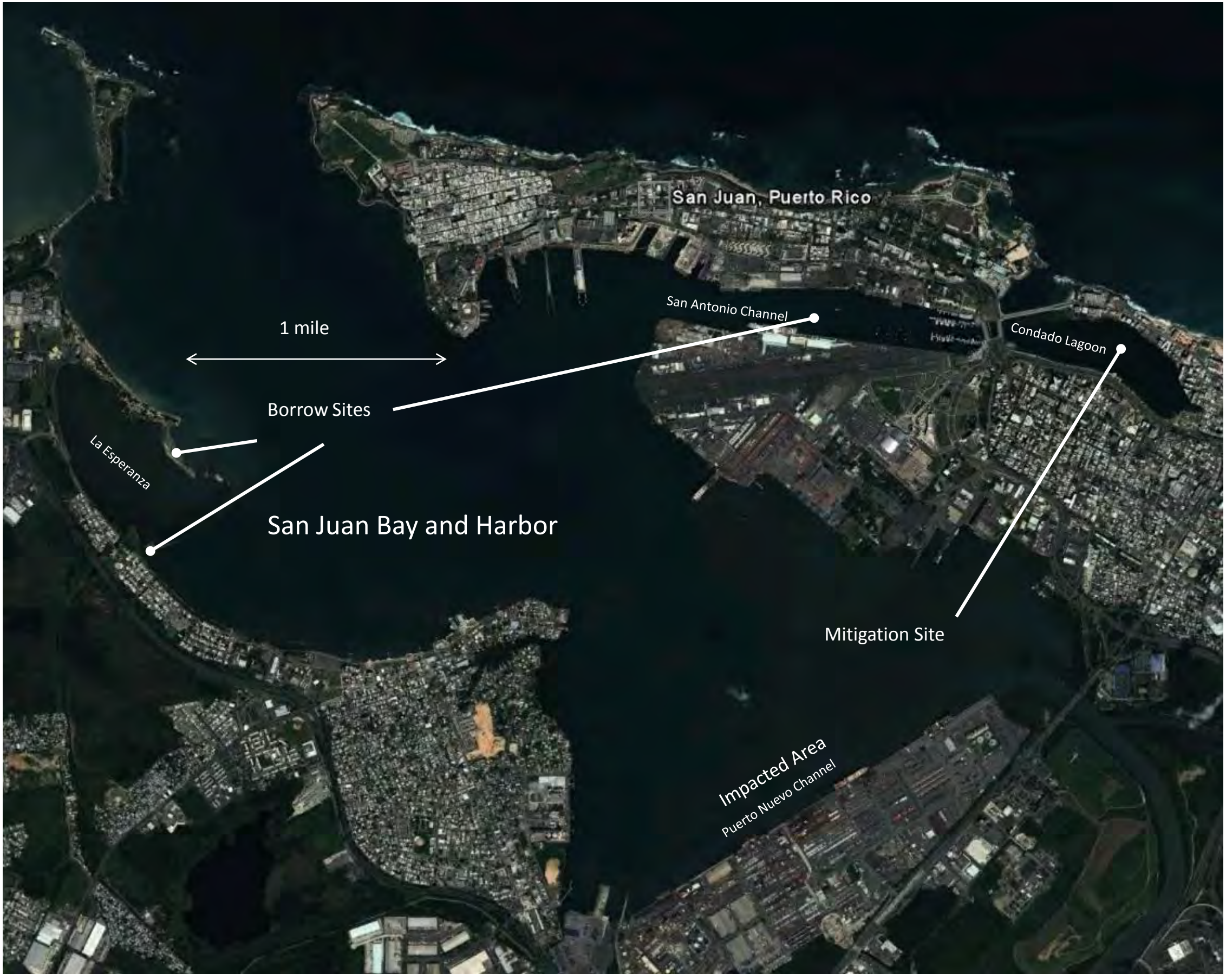
Borrow Site, San Antonio Channel



Resources: Sea Turtles, Marine Mammals, and Acropora Coral

(from Resources at Risk (RAR), Google Earth Application)




San Juan, Puerto Rico
1 mile
San Antonio Channel
Condado Lagoon
Borrow Sites
La Esperanza
San Juan Bay and Harbor
Mitigation Site
Impacted Area
Puerto Nuevo Channel

APPENDIX C - PERTINENT CORRESPONDENCE

Part 1: Scoping letter of January 22, 2013, and resulting correspondence.

Part 2: Endangered Species Act consultation and Essential Fish Habitat coordination.

Part 3: Notice of Availability of the draft FONSI/EA and resulting correspondence.

Part 1: Scoping letter of January 22, 2013, and resulting correspondence.

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

January 22, 2013

TO WHOM IT MAY CONCERN:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is beginning to gather information which will aid in identifying issues and concerns to be addressed in an Environmental Assessment (EA) for the San Juan Harbor (SJH) Submerged Aquatic Vegetation (SAV) Compensatory Mitigation Project in the Condado Lagoon, San Juan, Puerto Rico. This project is a component of the San Juan Harbor Federal Navigation Project reauthorized by Section 301 of the Water Resources Development Act of 1996 (see enclosed Figure). The non-Federal sponsor for the project is the Puerto Rico Ports Authority.

The Corps is evaluating the feasibility of conducting the SJH SAV Compensatory Mitigation Project in the Condado Lagoon. It consists of the restoration of approximately 1.2 acres of SAV impacted during the SJH Navigation Channel improvements. Restoration of seagrass beds in the Condado Lagoon is one of the goals of the San Juan Bay Estuary Program (SJBEP) Comprehensive Conservation and Management Plan, Action Plan HW-2, completed in August 2000. The 102-acre (0.42 square kilometers) lagoon has suffered severe degradation of its water quality, benthic and fish habitat due to dredging operations during the 1950's. As a result, tidal currents and wind action are not often enough to produce the adequate water circulation between the 35 feet (10.8 meters) deep bottom and surface waters, impairing the lagoon's water quality and living resources. The natural depth of the lagoon was less than 15 feet (4.6 meters). The proposed compensatory mitigation project consists of the beneficial use and placement of suitable dredged material from the SJH area into the artificial lagoon depressions to provide appropriate elevations to allow for natural recruitment and support maturation of SAV (e.g. seagrass). Although the main goal of the proposed project is to provide the required SAV mitigation (1.2 acres), additional areas within the lagoon may be restored to contribute to the overall purpose of the CCMP, Action Plan HW-2.

The proposed handling of the dredged material could involve several methods for transporting all suitable material from the SJH to the artificial depressions in the Condado Lagoon. A combination of scow barge and pumping through a floating pipeline could be implemented for transporting the material along the San Antonio Channel into the lagoon. Environmental considerations will include the effects of the proposed action on aesthetics, water quality, fish and wildlife habitats and values, endangered or threatened species, and historical or archeological resources.

We welcome your views, comments and information about resources, study objectives and important features within the study area, as well as any suggested improvements. If you know of anyone else who may wish to comment, please notify them of this opportunity. Letters of comments and/or inquiry should be addressed to the letterhead address to the attention of Wilberto Cubero, Planning Division, Environmental Branch and should be received by this office within 30 days of the date of this letter. E-mail comments can also be sent to Wilberto.Cubero-delToro@usace.army.mil.

Sincerely,

[signed]

Eric P. Summa
Chief, Environmental Branch

Enclosure

From:	Lisamarie Carrubba - NOAA Federal
To:	Cubero-Deltoro, Wilberto SAJ
Cc:	Anabel Padilla; Pace Wilber; Jose Rivera
Subject:	Re: SJH SAV Mitigation Project - Letter dated 22 Jan 2013 (UNCLASSIFIED)
Date:	Monday, March 18, 2013 6:08:20 PM
Attachments:	Sea Turtle and Smalltooth Sawfish Construction Conditions 3-23-06.doc Vessel Strike Avoidance with Ship Strike Form-February 2008-web version.pdf pier 6 benthic condado reduced.pdf public notice pier 6 and condado.pdf maps condado reduced.pdf

---

Saludos, Wilberto:

As we discussed earlier, I did not receive a copy of the January 22, 2013, letter from the U.S. Army Corps of Engineers (USACE) regarding the proposed San Juan Harbor Compensatory Mitigation project. I have now sent you two of the documents from the previously proposed pilot project to fill a portion of the dredge pit in Condado Lagoon, which was then discarded as an alternative by the application, and am attaching some additional documents from that project for your reference to this message.

The San Juan Harbor mitigation was originally to be the expansion of an existing shoal in Puerto Nuevo Channel that is colonized by seagrass. However, the mitigation was never implemented, the federal harbor project was completed, and much of the dredge spoil that would have been suitable for expanding the shoal has been disposed of in the San Juan Harbor Offshore Disposal Site. In addition to navigation concerns associated with the expansion of the existing channel that were raised by the U.S. Coast Guard in the past, the majority of dredge spoil now available in the San Juan Harbor area are fine sediments that present a containment issue in terms of being able to stabilize them enough to create and maintain the shoal area. For these reasons, as well as to address a priority identified by the San Juan Bay Estuary Program related to the restoration of habitat in several of the lagoons that form part of the estuary system and were dredged in the past in order to fill mangrove wetlands around San Juan Bay and other portions of the estuary to construct urban, government, and commercial areas, as well as the airport, the USACE is proposing the filling of a portion of the dredge pit in the Condado Lagoon. The area would be equivalent to the 1.2 acres of seagrass mitigation originally proposed as part of the harbor project. The USACE has not yet determined the method of transport by which dredged material would be moved between dredging areas and the dredge pit.

The USACE is requesting information to be included in the Environmental Assessment (EA) being prepared for the mitigation project. In response to this request and in addition to the information I provided from the previous proposal to complete a similar project using dredge spoil from improvements to Pier 6 in the San Juan Harbor, I have the following comments:

1. the EA should identify the area or areas within the dredge pit in Condado Lagoon that would be filled and the target depth. This depth should include the depth to which dredge spoil would be placed, as well as any capping material. The EA should also identify the source of the dredged material and measures to be taken to prevent any contaminated sediments selected as fill material from being transported to waters of the lagoon, such as the use of geotubes and flocculants to contain dredge spoil. Similarly, the source of any capping material should also be identified. If dredging to obtain fill and cap material will involve additional impacts to benthic habitat, such as seagrass beds, then the mitigation area in Condado Lagoon would have to be expanded, different material source areas selected to avoid these impacts, or restoration of seagrass or other benthic habitat, if necessary, at the source sites should be part of the project.
2. the EA should contain details of all dredging, transport, and disposal methods, including all sediment control measures to ensure that contaminated sediments from dredge sites or contaminated and/or anoxic waters and sediments from the dredge pit are not transported to other areas within the lagoon or the estuary system. Measures should also include management of sediments during transport from source sites to the disposal site in the lagoon, whether transport is by land or by water, to minimize transport of dredge spoils to nearshore and estuarine waters during movement from the source location to the disposal site.
3. the EA should contain details regarding the selection of the disposal area within the pit in the lagoon. Selection should be based on depth of the pit versus amount of material that will be disposed of and depth of the surrounding lagoon floor, in particular areas with seagrass colonization. Selection

should also take into consideration the sources of contamination from untreated sewage, for example, that have been reported to be present in the lagoon, likely due to unauthorized combined sewer discharges, as these will affect the quality of the habitat to be created for seagrass in terms of nutrient concentrations and the possibility of algal dominance due to high nutrient loads. Disposal sites some distance from any of these discharge points should be selected to minimize the possibility that the mitigation site will be colonized by filamentous green algae or that any seagrass transplanted to the area would quickly be covered by sediment and algae due to high nutrient loads.
4. the EA should include information regarding existing benthic habitat in the area where filling of a portion of the dredge pit is proposed to determine the species of seagrass and at what depth they occur. In this way, once the controlling depth is established for the mitigation project, the USACE can also determine the species of seagrass to be transplanted to the area. If Halophila is the appropriate species due to final proposed depth, then bottom substrate from an area where this species is growing can be moved to the restoration area because the species itself is too fragile to be transplanted, but there is always a seed bank in beds of Halophila so the movement of substrate will also result in the movement of seeds to the mitigation site. If the depth is appropriate for turtle grass, then plugs can be transplanted from the dense beds present around most of the border of the lagoon.
5. The EA should include information regarding the presence or absence of species and habitat under the purview of NMFS PRD in the area of source and disposal sites and potential impacts to these resources as a result of the project, as well as avoidance and minimization measures to be incorporated in the project design and operation to protect ESA-listed species and their habitat. As an example, I have attached our sea turtle construction conditions and vessel strike avoidance guidelines. If all the information required to analyze the potential impacts of the project to ESA resources are included in the EA, then the EA can serve as the consultation document for any ESA Section 7 consultation to be completed as part of this federal action.

The project area also contains habitats designated as essential fish habitat (EFH) by the Caribbean Fishery Management Council pursuant to the requirements of the Magnuson-Stevens Fishery Conservation and Management Act. Therefore, we refer you to Mr. José Rivera of NMFS Habitat Conservation Division, who was included in the distribution list for your January 22, 2013, letter, to provide guidance as to any information related to EFH resources and conservation measures that should be included in the EA and project design, as well as EFH consultation requirements for the project. Mr. Rivera may be reached via e-mail at Jose.A.Rivera@noaa.gov or by telephone at 787-405-3605.

Thank you for the opportunity to provide comments. If you have any questions regarding the contents of this message, please do not hesitate to contact me.
Lee

On Mon, Mar 18, 2013 at 3:37 PM, Cubero-Deltoro, Wilberto SAJ <Wilberto.Cubero-Deltoro@usace.army.mil> wrote:

> Classification: UNCLASSIFIED
> Caveats: NONE
>
> Lisamarie,
>
> Please find attached an electronic copy of the letter dated 22 January 2013. We would like your comments/recommendations on the proposed action.
>
> Thanks,
> Wilberto
>
> Classification: UNCLASSIFIED
> Caveats: NONE

--
Dr. Lisamarie Carrubba
NOAA Fisheries
Caribbean Field Office, PRD
P.O. Box 1310
Boquerón, PR 00622
787-851-3700
787-851-5588 (fax)

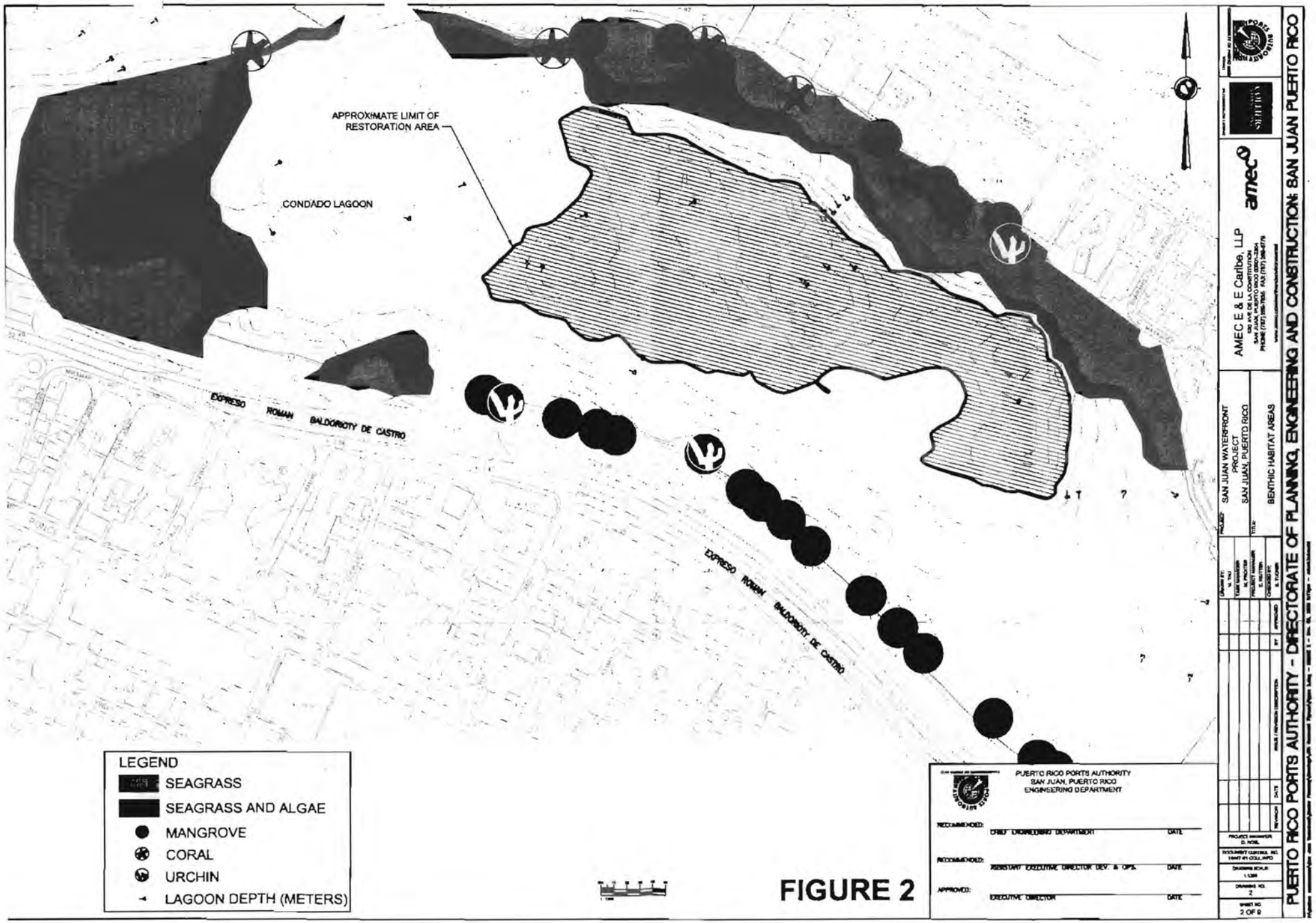


FIGURE 2

PUERTO RICO PORTS AUTHORITY
SAN JUAN, PUERTO RICO
ENGINEERING DEPARTMENT

RECOMMENDED: CHIEF ENGINEERING DEPARTMENT DATE

RECOMMENDED: ASSISTANT EXECUTIVE DIRECTOR DEV. & OPS. DATE

APPROVED: EXECUTIVE DIRECTOR DATE

AMEC E & E Caribe, LLP

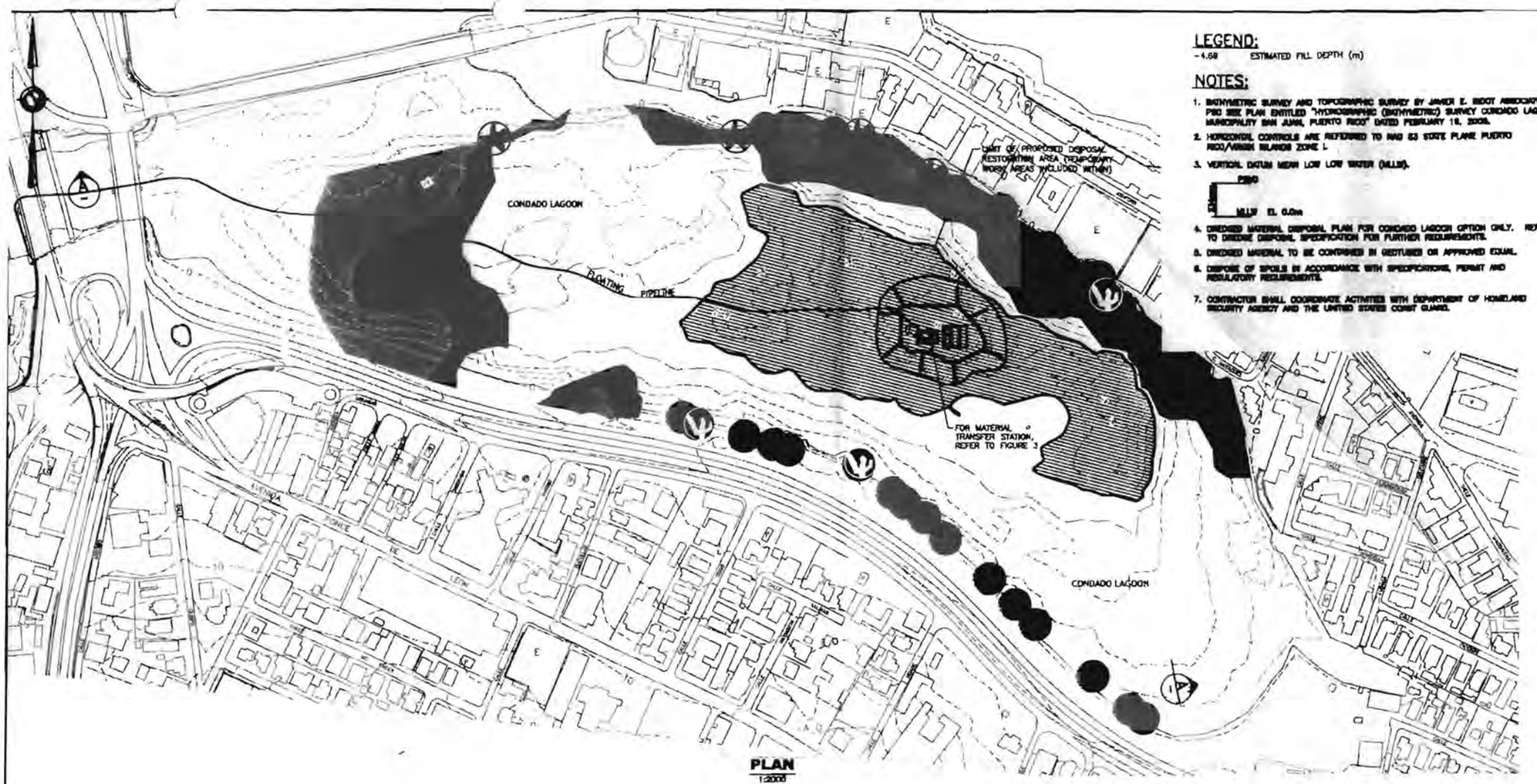
PROJECT: SAN JUAN WATERFRONT PROJECT
SAN JUAN, PUERTO RICO

TITLE: BENTHIC HABITAT AREAS

PUERTO RICO PORTS AUTHORITY - DIRECTORATE OF PLANNING, ENGINEERING AND CONSTRUCTION: SAN JUAN PUERTO RICO

DRAWING NO. 2

SHEET NO. 2 OF 9



LEGEND:

-4.68 ESTIMATED FILL DEPTH (m)

NOTES:

1. BATHYMETRIC SURVEY AND TOPOGRAPHIC SURVEY BY JAIME E. RIOS ASSOCIATES, PSC SEE PLAN ENTITLED "HYDROGRAPHIC (BATHYMETRIC) SURVEY CONDADO LAGOON MUNICIPALITY SAN JUAN, PUERTO RICO" DATED FEBRUARY 18, 2008.
2. HORIZONTAL CONTROLS ARE REFERRED TO NAD 83 STATE PLANE PUERTO RICO/VIRGIN ISLANDS ZONE I.
3. VERTICAL DATUM MEAN LOW LOW WATER (MLLW).

4. DREDGED MATERIAL DISPOSAL PLAN FOR CONDADO LAGOON OPTION ONLY. REFER TO DREDGE DISPOSAL SPECIFICATION FOR FURTHER REQUIREMENTS.
5. DREDGED MATERIAL TO BE CONFINED IN GEOTUBES® OR APPROVED EQUAL.
6. DISPOSE OF SPOILS IN ACCORDANCE WITH SPECIFICATIONS, PERMIT AND REGULATORY REQUIREMENTS.
7. CONTRACTOR SHALL COORDINATE ACTIVITIES WITH DEPARTMENT OF HOMELAND SECURITY AGENCY AND THE UNITED STATES COAST GUARD.

LEGEND

- SEAGRASS
- SEAGRASS AND ALGAE
- MANGROVE
- CORAL

PUERTO RICO PORTS AUTHORITY
SAN JUAN, PUERTO RICO
ENGINEERING DEPARTMENT

RECOMMENDED: CHIEF ENGINEERING DEPARTMENT DATE

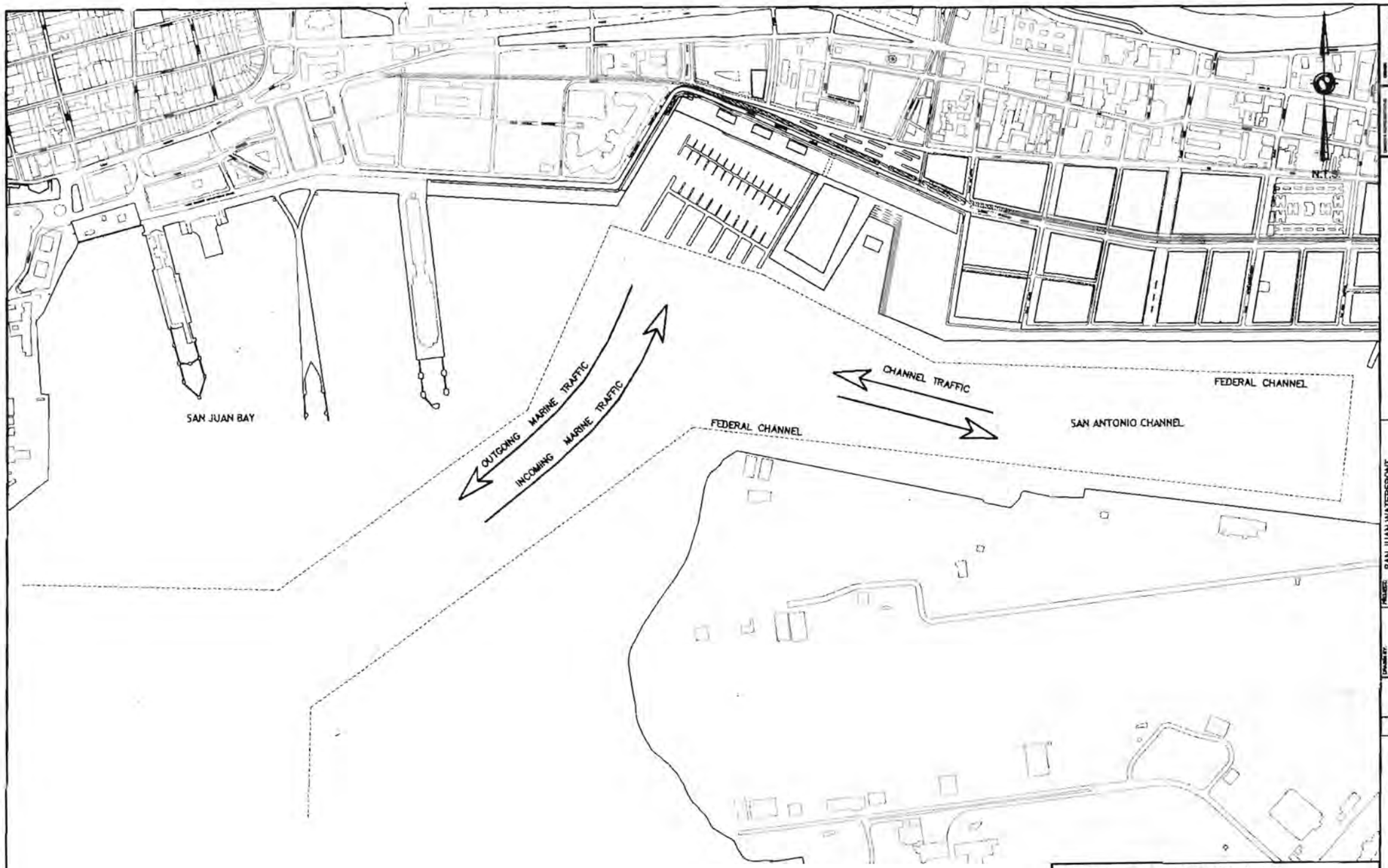
RECOMMENDED: ASSISTANT EXECUTIVE DIRECTOR DEV. & OPS. DATE

AMEC E & E Caribe, LLP
420 AVE DE LA CONSTITUCION
SAN JUAN, PUERTO RICO 00901-2354
PHONE (787) 289-7600 FAX (787) 289-7779

PROJECT: SAN JUAN WATERFRONT PROJECT
SAN JUAN, PUERTO RICO

TITLE: PROPOSED PROJECT FOOTPRINT
SAN JUAN, PUERTO RICO

DRAWING SCALE



PUERTO RICO PORTS AUTHORITY
SAN JUAN, PUERTO RICO
ENGINEERING DEPARTMENT

RECOMMENDED: CHIEF ENGINEERING DEPARTMENT DATE

RECOMMENDED: ASSISTANT EXECUTIVE DIRECTOR DEV. & OPS. DATE

APPROVED: EXECUTIVE DIRECTOR DATE

AMEC E & E Caribe, LLP

PROJECT: SAN JUAN WATERFRONT PROJECT
SAN JUAN, PUERTO RICO

TITLE:

DRAWING NO. 7

FIGURE 7

COLLIERS INTERNATIONAL

AUTORIDAD DE LOS PUERTOS
ESTADO LIBRE ASOCIADO DE PUERTO RICO

MARINE BIOLOGY STUDY

CONDADO LAGOON

MARCH 2008

Submitted to:

AMEC E&E Caribe, LLP
530 Ave de la Constitución
San Juan, PR 00901-2304
(787) 289-7835

Submitted by:

CSA Group
Mercantil Plaza-Mezzanine Suite
San Juan, PR 00918

FINAL REPORT

Benthic Habitat Survey of Flora and Fauna Associated with Condado Lagoon

San Juan, Puerto Rico

HJR Reefscaping

Box 1126

Hormigueros, Puertp Rico 00660

March 18th, 2008

Table of Contents

I. INTRODUCTION

This document presents a final report of the benthic habitats and associated marine flora and fauna as part the proposed dredge material placement area in Condado Lagoon, San Juan, Puerto Rico. From February 8 to February 15, marine biologists under HJR Reefscaping conducted benthic surveys in Condado Lagoon. A total of 273 sampling stations were surveyed to develop a geo-referenced benthic habitat map. The spatial distribution of seagrasses was mapped and abundance was described using percent cover as well as shoot density. Associated marine communities of fishes, invertebrates, seagrass and algae were described using photoquadrats and transect surveys.

The Condado Lagoon is part of the San Juan Bay Estuary system that is connected to the Atlantic Ocean to the North and to San Juan Bay to the West. The area of Condado Lagoon is approximately 363,606 m^2 (90 acres) and has an average depth of 4 meters and a maximum depth of 11 meters (NOAA 2000, PEBS 2001). It has a perimeter of 2.70 kilometers and a salinity fluctuating from 36 ‰ to 47 ‰ (Ellis & Gómez 1978).

The benthic habitats of the Condado Lagoon consist of unconsolidated sediments, submerged aquatic vegetation, riprap shorelines, isolated red mangrove trees and artificial (cement) structures. Fine sediments and high turbidity characterize the eastern area of the lagoon while the western area contains coarser sediments and relatively clearer waters. Submerged aquatic vegetation is composed of seagrass and algal beds that predominate in shallower depths along the North, West and Southwest regions of the lagoon.

This quantitative baseline assessment will allow for a prospective evaluation of potential impact(s) associated with the proposed dredge material placement in Condado Lagoon.

II. METHODS

A. STUDY AREA

This study encompassed the Condado Lagoon, San Juan, located on the northeast coast of Puerto Rico (Figure 1). The total area surveyed was 268,222 m^2 (66.3 acres) and includes all benthic areas from the shoreline to the maximum depths of the lagoon (10 m). The study area was centered on the proposed dredge material placement area at the eastern and central regions of the lagoon, but also includes adjacent areas to the west (Figure 1). Existing data sources including NOAA benthic habitat maps, aerial/satellite images, and previous studies were consulted to evaluate the benthic communities of existing in the study area. Habitat maps did not provide detailed information on benthic communities because the study area was mostly classified as unknown (Kendall et al. 2001). The aerial and satellite images examined identified the shallow seagrass areas at the western end of the lagoon but the high turbidity precluded their use in the eastern area and in deeper regions. Previous studies reported the general habitat types to be mud and submerge aquatic vegetation (Rivera 2005).

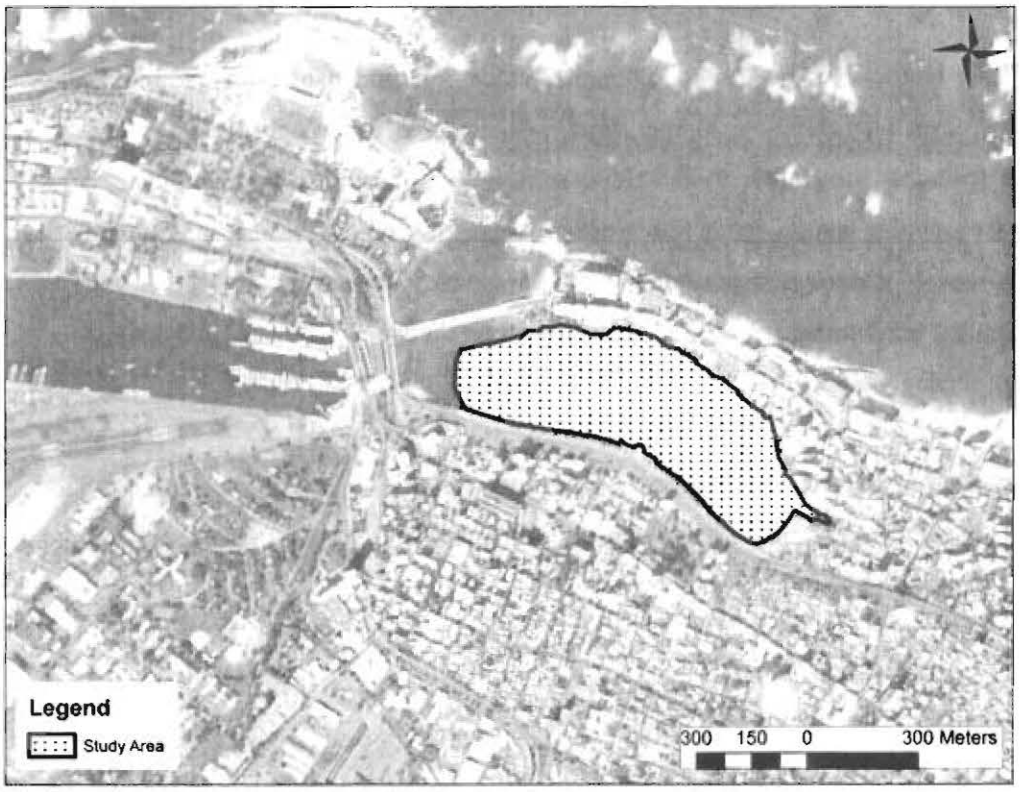


Figure 1. Study Area: Condado Lagoon, San Juan, Puerto Rico

B. BENTHIC HABITAT MAP

Benthic communities were characterized using a grid of 273 sampling stations at 30 meter intervals derived from a GIS that covered the entire study area within the Lagoon (Figure 2). At each sampling station, a point survey was performed in which a 1 m^2 quadrant was used to calculate the percent cover of major benthic components including seagrass cover, seagrass and algae (mixed) cover, algae cover and sediment cover. This information was used to create a database integrated with the spatial information to produce a geographical representation of the benthic categories using Arcmap 9.1 with spatial analysis extension software.

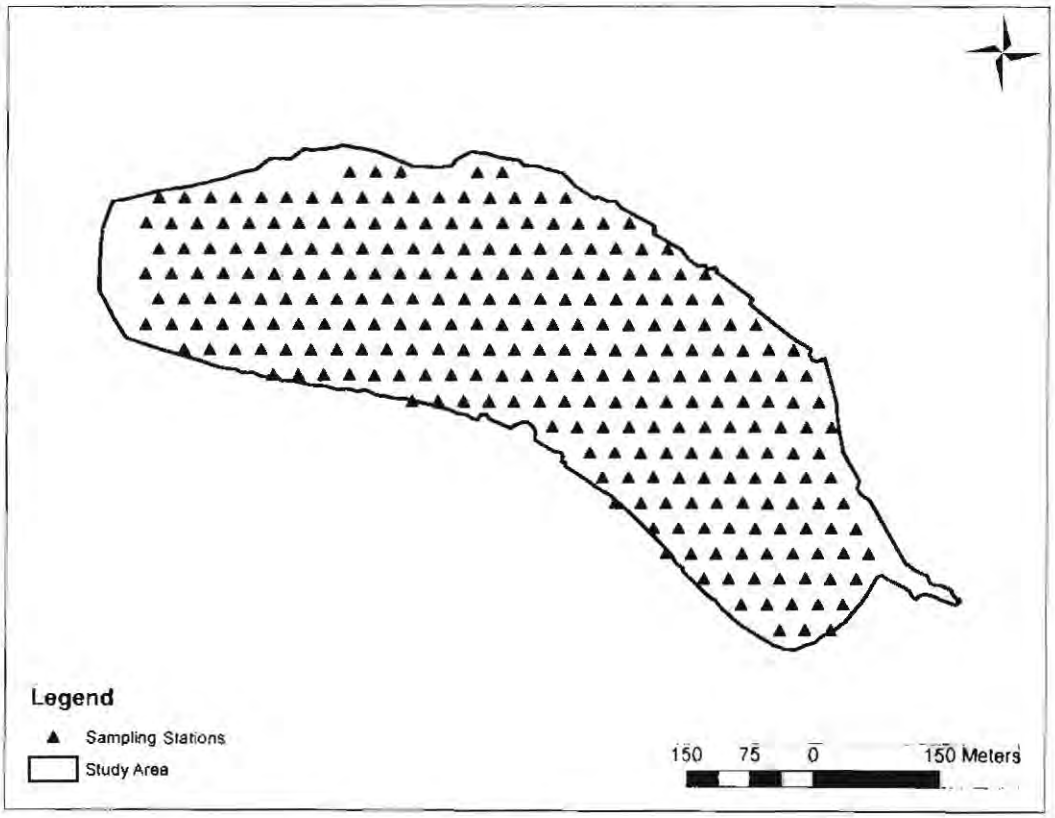


Figure 2. Grid of the 273 sampling stations for the benthic survey of the Condado Lagoon, San Juan, Puerto Rico.

C. CHARACTERIZATION OF SEAGRASSES

All seagrass areas encountered in the field were mapped by divers using a handheld GPS (WAAS enabled, Garmin 76 map) on a surface buoy by swimming along the patch boundary while recording a continuous track. The tracks were used to create polygons in GIS to delimit areas for the habitat map. After identifying the location of seagrasses 13 random points were selected for determining short shoot (leaves and bundle sheath) densities of turtle grass (*Thalassia testudinum*). At these points three replicate quadrats (0.25 m^2) were sampled by divers and counted the number of short shoots in each quadrat.

D. TAXONOMIC SURVEY OF FLORA AND FAUNA

A general taxonomic survey of the invertebrate fauna present within the study area, including the components observed over the sampling stations, was conducted during the entire duration of the fieldwork at the Condado Lagoon and was recorded in a species list. Marine organisms were identified, with the aid of field identification guides (Humann 1989,1992, and 1993, Littler et al.1989) during all dives performed for the benthic habitat characterization and as part of the quantitative assessment of sessile and pelagic biota within the Lagoon. The benthic community present at each sampling station was documented using digital imaging with a Sealife® 6 mega pixel camera. The densities of the variegated urchin (*Lytechinus variegatus*) were sampled along 10 x 2 meter band transects since these species was a highly conspicuous component within seagrasses.

E. FISH SURVEYS

Fish species composition and density were quantified using visual surveys of band transects measuring 10 x 2 meters (20 m^2 area). A diver swam slowly along the bottom unreeling a measuring tape and enumerating all species of non-cryptic fishes within a band 1 meter on each side of the transect line. Transect depth varied between 0.5 and 3 meters in depth depending on the bathymetry. Fish transect surveys were run along the shores of the lagoon since most fishes were found aggregated around the structure provided by the mangroves, riprap and seagrasses limited to these areas. On all dives, a list was compiled of all species observed to obtain a record of species

present in the project area. The low visibility (<0.5 m) at mud bottom stations precluded the use of band transects in this habitat, but any fish species observed here were recorded in the species list.

F. SEDIMENT SAMPLING

Sediment samples were collected to characterize its composition throughout the study area. Divers at different stations among the habitat types collected seven grab samples of approximately 250 ml. Once in the laboratory we proceed to sieve samples using 63μm, 250μm and 2mm sieves. Using these sieve sizes allows quantification of the relative amounts of the following grain size categories:

A. Mud = < 63μm
B. Very fine, fine sand = 63μm – 250 μm
C. Medium, coarse, very coarse sand = 250 μm – 2mm
D. Gravel = > 2mm

Then the sediments were allowed to settle. Once settled, they were carefully decanted. It is important to manually remove water by pipetting and decanting before drying in the oven as it also removes any remaining salt from the sample, which could retain moisture and create an error in the sample weight. Later, samples were placed in the oven at 60°c until completely dry. Finally samples were weighed, relative percentage calculated and labeled. The sediment samples were stored in case needed for future analysis.

III. RESULTS

A. BENTHIC HABITAT MAP

A benthic habitat map was produced with the information from the 273 sampling stations (Figure 3). Bare sediment was the dominant benthic habitat present in the Condado Lagoon followed by algae, seagrass, mixed seagrass and algae, and artificial (Table 1). The sediment is composed mostly of mud and is found in the deeper regions of the lagoon and at the shallower eastern end where light penetration likely limits the occurrence of submerged aquatic vegetation. Seagrasses are confined to the shallow water habitats along the northern and western regions of the Condado Lagoon and occupy a total area of 38,699 m^2, which is 14 % of the total study area. The dominant seagrass observed overall was the Turtle Grass (*Thalassia testudinum*) followed by Paddle Grass (*Halophila decipiens*) and Shoal Grass (*Halodule wrightii*). Manatee Grass (*Syringodium filiforme*) was not observed throughout the lagoon. Along the northern shoreline the shallowest seagrass habitat is made up of a zone, approximately one meter in width, dominated by *Halodule wrightii* and *Halophila decipiens*. As depth increases *Thalassia testudinum* predominates until it grades into two species of seagrass (*Halophila decipiens* and *Thalassia testudinum*) and algae mixed habitat type. The macro-algal habitat type consists primarily of *Dictyota* sp. and *Caulerpa* spp. growing over the fine sediments. Between the seagrass and algal habitats is a mixed zone consisting of seagrass (*Thalassia testudinum* and *Halophilla decipiens*) and macro-algae (*Dictyota* sp. and *Caulerpa* spp.). Sparse seagrass patches are found along the southern region of the lagoon where the shoreline is mainly composed of artificial structures such as riprap rubble, gabions and fine sediments.

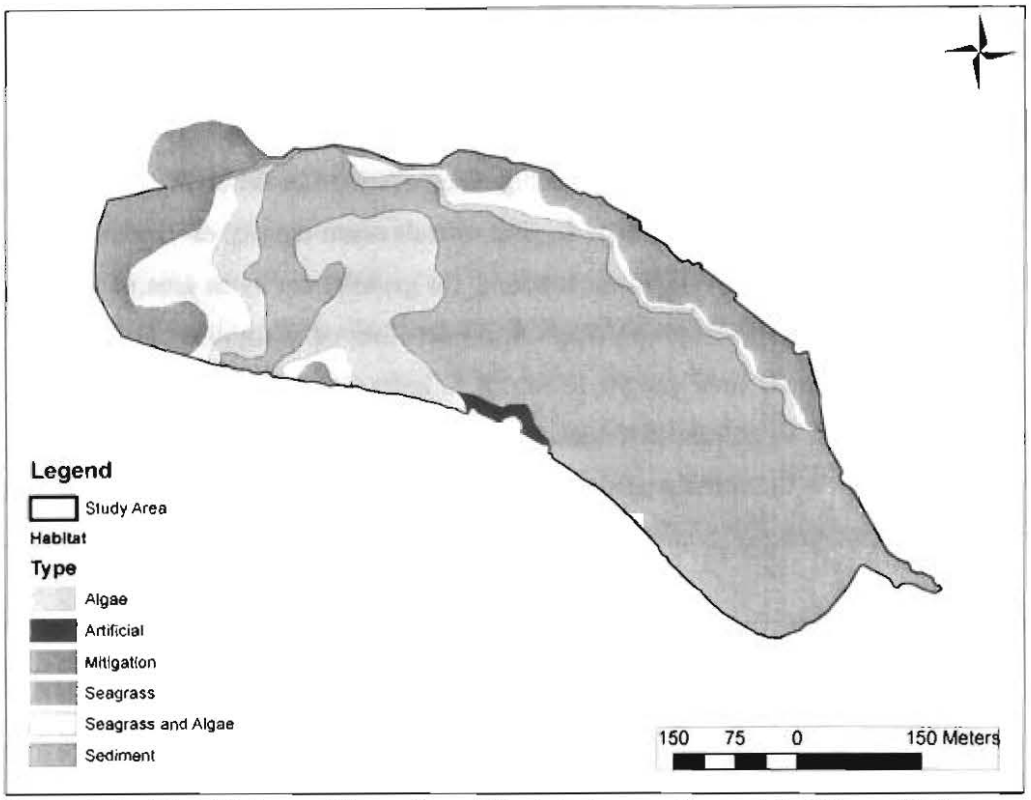


Figure 3. Benthic habitat map of the seafloor of Condado Lagoon. Survey date: February 2008

Table 1. Surface area cover by benthic habitats associated with the Condado Lagoon, San Juan, Puerto Rico during February 2008.

Benthic Habitat Categories	Area(m^2)	Percentage (%)
Sediment	160,933	60.00
Algae	43,130	16.08
Seagrass	38,699	14.44
Seagrass and Algae	23,671	8.82
Artificial	1,789	0.66
Total	**268,222**	

B. CHARACTERIZATION OF SEAGRASSES

A quantitative assessment of short shoot density was performed using quadrats of 0.25 m^2. Locations of sampling sites are plotted over the general benthic habitat map (Figure 4). Mean short shoots densities of sea grasses observed at different areas of the Condado Lagoon are shown in Table 2. The overall mean density of *Thalassia testudinum* was 172.75 ± 100.48 (S.E.) shoots/m^2. In general, the north area of the lagoon has significantly higher (ANOVA, $p< 0.05$) densities of sea grasses (199.99 shoots/m^2) than the south area (36.50 shoots/m^2)(Figure 6). Within the larger northern seagrass area significant differences ($p< 0.05$, Tukey-Kramer Test) were observed (Figure 5). The middle section of the north area of the lagoon showed lower densities of short shoots (stations 99, 100, 101, 103).

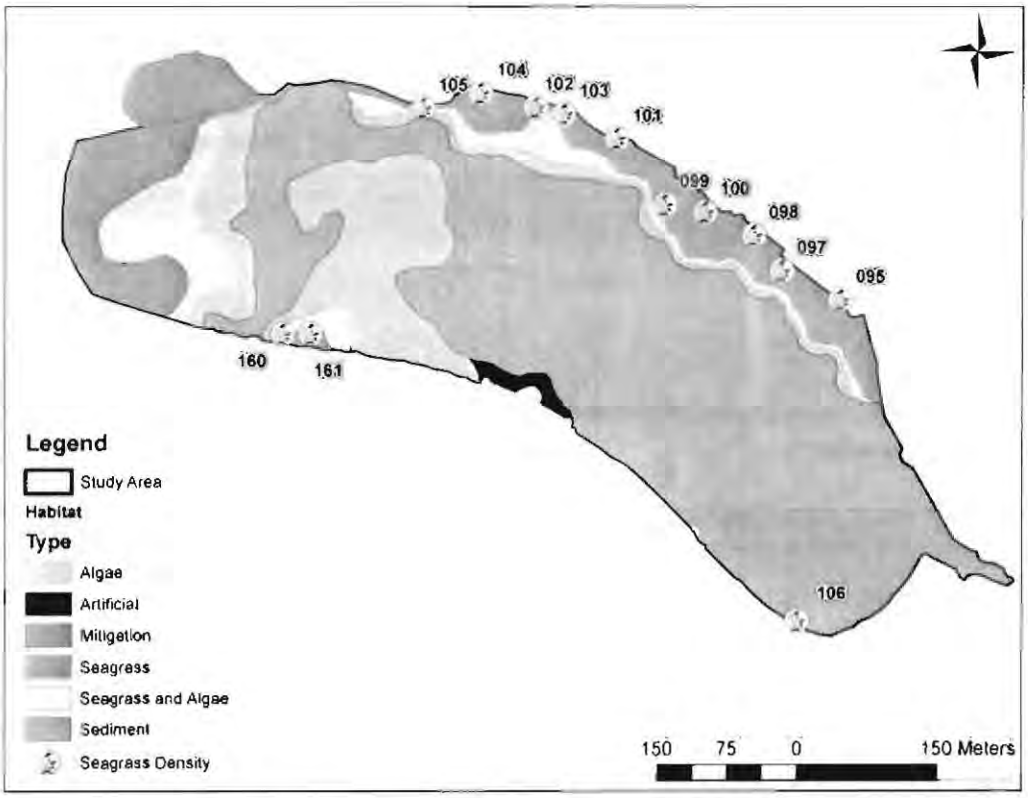


Figure 4. Location of the sampling sites for the seagrass quadrats.

Table 2. Field position and short shoot (leaves and bundle sheath) densities of turtle grass *Thalassia testudinum*.

Station	Quadrats (n)	Density of short shoot (#/m^2)	
		Mean	S.D.
95	3	259.26	44.91
97	3	281.48	33.95
98	3	314.81	46.26
99	3	66.67	22.22
100	3	133.33	19.25
101	3	159.26	39.02
103	3	103.70	35.72
102	3	266.67	144.44
104	3	181.48	66.97
105	3	333.33	48.43
160	4	22.00	9.52
161	4	51.00	17.40

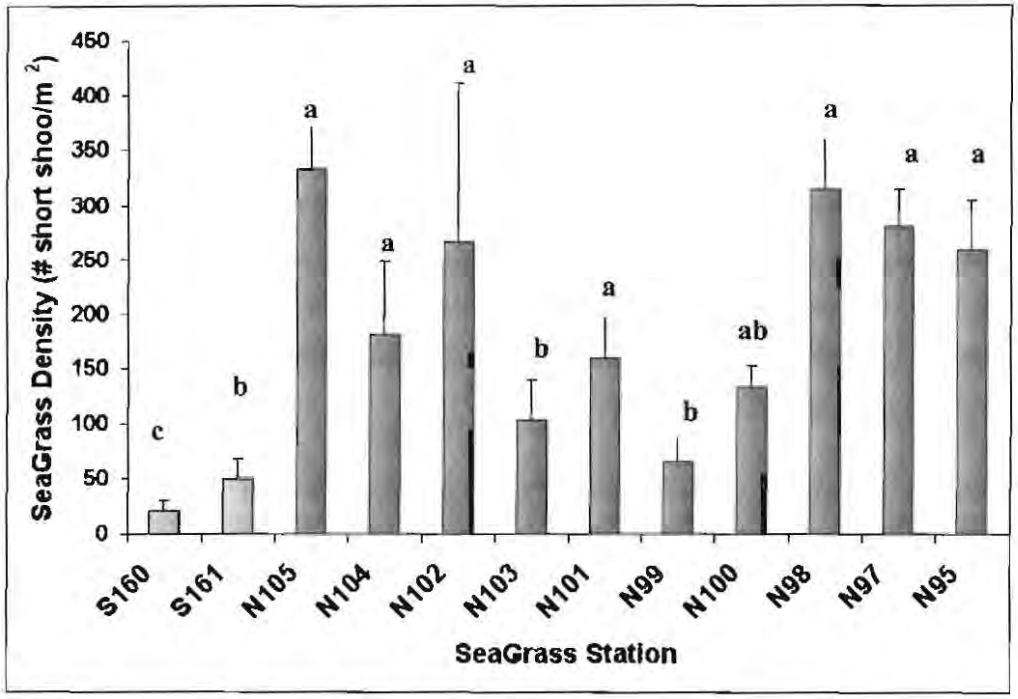


Figure 5. Distribution of mean density of short shoot (leaves and bundle sheath) of turtle grass *Thalassia testudinum* observed at the north (N-station) and south (S-station) stations of the Condado Lagoon, San Juan, Puerto Rico. Different letters represented significant difference between means ($p < 0.05$, Tukey-Kramer Test). A line above each bar represents one standard deviation.

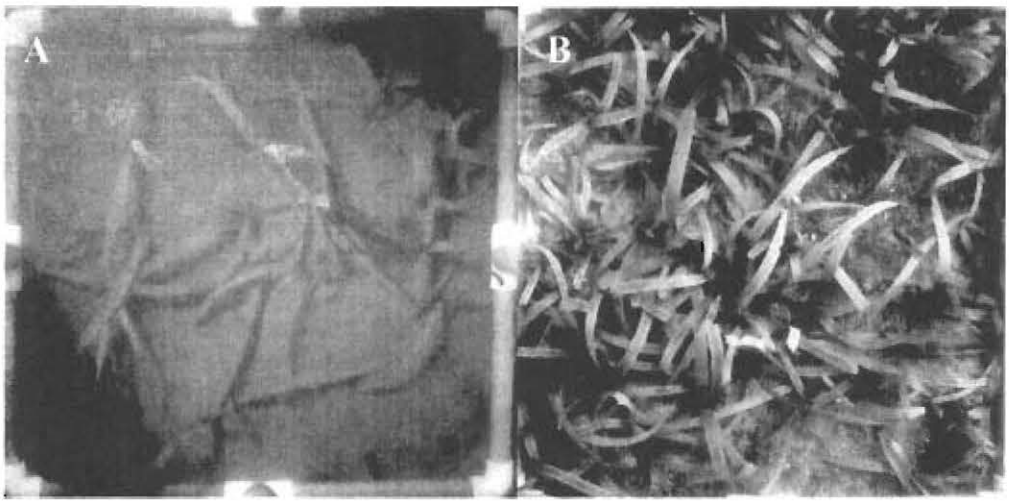


Figure 6. Representative photo of seagrass patch at: (A) South station (i.e. stations 160-161) and (B) North stations (i.e. station 97-104).

C. TAXONOMIC SURVEY OF FLORA AND FAUNA

The list of non-cryptic organism identified during our taxonomic survey of the marine communities associated with the Condado Lagoon is shown in the Table 3. In the Red Mangrove (*Rhizophora mangle*) submerged prop roots the most common organisms associated were algae, bivalves, bryozoans, polychaetes, sponges, crustaceans, tunicates and hydrozoans. Since the lagoon is mostly composed of fine sediment, the prop roots serve as an important hard substrate for marine sessile invertebrates (Figure 7). The Red Mangrove prop roots habitat occupied a small percentage of the shoreline because this mangrove community is not fully developed and the trees are sparsely located (Figure 8). No scleractinians or octocorals were found attached to the Red Mangrove prop roots.

Table 3. List of non-cryptic organism at the Condado Lagoon, San Juan, Puerto Rico

Phylum	Class/Order	Taxa
Algae		
Chlorophyta	Order Ulvales	*Enteromorpha flexuosa*
Chlorophyta	Order Ulvales	*Ulva lactuca*
Chlorophyta	Order Cladophorales	*Microdictyon* sp.
Chlorophyta	Order Cladophorales	*Ventricaria ventricosa*
Chlorophyta	Order Bryopsidales	*Bryopsis Pennata*
Chlorophyta	Order Bryopsidales	*Caulerpa mexicana*
Chlorophyta	Order Bryopsidales	*Caulerpa racemosa*
Chlorophyta	Order Bryopsidales	*Caulerpa sertulariodes*
Chlorophyta	Order Bryopsidales	*Caulerpa verticillata*
Chlorophyta	Order Dasycladales	*Acetabularia* sp.
Phaeophyta	Dictyotales	*Dictyopteris* sp.
Phaeophyta	Dictyotales	*Dictyota bartayresiana*

Phaeophyta	Dictyotales	*Dictyota menstrualis*
Phaeophyta	Dictyotales	*Padina*
Rhodophyta	Order Gigartinales	*Hypnea musciformis*
Rhodophyta	Order Gigartinales	*Hypnea spinella*
Rhodophyta	Order Gigartinales	*Hypnea spinella*
Rhodophyta	Order Halymeniales	*Grateloupia gibbesii*
Rhodophyta	Order Ceramiales	*Aglaothamnion* sp.
Rhodophyta	Order Ceramiales	*Centroceras clavulatum*
Rhodophyta	Order Ceramiales	*Heterosiphonia crispella*
Rhodophyta	Order Ceramiales	*Acanthophora spicifera*
Cyanobacteria	Oscillatoriales	*Schizothrix* sp.
Seagrass		
Magnoliophyta	Order Hydrocharitales	*Halophila decipiens*
Magnoliophyta	Order Hydrocharitales	*Thalassia testudinum*
Magnoliophyta	Orden Potamogetonales	*Halodule wrightii*
Invertebrates		
Porifera	Class Demospongiae	*Tedania ignis*
Porifera	Class Demospongiae	*Mycale* sp.
Porifera	Class Demospongiae	*Haliclona rubens*
Porifera	Class Demospongiae	*Haliclona viridis*
Cnidaria	Order Scleractinia	*Siderastrea radians*
Cnidaria	Order Scleractinia	*Solenastrea bournoni*
Cnidaria	Order Gorgonacea	*Lophogorgia virgulata*
Cnidaria	Order Hidroida	*Halocordyle disticha*
Cnidaria	Order Rhizostomae	*Cassiopea xamachana*
Annelida	Class Polychaeta	*Hermodice caruncaulata*
Annelida	Class Polychaeta	*Sabellastarte magnifica*
Annelida	Class Polychaeta	*Anamobaea sp.*
Annelida	Class Polychaeta	*Eupolymnia crassicornis*
Annelida	Class Polychaeta	*Arenicola cristata*
Arthropoda	Class Crustacea	*Paguristes punticeps*
Arthropoda	Class Crustacea	*Stenopus hispidus*
Arthropoda	Class Crustacea	*Periclimenes* sp.
Arthropoda	Class Crustacea	*Stenorrhynchus seticornis*
Arthropoda	Class Crustacea	*Panulirus argus*
Arthropoda	Class Crustacea	*Balanus spp.*
Ectoprocta	Class Bryozoans	*Bugula neritina*
Ectoprocta	Class Bryozoans	*Schizoporella violacea*
Mollusca	Class Bivalvia	*Isognomon radiatus*
Mollusca	Class Bivalvia	*Pinna carnea*
Mollusca	Class Gastropoda	*Cerithium litteratum*
Mollusca	Class Gastropoda	*Murex* sp.
Echinodermata	Class Asteroidea	*Luidia senegalensis*
Echinodermata	Class Echinoidea	*Lytechinus variegatus*
Chordata	Class Ascidiacea	*Microcosmus exasperatus*
Chordata	Class Ascidiacea	*Phallusia nigra*
Chordata	Class Ascidiacea	*Botrylloides* sp.

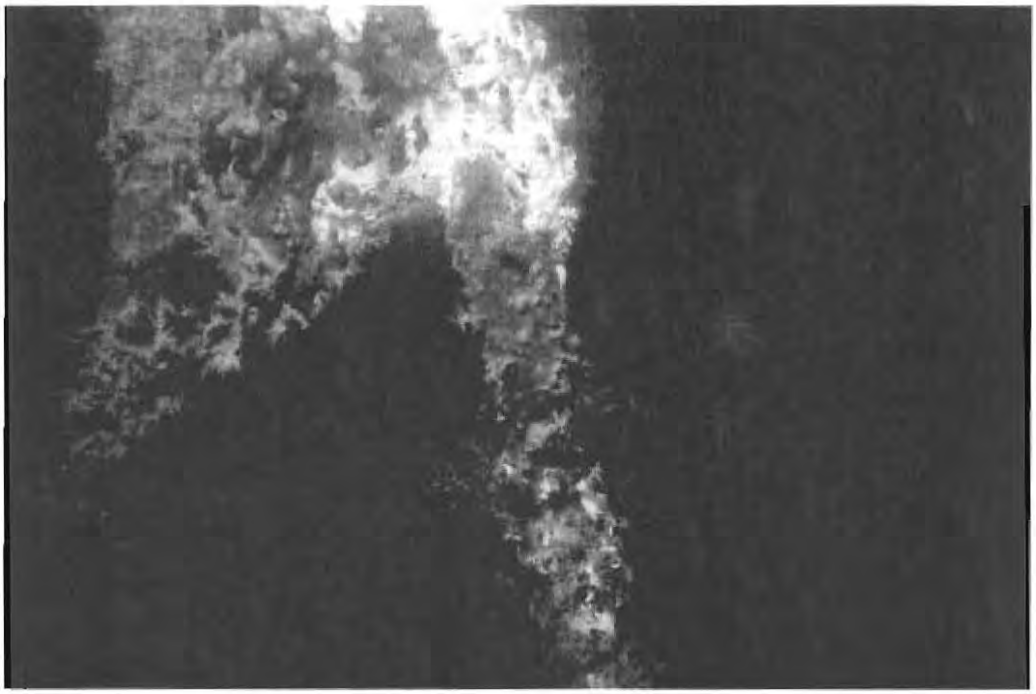


Figure 7. Red Mangrove prop roots with associated organisms.

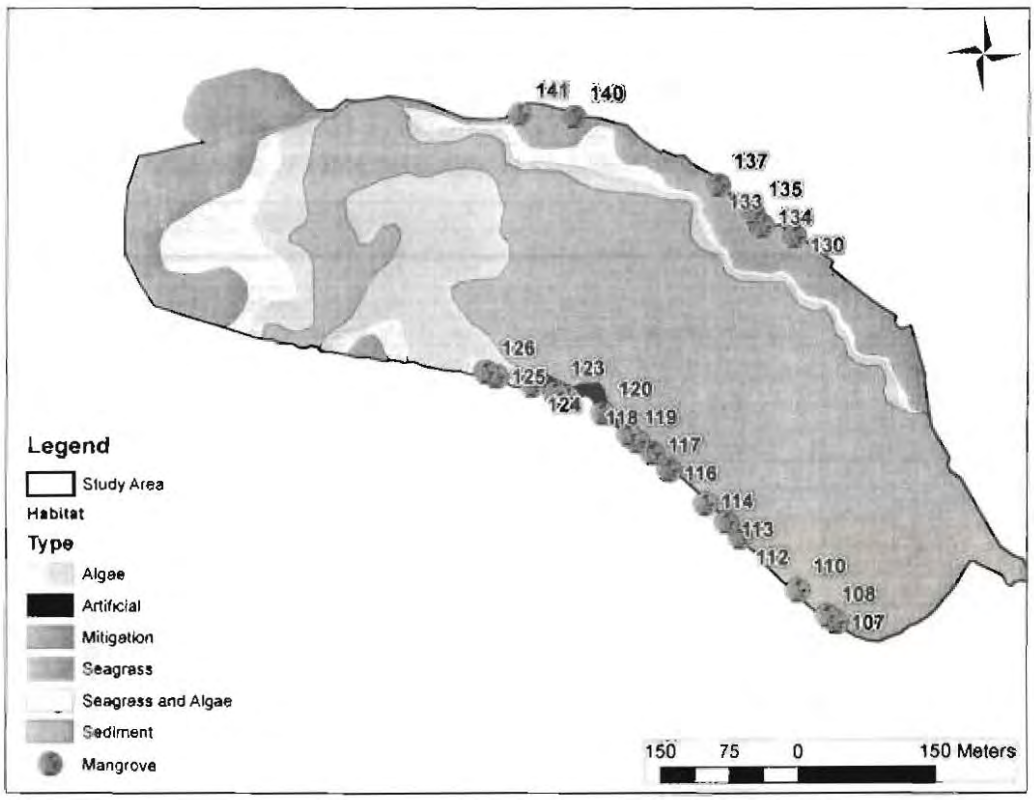


Figure 8. Red Mangrove submerge prop root location in the Condado Lagoon, San Juan, Puerto Rico

Artificial substrate is composed of riprap rubble, rocks and gabions (Figure 9) found along the southern shore of the lagoon, which provided hard substrate for sessile invertebrates and algae. The most common organisms associated with the artificial substrate are algae and bivalves (Figure 10). Other organisms found in lower abundances are polychaetes, barnacles and tunicates. Occasionally, small colonies of the Lesser Starlet Coral (*Siderastrea radians*) were found encrusting boulders on the southern shoreline and in a litter deposit in the northern area (Figure 11 and 12). A total of 10 colonies covering 1.5 m^2 were found ocated at the southern shoreline and a total of 20 colonies growing on beer bottles covering 1 m^2 were located at the northern shoreline (Figure 16). One colony of Smooth Star Coral (*Solenastrea bournoni*) was located at the south of the lagoon encrusting a boulder (Figure 16).

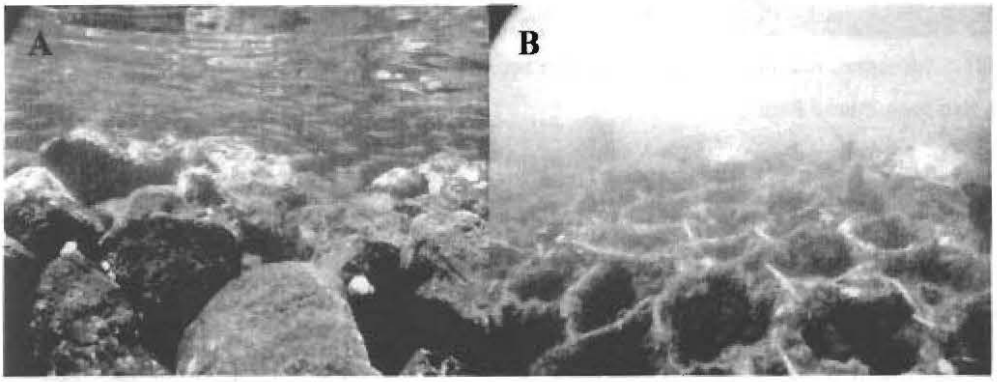


Figure 9. Rip rap rubble (A) and gabions (B) found along the southern shore of the Condado Lagoon, San Juan, Puerto Rico.

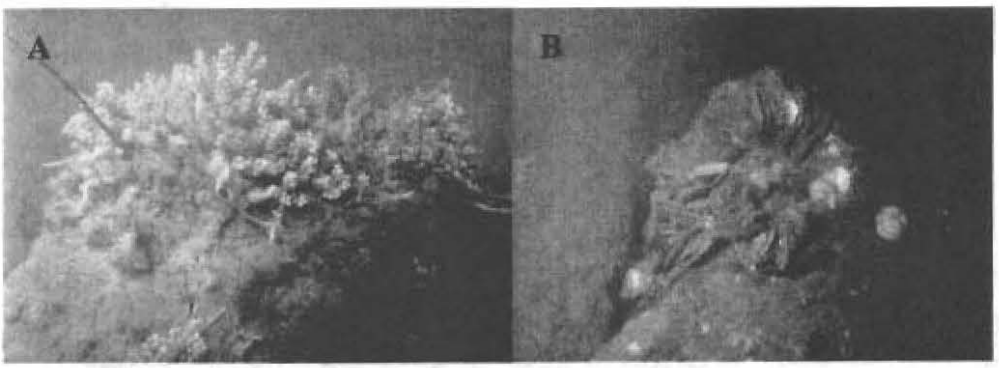


Figure 10. Algae (A) and bivalves (B) growing over artificial substrates.

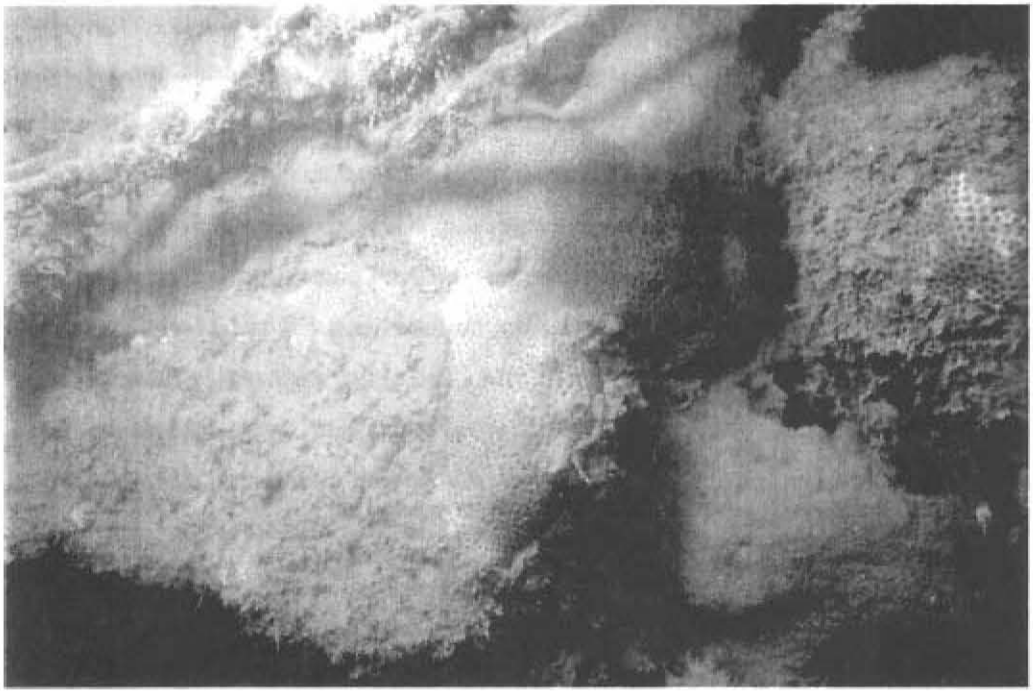


Figure 11. *Siderastrea radians* growing on artificial boulders at the southern shoreline of the Condado Lagoon, San Juan, Puerto Rico.

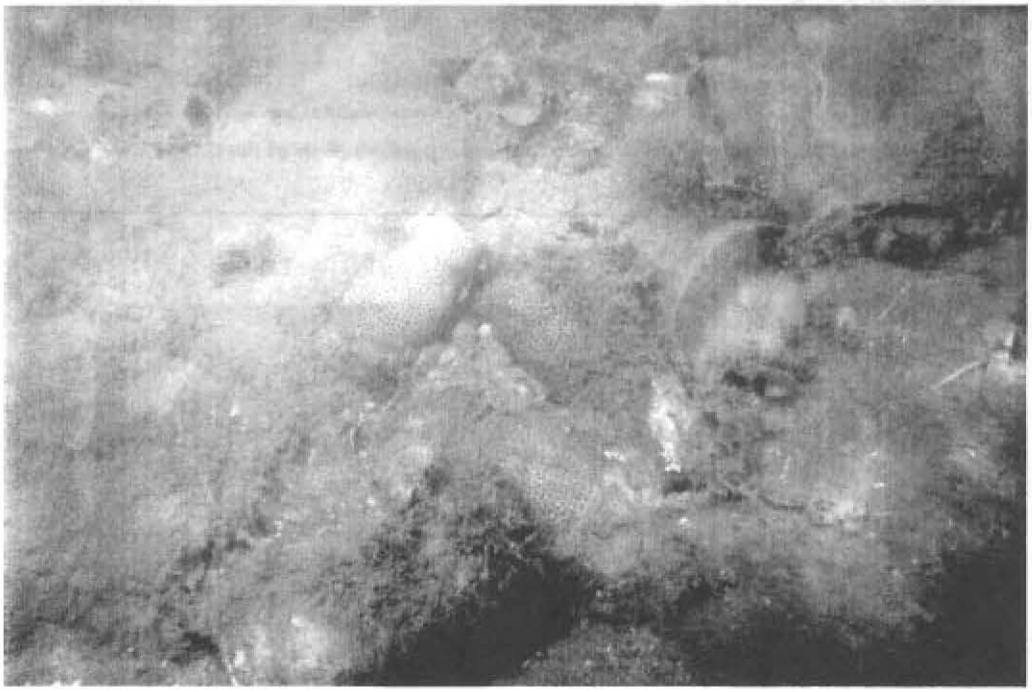


Figure 12. *Siderastrea radians* growing on beer bottles at the northern shoreline of the Condado Lagoon, San Juan, Puerto Rico.

Seagrass beds presented low invertebrates abundance and diversity. However an unusually high density of the sea urchin *Lytechinus variegatus* was found occurring in the seagrass beds at the northern area of the Condado Lagoon (Table 4). The Caribbean green urchin *L. variegatus* is a common inhabitant of the calm and clear waters of seagrass beds (Figure 13). The overall mean density of *L. variegatus* was 4.22 ± 2.44 (S.D.). Previous studies have shown that *L. variegatus* is intolerant of high turbidity (Moore *et al.* 1963), however, these results show that this species may have a broader distribution. *L. variegatus* feeds mainly on *Thalassia* sp., although is known to be omnivorous in captivity (Moore *et al.* 1963). Their higher densities at the north area may be related to the high densities of seagrass (see sampling sites, Figure 3) and the absence of predators (Figure 16).

Table 4. Field position and densities of variegated urchins *Lytechinus variegatus* observed in sea grass transect of 20 m^2 (10 m long x 2 m wide).

Station	Abundance (# urchins)	Density (# urchins/m^2)
146	72	3.60
143	26	1.30
139	84	4.20
138	48	2.40
136	163	8.15
131	113	5.65

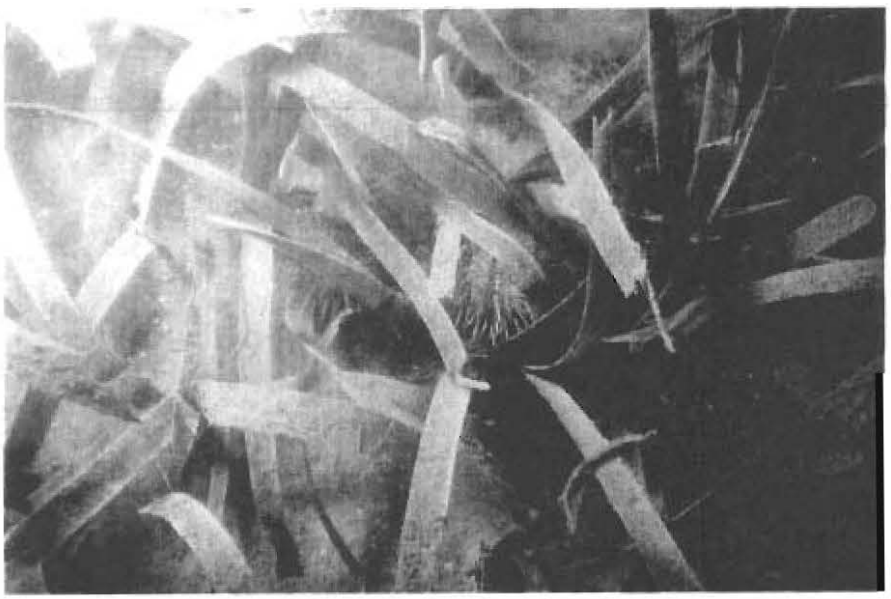


Figure 13. Representative photo showing the green sea urchin, *Lytechinus variegatus* over seagrass bed.

The algae dominated habitat was mostly composed of the green algae *Caulerpa sertularioides, Caulerpa Mexicana* and the brown algae *Dictyota menstrualis* (Figure 14). Theses species are common in calm inshore area composed of fine sediments.

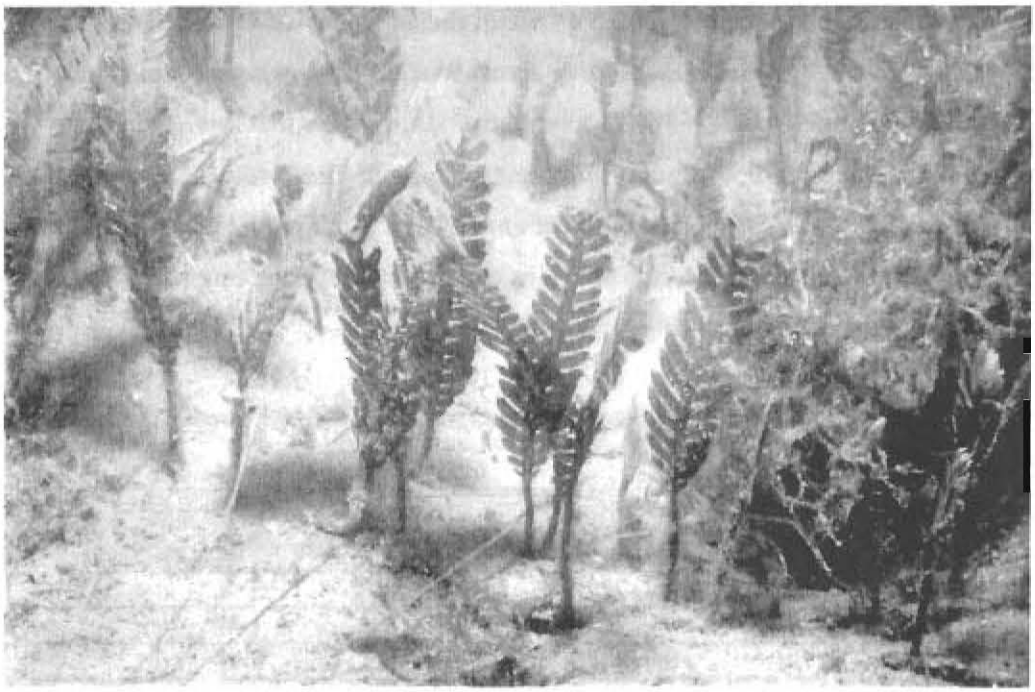


Figure 14. Macro-algae *Caulerpa mexicana* and *Dictyota menstrualis*.

The habitat dominated by bare sediments was generally devoid of non-cryptic macro invertebrates (Figure15). The only invertebrates that occur are infaunal species including crustaceans, mollusks and annelids as were described by a previous study in the Condado Lagoon (Rivera 2005).

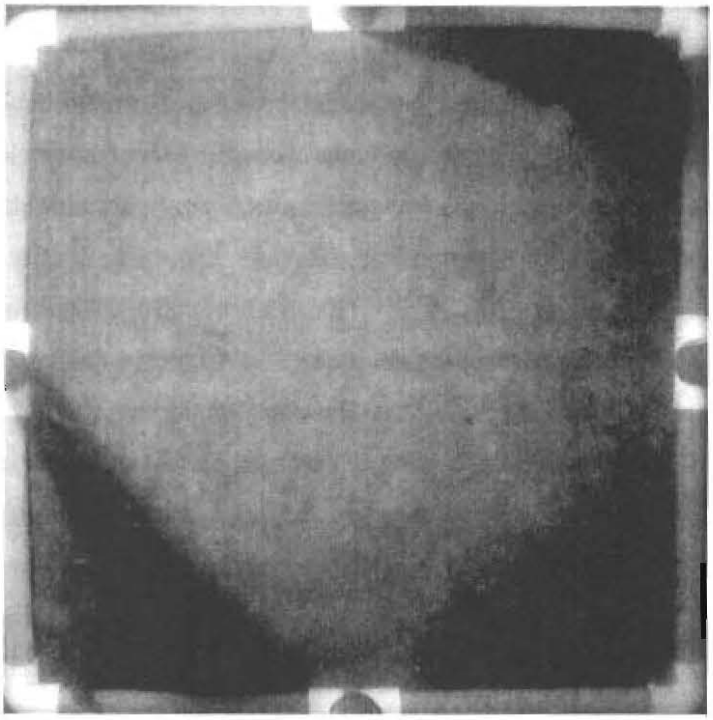


Figure 15. Representative of the sediment habitat within the Condado Lagoon, San Juan, Puerto Rico.

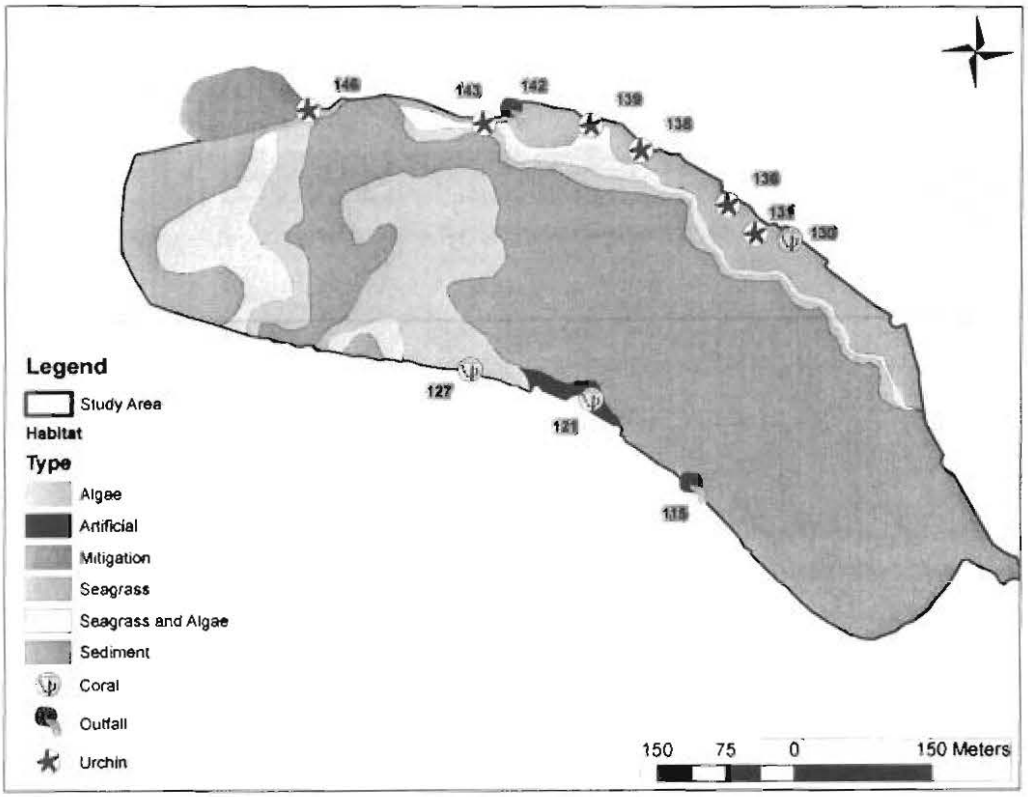


Figure 16. Corals, sea urchin transects and outfall locations at the Condado lagoon, San Juan Puerto Rico.

D. FISH SURVEYS

A total of 70 fish survey transects were conducted among the different habitat types in the lagoon. The habitats types for fish surveys were further subdivided to include riprap rubble and mangrove prop roots since these two shoreline habitats are important in explaining fish distribution in the lagoon. The mean density by species from all habitats ranged from 0.1 to 2.6 (Fish/20m^2) (Table 5). The total fish densities (pooled for all species) were highest for the riprap and mangrove habitats at 14.0 and 9.9 (Fish/20m^2) respectively. The lowest value was for the seagrass habitat at 2.8 (Fish/20m^2). The fish assemblage occurring in the lagoon is characterized by common of reef fishes that are generally found associated with hard bottom habitats with structural relief. These include grunts (French grunt)(Figure 17) and snappers (schoolmaster). Other predominant fishes included species associated with unconsolidated sediments such as mojarras and puffers (Figure 17). Small schooling species including silversides and dwarf herring were abundant near the surface adjacent to the shoreline. A total of 40 species of fish were observed from all dives (Table 6). Survey dives on stations where the bottom is dominated by sediment revealed no fish observations.

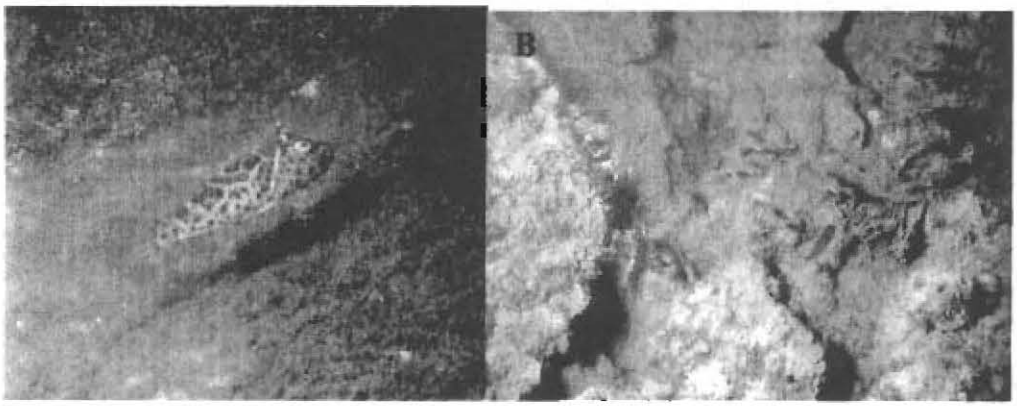


Figure 17. (A) Puffer fish and (B) French grunts at the southeast shoreline in the Condado lagoon San Juan, Puerto Rico.

Table 5. Mean fish densities by species from all habitats survey within the Condado lagoon, San Juan, Puerto Rico.

	Mean Density (Fish/ 20 m^2)				
Species	**Algae**	**Mangrove**	**Riprap**	**Seagrass**	**Sediment**
Abudefduf saxatilis	0.0	0.0	0.1	0.0	0.0
Abudefduf taurus	0.1	0.3	0.3	0.1	0.1
Acanthurus chirurgus	0.0	0.0	0.1	0.0	0.0
Acanthurus coerulus	0.0	0.0	0.1	0.0	0.0
Anisostremus surinamensis	0.0	0.0	0.1	0.0	0.0
Anisostremus virgnicus	0.0	0.2	1.5	0.0	0.1
Archosargus rhomboidalis	0.0	0.1	0.0	0.0	0.0
Canthigaster rostrata	0.0	0.0	0.0	0.0	0.0
Eusinostomus gula	3.0	1.9	2.1	1.1	1.9
Gerres cinereus	0.0	0.2	0.0	0.1	0.4
Haemulon flavolineatum	0.7	1.1	2.3	0.3	1.1
Haemulon parra	0.0	0.0	0.1	0.0	0.0
Haemulon plumieri	0.0	0.3	0.4	0.0	0.1
Haemulon sciurus	0.0	0.0	0.3	0.0	0.0
Haemulon spp.	0.4	0.5	2.6	0.0	0.0
Labrisomus nuchipinnis	0.0	0.0	0.0	0.1	0.1
Lutjanus apodus	0.2	1.5	0.9	0.2	0.1
Lutjanus griseus	0.3	0.3	0.5	0.0	0.0
Lutjanus jocu	0.0	1.1	0.4	0.0	0.3
Scarus iseri	0.6	0.2	1.1	0.1	0.1
Sparisoma viridie	0.0	0.0	0.1	0.0	0.0
Spheroides testudineus	0.7	2.1	0.9	0.7	1.4
Sphyraena barracuda	0.2	0.2	0.1	0.2	0.3
Stegastes adustus	0.1	0.0	0.1	0.0	0.1
Stegastes planifrons	0.0	0.0	0.0	0.0	0.0
Sum All Species	6.3	9.9	14.0	2.8	5.2

Table 6. List of all fish species observed during dive surveys within the Condado Lagoon, San Juan, Puerto Rico.

Family	Common Name	Species
Acanthuridae	Doctorfish	*Acanthurus chirurgus*
Acanthuridae	Blue tang	*Acanthurus coerulus*
Atherinidae	Hardhead silverside	*Atherinomorus stipes*
Blennidae	Blenny	*Malacoctenus sp.*
Chaetodontidae	Foureye butterflyfish	*Chaetodon capistratus*
Clupeidae	Drawf herring	*Jenkinsia lamprotaenia*
Gerridae	Spotfin mojara	*Eusinostomus argenteus*
Gerridae	Mojara	*Eusinostomus sp.*
Gerridae	Yellowfin mojara	*Gerres cinereus*
Haemulidae	Porkfish	*Anisostremus virgnicus*
Haemulidae	Black margate	*Anisostremus surinamensis*
Haemulidae	Tomtate	*Haemulon aurolineatum*
Haemulidae	French grunt	*Haemulon flavolineatum*
Haemulidae	Sailors choice	*Haemulon parra*
Haemulidae	White grunt	*Haemulon plumieri*
Haemulidae	Bluestripped grunt	*Haemulon sciurus*
Haemulidae	Juvenile grunts	*Haemulon spp.*
Holocentridae	Squirrelfish	*Holocentrus rufus*
Holocentrus	Blackbar soilderfish	*Myriprisistis jacobus*
Labrisomidae	Hairy blenny	*Labrisomus nuchipinnis*
Lutjanidae	Schoolmaster snapper	*Lutjanus apodus*
Lutjanidae	Gray snapper	*Lutjanus griseus*
Lutjanidae	Dog snapper	*Lutjanus jocu*
Lutjanidae	Lane snapper	*Lutjanus synagris*
Mullidae	Yellow goatfish	*Mulloidichthys martinicus*
Pomacanthidae	Gray angelfish	*Pomacanthus arcuatus*
Pomacanthidae	Queen angelfish	*Holocanthus ciliaris*
Pomacentridae	Sargeant major	*Abudefduf saxatilis*
Pomacentridae	Night seargeant	*Abudefduf taurus*
Pomacentridae	Dusky damselfish	*Stegastes adustus*
Pomacentridae	Threespot damselfish	*Stegastes planifrons*
Scaridae	Striped parrotfish	*Scarus iseri*
Scaridae	Redband parrotfish	*Sparisoma aurofrenatum*
Scaridae	Bucktooth parrotfish	*Sparisoma radians*
Scaridae	Stoplight parrotfish	*Sparisoma viridie*
Sciaenidae	Spotted drum	*Equetus punctatus*
Sparidae	Sea bream	*Archosargus rhomboidalis*
Sphyraenidae	Barracuda	*Sphyraena barracuda*
Tetraodontidae	Sharpnose puffer	*Canthigaster rostrata*
Tetraodontidae	Checkered puffer	*Spheroides testudineus*

E. SEDIMENT SAMPLING

A total of 7 sediment collections were made at different areas at the Condado Lagoon (Figure 18). Sample weight of sediments in stations 20,125, 145, 98, and 118 are not available because of the very slow settlement and drying rate of the < 63μm fraction. These numbers should be ready by the time the final report is delivered.

Table 7. Weigth's samples of different stations around Laguna Condado, San Juan, Puerto Rico.

Sample ID	Weight (g) < 63μm	Weight (g) 63μm - 250μm	Weight (g) 250μm - 2mm	Weight (g) > 2mm	Total
WPT 20	68.426	45.656	83.385	12.832	141.873
WPT 125	53.596	1.98	0.037	0	2.017
WPT 43	33.583	34.429	3.149	0.525	38.103
WPT 145	38.069	5.451	0.472	0.203	6.126
WPT 56	17.897	1.033	0.027	0	1.06
WPT 98	8.588	18.587	97.035	3.803	119.425
WPT 118	65.329	18.318	1.204	0.565	20.087

Table 8. Sediment samples relative percentages.

Sample ID	Relative % < 63μm	Relative % 63μm - 250μm	Relative % 250μm - 2mm	Relative % > 2mm
WPT 20	33%	22%	40%	6%
WPT 125	96%	4%	0%	0%
WPT 43	47%	48%	4%	1%
WPT 145	86%	12%	1%	0%
WPT 56	94%	5%	0%	0%
WPT 98	7%	15%	76%	3%
WPT 118	76%	21%	1%	1%

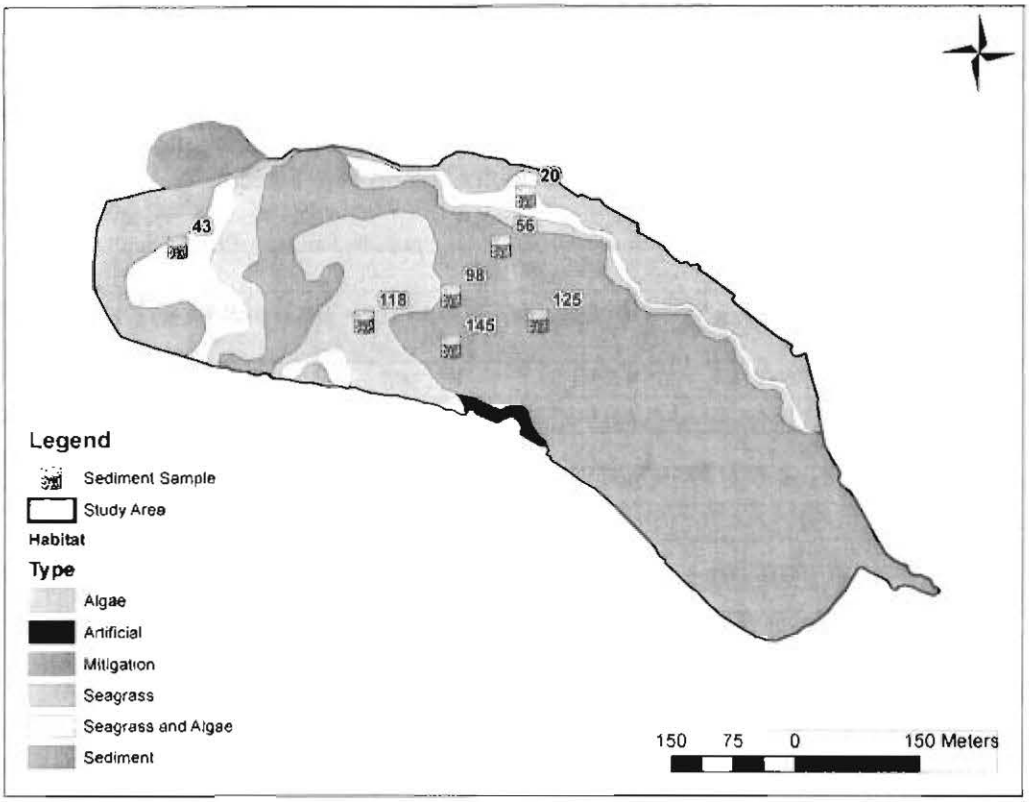


Figure 18. Sediment collection stations in Condado Lagoon, San Juan, Puerto Rico.

IV. CONCLUSION

Overall, the Condado Lagoon is characterized by having a large portion of bare areas mainly composed of fine sediments. Biological diversity is restricted to the shallower areas adjacent to the north and southwest shoreline of the lagoon. The major biological component in terms of percent cover area was algae, followed by a long strip of seagrass beds running from the northeast to the southwest of the lagoon. Although these seagrass beds showed a low than invertebrates abundances and diversity, the observed shoot density (199.99 shoots/m^2) falls within the average range for the Caribbean. For example, Zieman et al. (1997) reported densities of *T. testudinum* averaging approximately 1,000 shoots/m^2 at Belize, 300 shoots/m^2 at Colombia, 290 shoots/m^2 at La Parguera, PR, 260 shoots/m^2 at Cuba, 160 shoots/m^2 at Venezuela, and 70 shoots/m^2 at Curaçao. The other two species of seagrass were found in lower abundances, with *Halodule wrightii* found in very shallow shoreline areas and with *Halophila decipiens* found in sparsely patches within the mixed zone of seagrass and algae. Seagrass areas of the Condado Lagoon appear to function as an important habitat for at least the Green Sea Urchin, *Lytechinus variegatus* which was observed in high density at the north portion of the lagoon. Other important marine communities observed at the Condado Lagoon are the young Red mangrove tree community. However the mangroves trees observed submerged in the lagoon are sparse and their prop roots epifauna are poorly developed, therefore they do not represent an area favorable to the growth of complex communities. Most of the fishes were observed within the riprap and mangrove prop root habitats where structure was abundant. The fish community in the lagoon is typical of shallow bays consisting of primary juvenile coral reef fish and soft bottom invertebrate feeders. Adjacent seagrass and bare sediment areas may serve as foraging grounds for these species. However, the lack of refuge in bare sediment habitats result in low species richness overall.

The physical conditions of the Condado Lagoon (turbid water condition with an unconsolidated substrate) do not provide physical structure for the development of a coral reef. However, two scleractinian corals (*Siderastrea radians* and *Solenastrea bournoni*) were observed associated with artificial substrate provide by the riprap, boulders, cans and bottles. These were represented by a few small and isolated encrusting colonies that do not provide significant habitat for fishes nor large

invertebrates. As a mitigation option, these colonies because of their small size could be removed from their current location and replanted away from the impact zone. Because of the delicate and encrusting nature of these coral colonies, it is recommended to move the coral with its structure to be replanted elsewhere.

With the limited information available about the proposed filling of the deeper zone of the lagoon with dredge material from the San Juan Waterfront Project, we can infer that the major physical impact could be related with the increase of siltation and turbidity condition of the lagoon's waters. This may preclude light penetration needed for primary production of seagrasses as well as the suffocation of marine filter feeder invertebrate. The exposure of the lagoon's benthic community from this filling project will depend on to the methodology proposed to control the sediments as well as the selected preventative mechanisms. Monitoring of water quality and biological productivity (i.e. seagrass productivity) will be strongly recommended to provide a baseline to measure potential changes through time during the filling project.

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DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
ANTILLES OFFICE
400 FERNANDEZ JUNCOS AVENUE
SAN JUAN, PUERTO RICO 00901-3299

RECEIVED 4/9/08

REPLY TO
ATTENTION OF

APR -3 2008

RECEIVED APR 15 2008

Antilles Regulatory Section
SAJ-2005-8813(IP-CGR)

SECTION 7 PROCESSING
IN: 4-11-2008
RECORD #: I/SE/2008/02116
STAFF: Carrubba, Lee
OUT:
FILE #: 514-22 F.1. PR

Mr. David M. Bernhart
Assistant Regional Administrator
for Protected Resources
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

Dear Mr. Bernhart:

Reference is made to the Department of the Army (DA) permit modification request for SAJ-2005-8813(IP-CGR) submitted by the Puerto Rico Ports Authority (PRPA). The PRPA proposes the modification of the permit issued on April 9, 2007, which authorized the reconstruction of a portion of the existing bulkhead, the placement of grout bags for bulkhead protection at pier 6, the construction of a marina and the installation of 24 mooring piles. The project is located in the San Juan Bay, Municipality of San Juan, Puerto Rico. Please refer to case number SAJ-2005-8813(IP-CGR) in future correspondence regarding this case.

The PRPA proposes the modification of the permit through the discharge of fill material on approximately 0.605 acres for the installation of ballast and rock revetment measuring 25.7 feet wide by 1,025 feet long at the south side of the bulkhead, in addition to the authorized area of the backfill, which is approximately 40 feet wide by 60 feet long (0.055 acres). The applicant proposes the repair of approximately 1,000 feet long by 20 feet wide of the bulkhead at pier 6. The new steel sheet pile bulkhead will be installed approximately 8 feet shoreward of the existing bulkhead. This work would require the discharge of a new fill between the existing and proposed bulkhead in area of approximately 8 feet wide by 1,000 feet long (0.18 acre). The new area proposed to be filled is approximately 0.78 acres, and the total area of the fill is 0.84 acres. In addition, approximately, 5,978 cubic yards of spoils are expected to be dredged along an area of 1,025 feet long by 25.7' feet wide parallel to the new bulkhead to install the armor stone. The applicant proposes the use of hydraulic cutter suction dredges and discharge the sediment/seawater slurry generated by the dredge at the Condado Lagoon borrow pits. The dredged material would be mixed with water and pumped up using a powerful suction, and discharged onto a barge for screening and pulverizing, if necessary. Then the slurry will be transported through a pipeline to geotubes in the Condado Lagoon. The applicant proposes to deposit the dredged materials at the deepest locations of the

lagoon to restore the bathymetric contours to approximate pre-dredging conditions of approximately 15 feet at its deepest point. A secondary site for disposal of the dredged material is the Environmental Protection Agency designated San Juan Harbor Puerto Rico Ocean Dredged Materials Disposal Site in case that disposal at Condado Lagoon is not acceptable or does not provide enough room for all dredged material. The authorized marina and mooring piles have been eliminated from the permit modification request.

The San Juan Bay is actively transited by commercial and recreational vessels. In addition, man-made structures such as a bulkhead and pier 6 exist at the proposed site. Three artificial depressions or burrow pits at the Condado Lagoon have been identified by the San Juan Bay Estuary Program with varying depths in the range of 20-35 feet in accordance to the applicant. The San Juan Bay Estuary Management Plan identifies the filling of the Condado Lagoon and other San Juan Bay Estuary depressions as beneficial and long-term goal for improvement of water quality conditions in the estuary. In accordance to the applicant the use of dredged material to restore the Condado Lagoon has been supported by various federal and state agencies in the document Section 204 Beneficial Use of Dredged Material Preliminary Restoration Plan for the Condado Lagoon dated March 14, 2003 prepared by USACE, Jacksonville District.

In accordance with available information provided by your office on May 10, 2007 for the proposed San Juan Waterfront project, which is adjacent to pier 6, the project area is within the range of following species listed as threatened or endangered under the Endangered Species Act (ESA), under the NMFS jurisdiction: Hawksbill sea turtle (*Eretmochelys imbricata*), Leatherback sea turtle (*Dermochelys coriacea*), Green sea turtle (*Chelonia mydas*), Loggerhead sea turtle (*Caretta caretta*), Elkhorn coral (*Acropora palmata*), Elkhorn coral (*Acropora cervicornis*), Humpback whale (*Megaptera novaengliae*), Blue whale (*Balaenoptera musculus*), Finback whale (*Balaenoptera physalus*), Sei whale (*Balaenoptera borealis*), and Sperm whale (*Physeter macrocephalus*).

Based on project location at the San Juan Bay, an area actively used by commercial and recreation vessels and where the existing shoreline is sheltered and has solid man made structures; its nature where the proposed dredged is near the bulkhead to install the armor stone/ballast toe trench for protection of the new bulkhead and dredged material would be disposed in depressions at the Condado Lagoon to improve the water quality of the lagoon pursuant the SJBEMP and the improvement of the bulkhead existing along the shoreline from pier 6 and its extent, the Corps determines that the proposed project modification is not likely to adversely affect these species or its designated critical habitat. We hereby request your concurrence with this

determination, pursuant to the Section 7 of the Endangered Species Act consultation requirements.

If you have any questions regarding this case, please contact Miss Gisela Román at the letterhead address, by telephone at (787) 729-6905 or 729-6944, extension 3062, or by email at Carmen.G.Roman@usace.army.mil.

Sincerely,

S. Castillo

Sindulfo Castillo
Chief, Antilles Regulatory Section

Enclosure: Public notice

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
ANTILLES OFFICE
400 FERNANDEZ JUNCOS AVENUE
SAN JUAN, PUERTO RICO 00901-3299

REPLY TO
ATTENTION OF

Antilles Regulatory Section

March 24, 2008

PUBLIC NOTICE

PERMIT MODIFICATION NO. SAJ-2005-8813(IP-CGR)

TO WHOM IT MAY CONCERN: This District has received a permit modification request for a Department of the Army permit pursuant to Section 10 of Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act of 1977, and Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended [33 USC 1413] as described below:

APPLICANT: Puerto Rico Ports Authority
P.O. Box 362829
San Juan, Puerto Rico 00936-2829

WATERWAY & LOCATION: The proposed project would be located at the berthing zone of pier 6 located at the San Juan Bay, Municipality of San Juan, Puerto Rico. The dredged material would be discharged in three borrow pits or depressions at the Condado Lagoon. The applicant proposes a secondary plan for disposal of the dredged material, which is at the Environmental Protection Agency (EPA) designated San Juan Harbor, Puerto Rico Ocean Dredged Materials Disposal Site (ODMDS). It is located approximately 2.2 nautical miles north-northwest of the entrance of the San Juan Harbor, positioned at rectangle bounded by the following coordinates:

Latitude	Longitude
18°30'10"N	66°09'31"W
18°30'10"N	66°08'29"W
18°31'10"N	66°08'29"W
18°31'10"N	66°09'31"W

LONGITUDE & LATITUDE (Coordinates in center of the project area):

Lat. 18º27'49.07" North, Lon. 66º06'29.71" West

DIRECTIONS TO THE SITE ARE AS FOLLOWS: Fernández Juncos Avenue West toward the Old San Juan.

PROJECT PURPOSE:

Basic: Waterfront

Overall: To provide public pedestrian walkway along the San Juan Bay.

BACKGROUND: A Department of the Army permit was issued to the Puerto Rico Ports Authority on April 9, 2007. This permit authorized the reconstruction of approximately 120 feet of an existing bulkhead, backfill an area located north of the collapsed sheet piling and the placement of grout bags at the south side of the bulkhead in approximately 0.163 acres of navigable waters of the United States to substitute the existing rip-rap on sections that were washed out. In addition, the permit authorized the construction of docking facilities through the construction of a platform of approximately 786 feet long by 12 feet wide at pier 6 with eight finger piers attach to the new platform, and the installation of a total of 24 mooring piles in groups of three at the end of the catwalks.

PROPOSED WORK: The applicant proposes the modification of the permit through the discharge of fill material on approximately 0.605 acres for the installation of ballast and rock revetment measuring 25.7 feet wide by 1,025 feet long at the south side of the bulkhead, in addition to the authorized area of the backfill, which is approximately 40 feet wide by 60 feet long (0.055 acres). The applicant proposes the repair of approximately 1,000 feet long of the bulkhead at pier 6. The new steel sheet pile bulkhead will be installed approximately 8 feet shoreward of the existing bulkhead. This work would require the discharge of a new fill between the existing and proposed bulkhead in area of approximately 8 feet wide by 1,000 feet long (0.18 acre). The new area proposed to be filled is approximately 0.78 acres, and the total area of the fill is 0.84 acres. In addition, approximately, 5,978 cubic yards of spoils are expected to be dredged along an area of 1,025 feet long by 25.7 feet wide parallel to the new bulkhead to install the armor stone.

The primary method for the dredging is hydraulically pumping of sediment/seawater slurry generated by the dredge to the Condado Lagoon borrow pits or depressions. The Condado Lagoon has the capacity to receive approximately 230, 000 cubic yards of suitable dredged material. In accordance to the applicant, the open end of the pipe would be lowered to the bottom of the targeted area to be dredged, where the material to be dredged would be mixed with water, pumped up using a powerful suction, discharged onto a barge for screening, and pulverizing, if necessary, and then discharged into the pipeline as slurry. The dredge pipe used to transport the slurry would be a flexible high density polyethylene pipe, which is inert to salt water. The pipeline would be both suspended above water on pontoons where possible and suspended below water (submerged) to allow boats to cross where necessary. The pipeline would be connected to a system which would distribute the spoil material (primarily fine particle-grained sediments) to geotubes in the Condado Lagoon. The geotubes are large bags constructed of high-strength fabric, permeable to water, but prevents fine-grained materials and larger particles from passing through. At the

Condado Lagoon, geotubes would be used primarily to minimize impacts of turbidity during placement, but would sequester particle-bound contaminants. Sandy material would be placed in the Condado Lagoon over the geotubes to create a sandy cap consistent in general character with the surrounding sediment quality. Numerous tubes would be used due the amount of spoils (approximately 5,978 cubic meters plus the amount of dredged material from the proposed San Juan Waterfront project) expected to be dredged. In accordance to the applicant the size and number of tubes would be dependent on the spatial parameters of the lagoon. The applicant also states that since the filtering process is not instantaneous and space is readily available (20-30 acres), several geotubes would be used at one time, and filled sequentially underwater using a valve manifold or other device/technique. For periods between disposal projects, geotubes could be left in place. Additional layers of geotubes could be placed on top of one another to result in a uniform depth of approximately 17 feet and once disposal of dredged materials is complete, a final layer of 2 feet of loose sand would be placed over the geotubes as a cap, resulting in a final depth of 15 feet below sea level.

The applicant proposes a secondary plan in case that disposal of dredged material in the depressions at the Condado Lagoon is not acceptable or not provide enough room for all of the dredged material. The other alternatives is ocean disposal at the San Juan Harbor Ocean Dredged Material Disposal Site (ODMDS). In this case, the applicant proposes to use a 200-ton barge-mounted crane working from off-shore to dredge. The crane would use a clamshell bucket to remove soils from the proposed dredging zone and transfer them to bottom-dump scows. The applicant proposes to discharge the concrete piles to be removed and other non-sediment waste to uplands such Peñuelas Landfill.

The authorized platform with finger piers, the mooring piles and grout bags have been eliminated from this project site.

BIOLOGICAL AND CHEMICAL TESTING: A preliminary characterization of sediments chemistry, bioassay analysis and bioaccumulation analysis for areas near the proposed site have been conducted and reported in the 2005 San Juan Harbor Section 103 Sediment Characterization Report. In addition, reports such as Sampling and Analysis of Bottoms Sediments in the San Antonio Channel, San Juan Bay, San Juan, Puerto Rico, 2001 and Final Report for San Juan Harbor Puerto Rico 1999 Evaluation of Dredged Material for Ocean Disposal, October 1999, also described the type and composition of sediments in adjacent areas. Sediments were analyzed for physical, chemical and biological characteristics. Based on the 2005 San Juan Harbor Section 103 Sediment Characterization Report, a sampling taken near the proposed dredging project, specifically 250 feet south of pier 8, presented a sediment core composition of 51% sand, 49% silt and clay, and 2.18% of total organic carbon and 60.7% solids. Metals and PCB concentrations are similar to those of open water reference areas and where characterized as below detection or at low levels. Analysis performed for adjacent areas such as berthing areas of the San Juan Bay and Federal navigation channel included also assessments of potential toxicity and contaminant uptake in organisms exposed to sediments. Sediments from the proposed dredge area would be

similar and consistent with the analysis performed in adjacent areas. Copies of reports documenting the results of these analyses are available upon request.

EXISTING CONDITIONS: Port facilities already existed in the proposed site. A portion of the existing bulkhead collapsed. The San Juan Bay is actively transited by commercial vessels. No seagrass bed, mud flats, reefs or deep-water fishery habitats were identified in the proposed work area in accordance to the Environmental Sensitivity Index Map. The three artificial depressions at the Condado Lagoon have varying depths in the range of 20-35 feet.

ENDANGERED SPECIES: The endangered Brown Pelican (*Pelecanus occidentalis*) and the endangered Antillean manatee (*Trichechus manatus manatus*) have been reported in the San Juan Bay. The U.S. Army Corps of Engineers has determined that the proposed action is not likely to adversely affect these species and their critical habitat. The Corps will request Fish and Wildlife Service and the National Marine Fisheries Service concurrence with this determination pursuant to Section 7 of the Endangered Species Act in separate letters.

ESSENTIAL FISH HABITAT: This notice initiates consultation with the National Marine Fisheries Service on EFH as required by the Magnuson-Stevens Fishery Conservation and Management Act 1996. The proposal would impact approximately 0.84 acres of habitat type that maybe utilized by various life stages of species. Our initial determination is that the proposed action would not have a substantial adverse impact on EFH or Federally managed fisheries in the San Antonio Channel and Condado Lagoon. Our final determination relative to protect impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service.

CULTURAL RESOURCES: On June 26, 2006, the State Historic and Preservation Office indicated that no historic properties will be affected for the proposed work at pier 6. Considering the available information, including the location, the nature and scope of the proposed project modification, pursuant to 33 CFR 325, Appendix C, 7.b, and in accordance with 36 CFR 800.4(d)(1) in assessing the project's potential effect on the historic and cultural resources, the Corps determines that the proposed project modification would not affect historic properties within the area of potential effects.

APPLICATION OF SECTION 102 (a) CRITERIA: An evaluation will be performed by the United States Army Corps of Engineers in accordance with Federal Regulations and considerations. The proposed transportation of the dredged materials for the purpose of dumping it in ocean waters will be evaluated to determine if the proposed project would unreasonably degrade human health, welfare or amenities, the marine environment, ecological system, economical potentialities. In making this determination, the criteria established by the administrator of the EPA (pursuant to Section 102 (a) of the Marine Protection, Research and Sanctuaries of 1972) shall be applied. In addition, an evaluation will be performed to determine the potential effect which the failure to utilize this site would have on navigation, economic and industrial

development and foreign and domestic commerce of the United States. An independent determination will be made on the need to discharge the material at the proposed ocean site.

NOTE: This public notice is being issued based on information furnished by the applicant. This information has not been verified.

AUTHORIZATION FROM OTHER AGENCIES: A Water Quality Certification and a Federal Consistency Certification with the Puerto Rico Coastal Zone Management Program may be required from the Environmental Quality Board and the Puerto Rico Planning Board, respectively.

Comments regarding the application should be submitted in writing to the District Engineer at the following address within 30 days from the date of this notice:

Chief, Antilles Regulatory Section
U.S. Army Corps of Engineers
400 Fernández Juncos Avenue
San Juan, Puerto Rico 00901-3299

If you have any questions concerning this application, you may contact Miss Gisela Román at telephone numbers 787-729-6905/6944, extension 3062 or by electronic mail to Carmen.G.Roman@usace.army.mil or by fax at 787-729-6906.

IMPACT ON NATURAL RESOURCES: Preliminary review of this application indicates that an Environmental Impact Statement will not be required. Coordination with US Fish and Wildlife Service, Environmental Protection Agency (EPA), the National Marine Fisheries Services, and other Federal, State, and local agencies , environmental groups, and concerned citizens generally yields pertinent environmental information that is instrumental in determining the impact the proposed action will have on the natural resources of the area. By means of this notice, we are soliciting comments on the potential effects of the project on threatened or endangered species or their habitat.

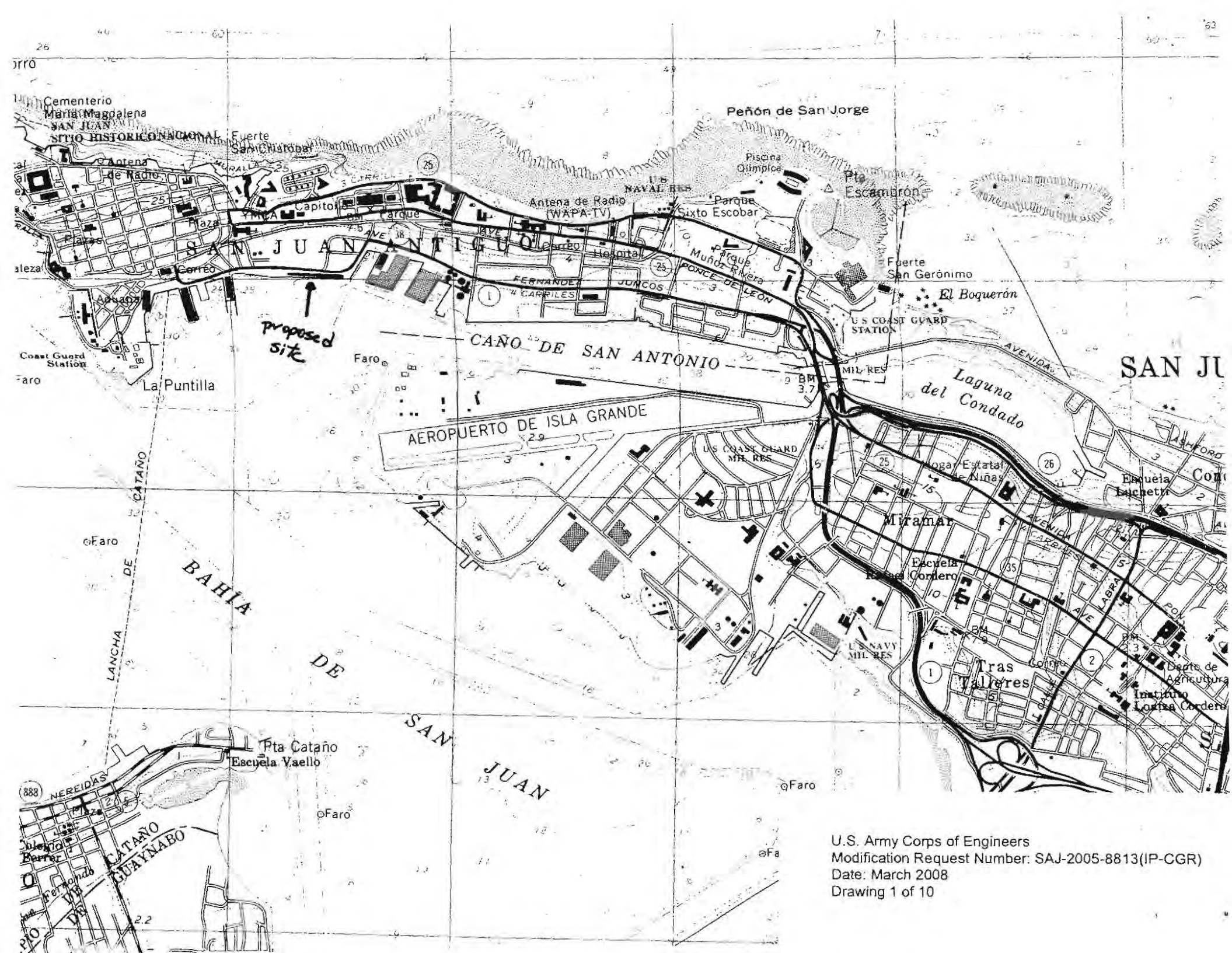
EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including cumulative impacts thereof; among these are conservation, economics, esthetics, general environmental concerns, wetlands, historical properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and in general, the needs and welfare of the people. Evaluation of the impact of the activity on the public interest will also include application of the guidelines promulgated by the EPA Administrator, under authority of Section 404(b) of the Clean Water Act, and by the criteria established under authority of Section 102(a) of the Marine, Protection, Research, and Sanctuaries Act of 1972. A permit will be granted unless its issuance is found to be contrary to the public interest.

The Regulatory Section of the US Army Corps of Engineers (Corps) Antilles Office is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make or deny this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act, and in the development of a Statement of Findings. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

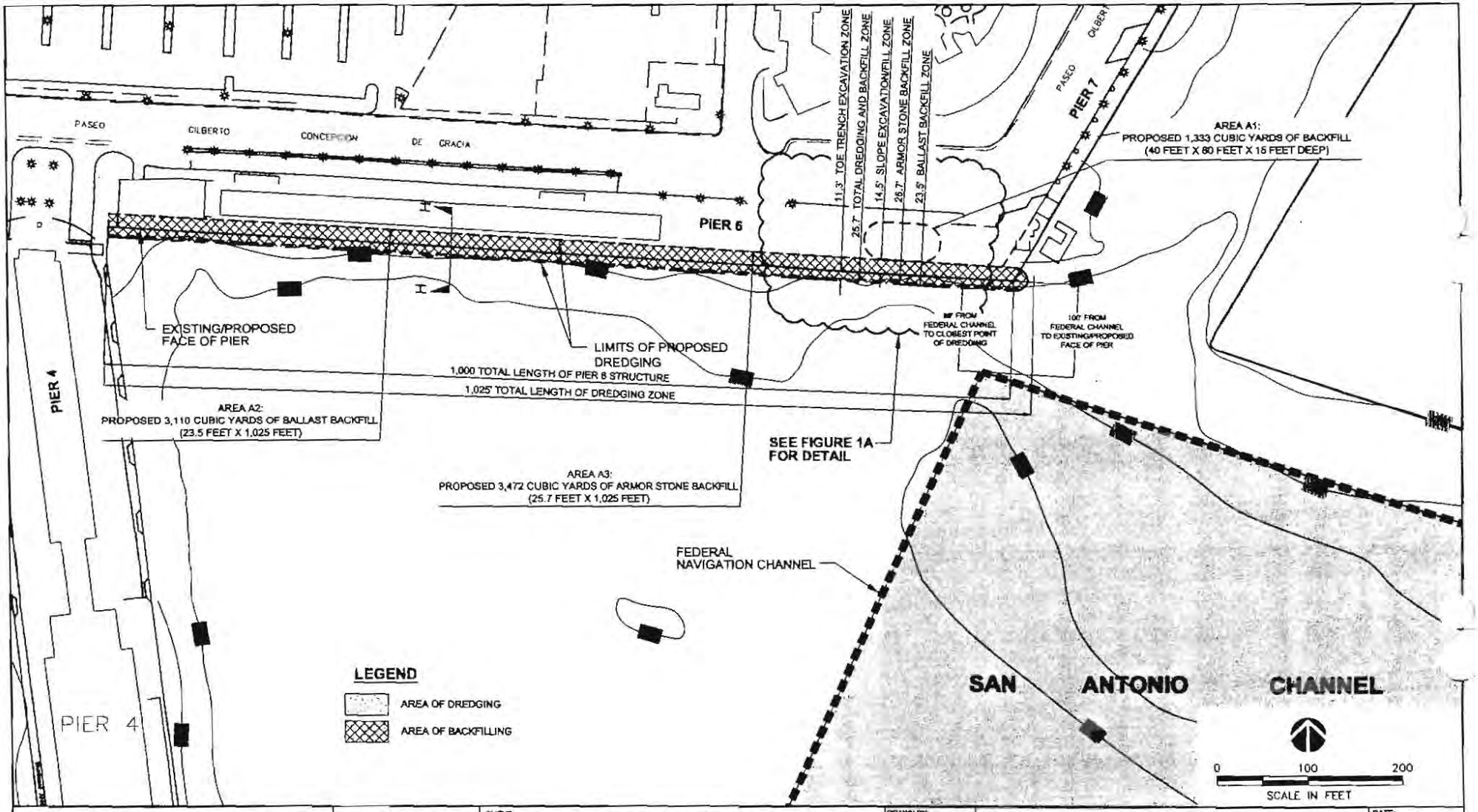
COASTAL ZONE MANAGEMENT CONSISTENCY: In Puerto Rico, a Coastal Zone Management Consistency Concurrence is required from the Puerto Rico Planning Board. In the Virgin Islands, the Department of Planning and Natural Resources permit constitutes compliance with approved Coastal Zone Management Plan.

REQUEST FOR PUBLIC HEARING: Any person may request a public hearing. The request must be submitted in writing to the District Engineer within the designated comment period of the notice and must state the specific reasons for requesting the public hearing.

David S. Hobbie
Regulatory Division



U.S. Army Corps of Engineers
Modification Request Number: SAJ-2005-8813(IP-CGR)
Date: March 2008
Drawing 1 of 10



NOTE: SHORELINE IS AGAINST EXISTING PIER 6 BULKHEAD, AND THEREFORE MEAN HIGH AND MEAN LOW WATER CANNOT BE SHOWN IN THIS VIEW.

COLLIERS INTERNATIONAL

CLIENT: COLLIERS TMT OF PUERTO RICO

AMEC E & E Caribe, LLP
530 AVE DE LA CONSTITUTION
SAN JUAN, PUERTO RICO 00901-2304
PHONE (787) 289-7835 FAX (787) 289-8779

amec

DRAWN BY: JRS
CHECKED BY: JO
DATUM:
PROJECT:
SCALE: AS

PROJECT: PROPOSED PIER 6 IMPROVEMENTS
SAN JUAN, PUERTO RICO

DATE: NOVEMBER 2007
PROJECT NO: 156064

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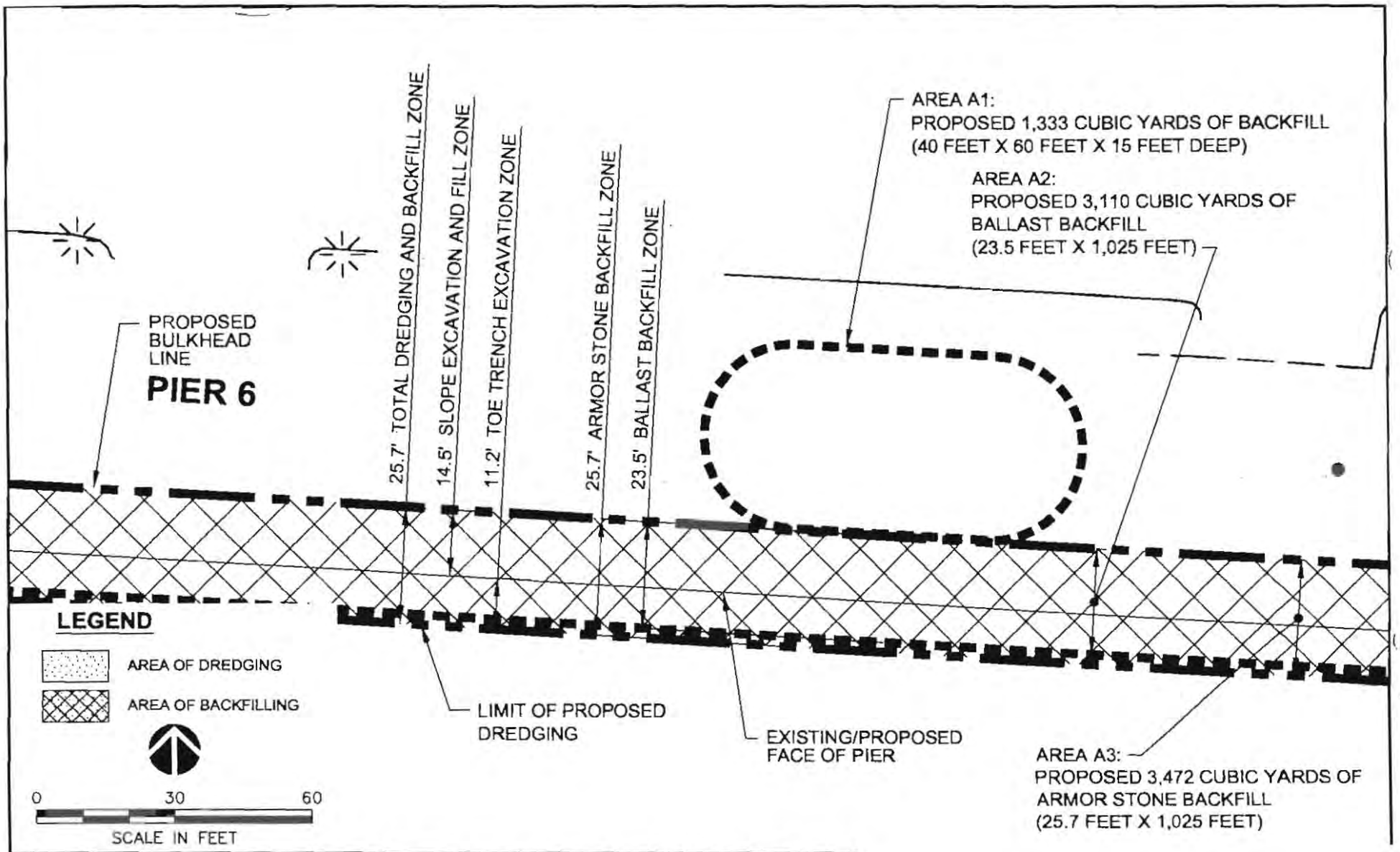
U.S. Army Corps of Engineers
Modification Request Number: SAJ-2005-8813(IP-CGR)
Date: March 2008
Drawing 2 of 10



AMEC E & E Caribe, LLP
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SAN JUAN, PUERTO RICO 00901-2304
PHONE (787) 289-7835 FAX (787) 289-6779

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U.S. Army Corps of Engineers
Modification Request Number: SAJ-2005-8813(IP-CGR)
Date: March 2008
Drawing 3 of 10

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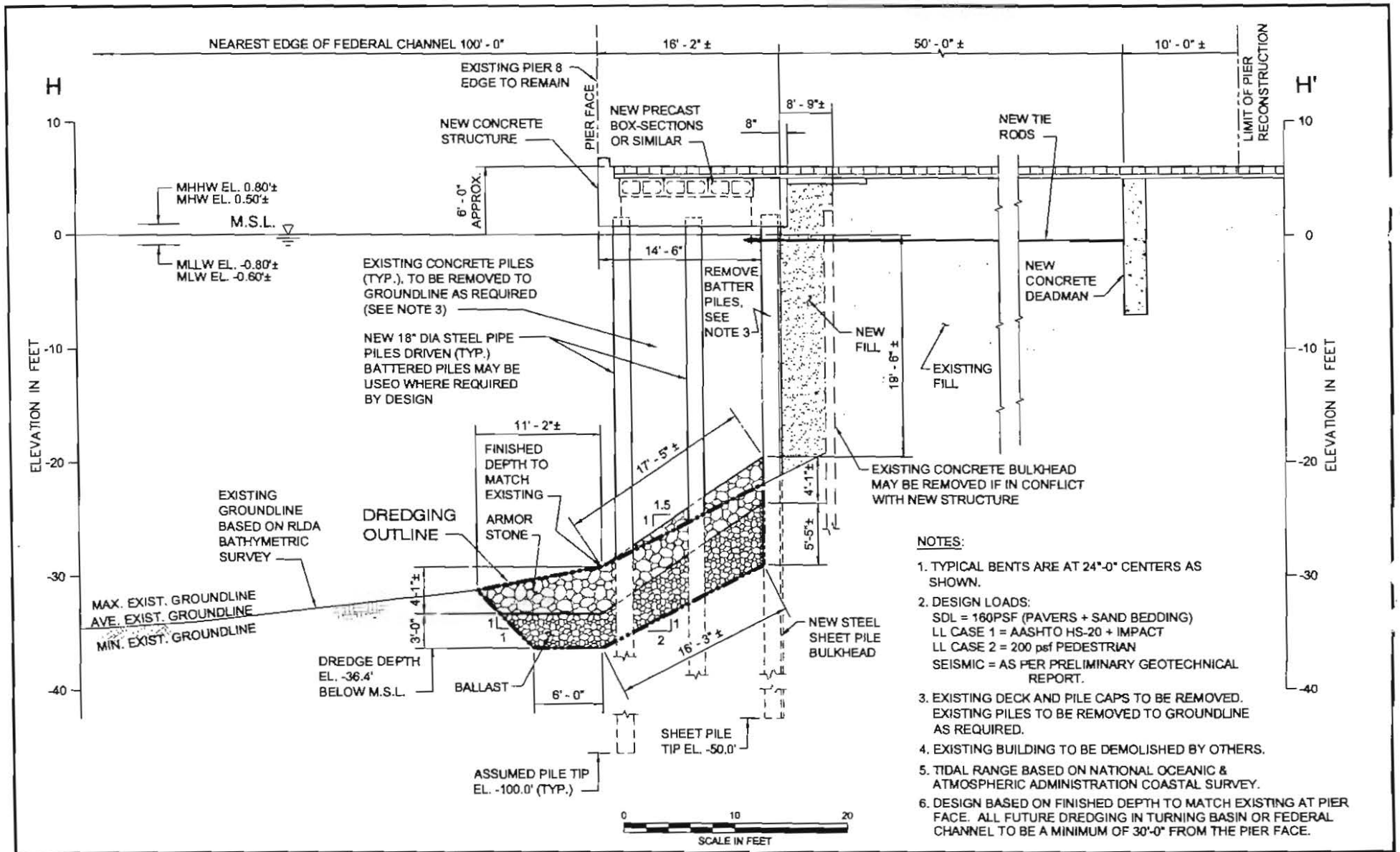

NOTES:

1. TYPICAL BENTS ARE AT 24"-0" CENTERS AS SHOWN.
2. DESIGN LOADS:
   SDL = 160PSF (PAVERS + SAND BEDDING)
   LL CASE 1 = AASHTO HS-20 + IMPACT
   LL CASE 2 = 200 psf PEDESTRIAN
   SEISMIC = AS PER PRELIMINARY GEOTECHNICAL REPORT.
3. EXISTING DECK AND PILE CAPS TO BE REMOVED. EXISTING PILES TO BE REMOVED TO GROUNDLINE AS REQUIRED.
4. EXISTING BUILDING TO BE DEMOLISHED BY OTHERS.
5. TIDAL RANGE BASED ON NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION COASTAL SURVEY.
6. DESIGN BASED ON FINISHED DEPTH TO MATCH EXISTING AT PIER FACE. ALL FUTURE DREDGING IN TURNING BASIN OR FEDERAL CHANNEL TO BE A MINIMUM OF 30'-0" FROM THE PIER FACE.

AMEC E & E Caribe, LLP
530 AVE DE LA CONSTITUTION
SAN JUAN, PUERTO RICO 00901-2304
PHONE (787) 289-7835
FAX (787) 289-8779

COLLIERS INTERNATIONAL

DWN BY: CY
CHK'D BY: JD / MP

TITLE

CROSS SECTION H-H'

DATE:

U.S. Army Corps of Engineers
Modification Request Number: SAJ-2005-8813(IP-CGR)
Date: March 2008
Drawing 4 of 10

SAN

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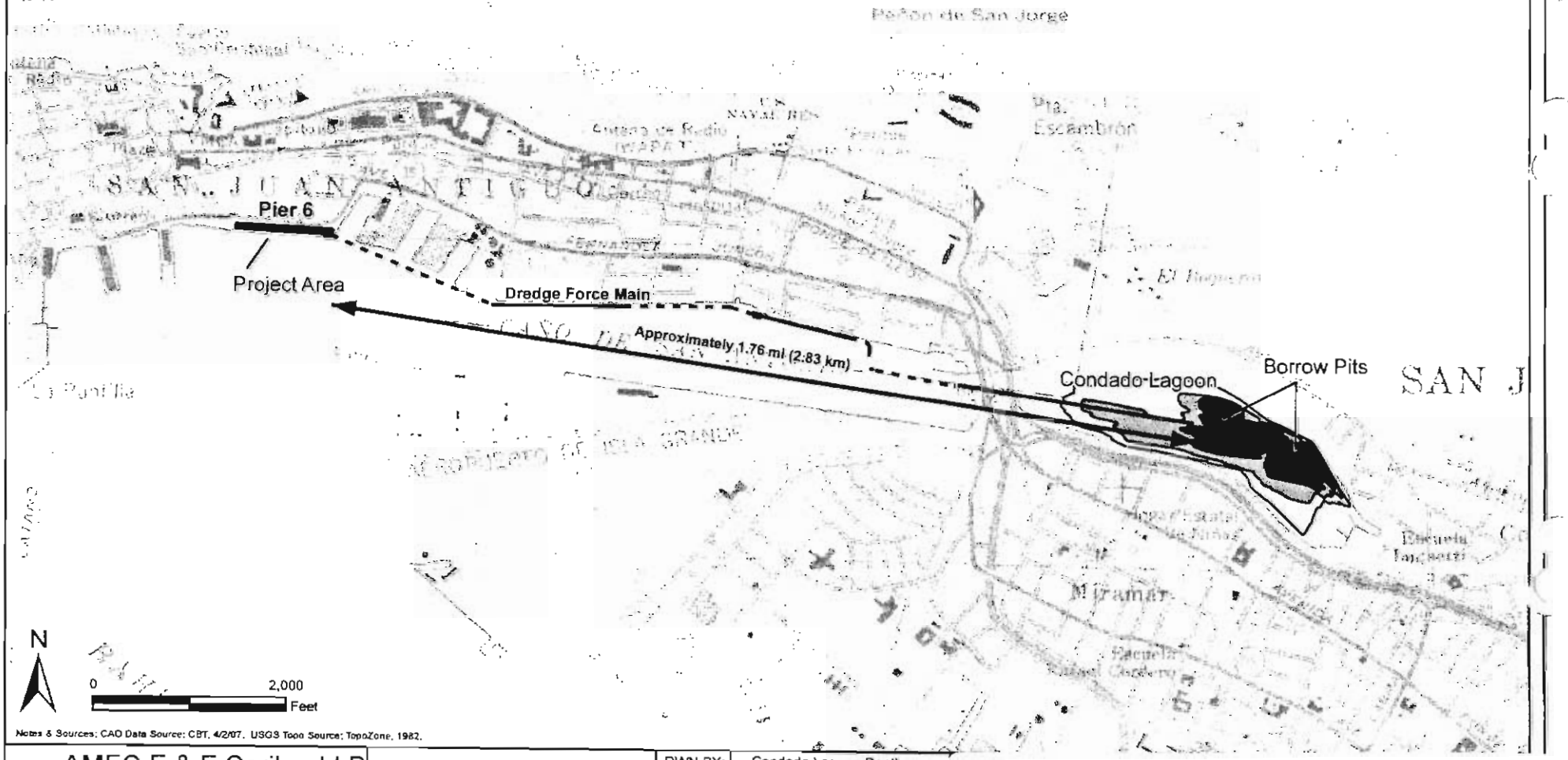

Notes & Sources: CAD Data Source: CBT, 4/2/07. USGS Topo Source: TopoZone, 1982.

AMEC E & E Caribe, LLP
530 AVE DE LA CONSTITUCIÓN
SAN JUAN, PUERTO RICO 00901-2304
PHONE (787) 289-7835
FAX (787) 289-8779

DWN BY:	CHKD BY:
DJK	AP

Condado Lagoon Depth Contours:

-10 ft
-15 ft
-20 ft
> -25 ft

Source: SJBEP 2000

Project Area

U.S. Army Corps of Engineers
Modification Request Number: SAJ-2005-8813(IP-CGR)
Date: March 2008
Drawing 5 of 10

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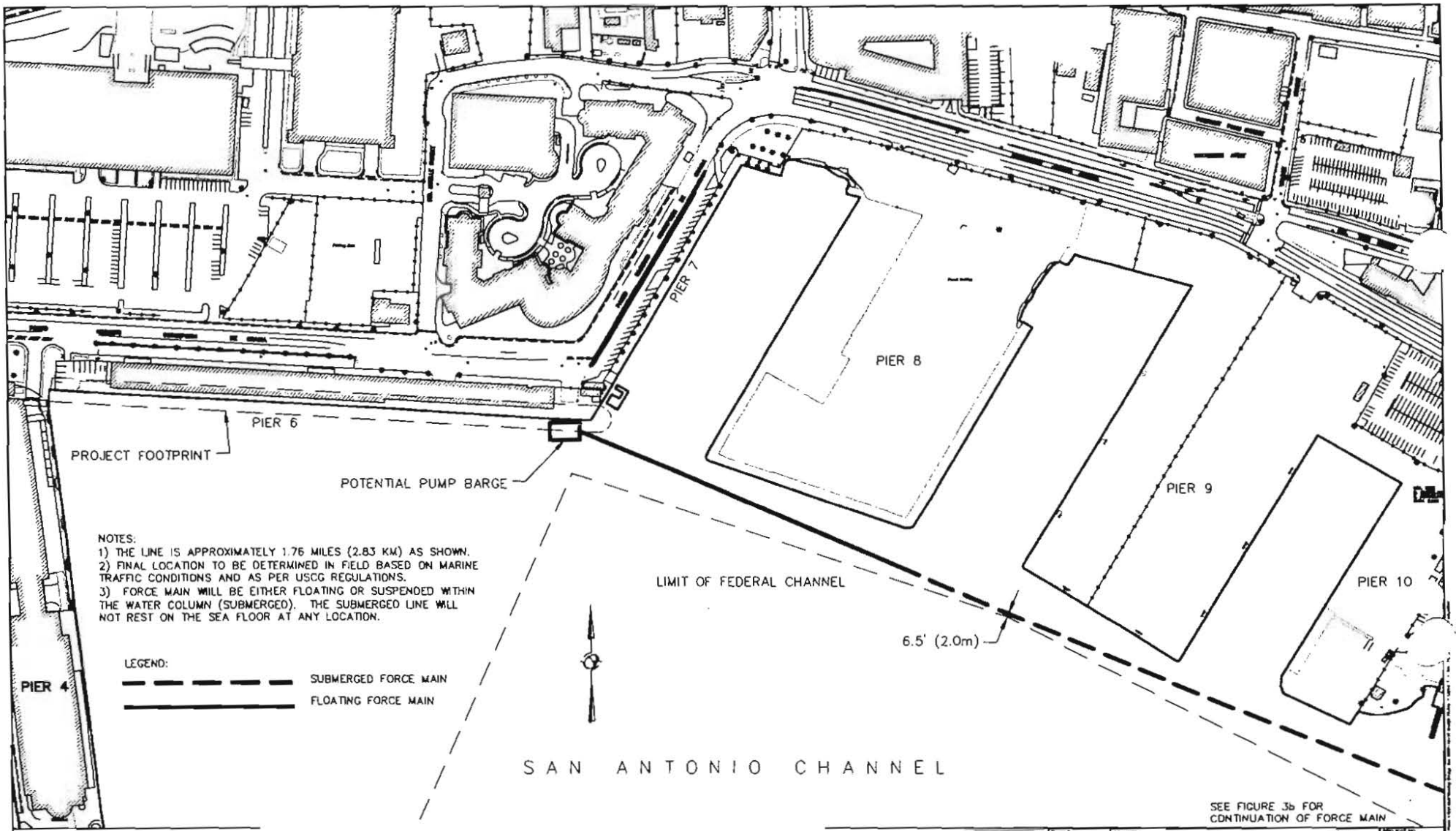
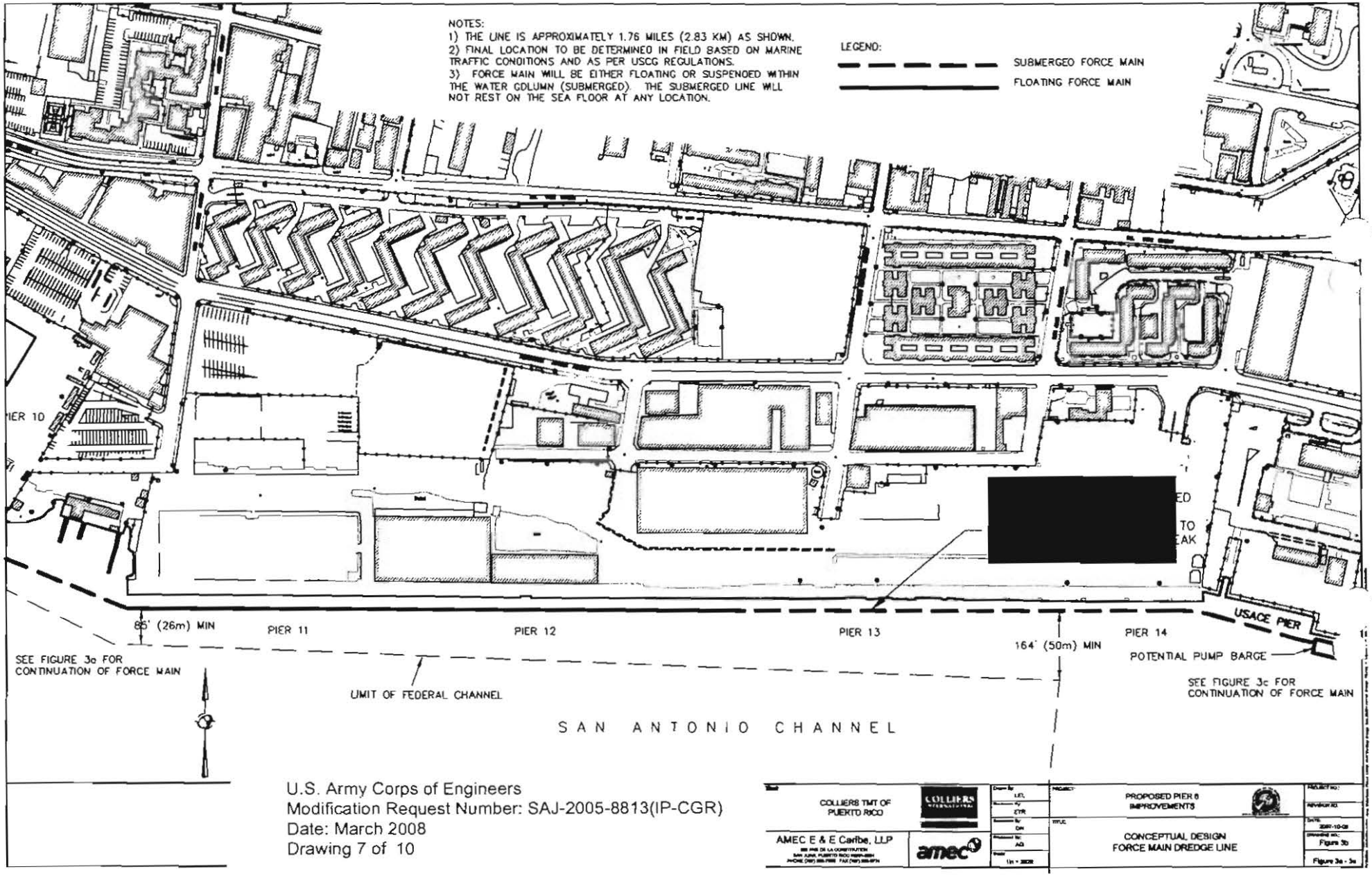
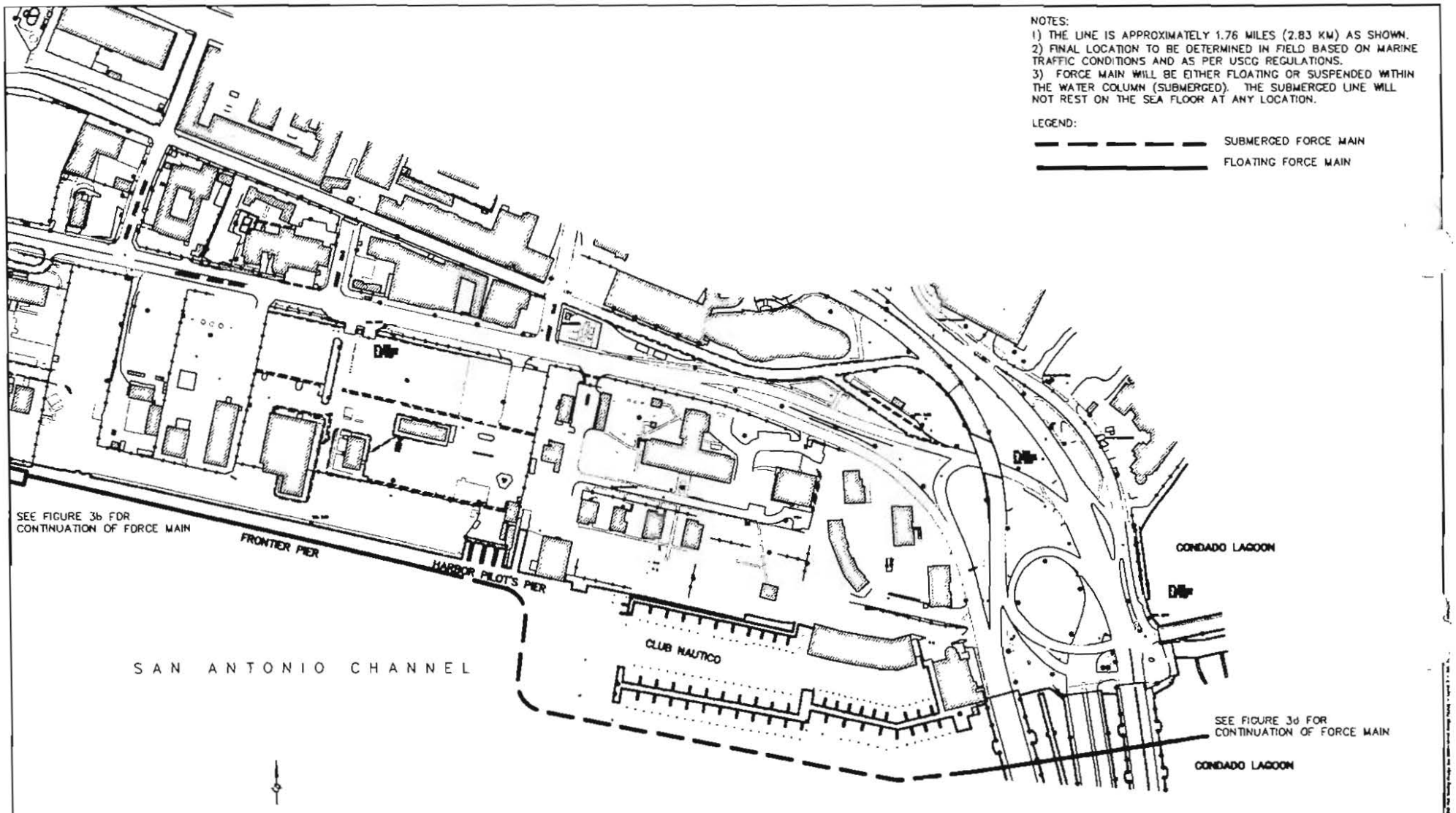


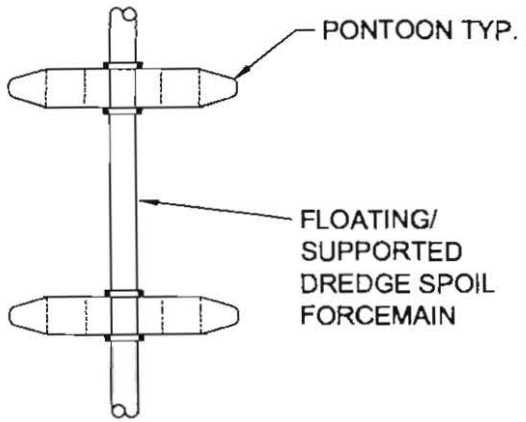
U.S. Army Corps of Engineers
Modification Request Number: SAJ-2005-8813(IP-CGR)
Date: March 2008
Drawing 6 of 10



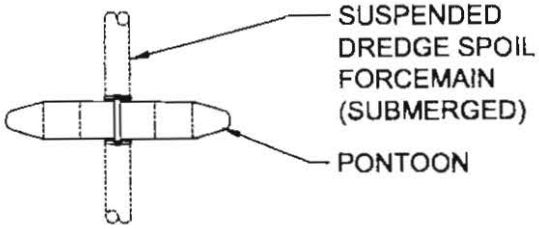
U.S. Army Corps of Engineers
Modification Request Number: SAJ-2005-8813(IP-CGR)
Date: March 2008
Drawing 7 of 10



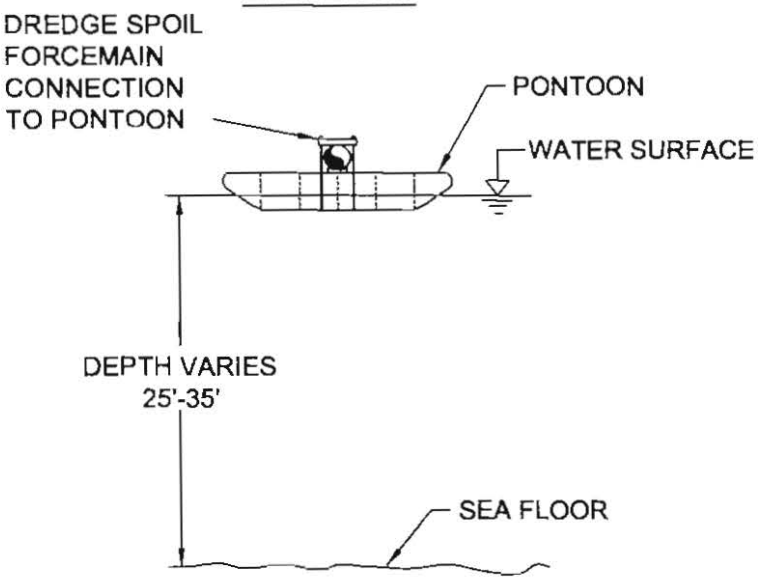
U.S. Army Corps of Engineers
Modification Request Number: SAJ-2005-8813(IP-CGR)
Date: March 2008
Drawing 8 of 10



PLAN VIEW



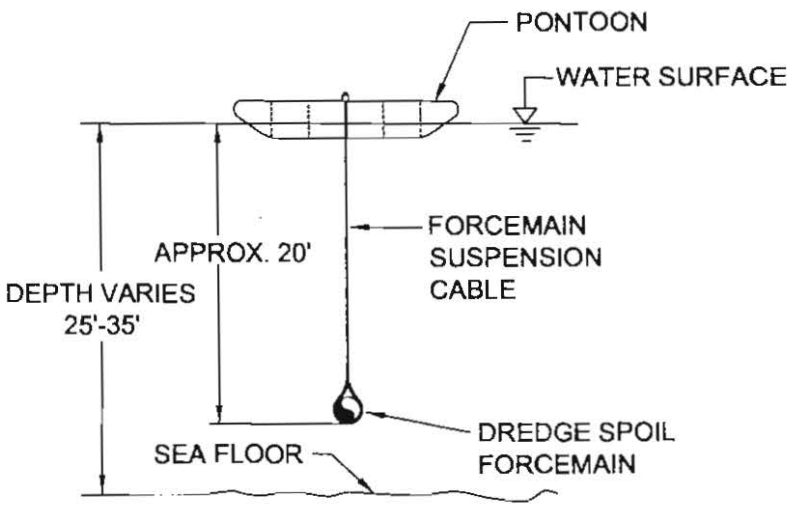
PLAN VIEW



SECTION

FLOATING DREDGE FORCEMAIN

NOT TO SCALE



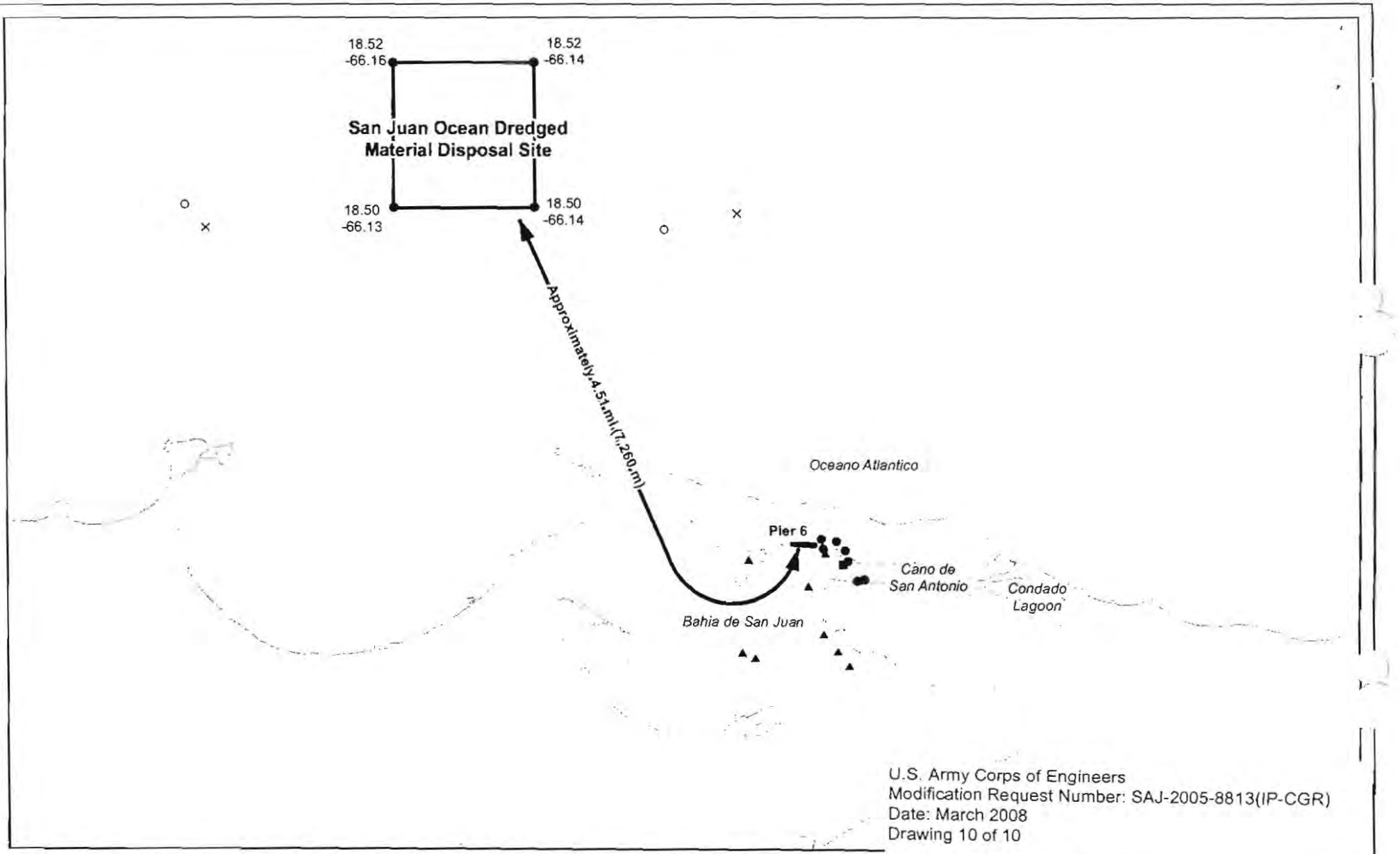
SECTION

SUBMERGED DREDGE FORCEMAIN
SUSPENDED IN WATER COLUMN

NOT TO SCALE

U.S. Army Corps of Engineers
Modification Request Number: SAJ-2005-8813(IP-CGR)
Date: March 2008
Drawing 9 of 10

COLLIERS TMT OF PUERTO RICO		PROPOSED PIER 6 IMPROVEMENTS	
AMEC E & E Caribe, LLP	amec	CONCEPTUAL DESIGN FORCE MAIN DREDGE LINE SCHEMATIC DETAIL	Figure 3e - 3e



U.S. Army Corps of Engineers
Modification Request Number: SAJ-2005-8813(IP-CGR)
Date: March 2008
Drawing 10 of 10

PROPOSED PIER 6 IMPROVEMENTS
PUERTO RICO PORTS AUTHORITY
San Juan, Puerto Rico

Available Sediment Characterization Sampling Locations in the Open Water Adjacent to San Juan Harbor

Sampling Locations:
- PPB 1999
- PERC 2001 Study
- PPB 2006
- PPB 1999, Reference
- PPB 2006, Reference
- Project Area

0 1 Miles

N

Notes & Sources: CAD Data Source: CBT, 4/2/07. USGS Topo Source. TopoZone, 1982.

amec
AMEC Earth & Environmental, Inc.
2 Robbins Road
Westford, MA 01886
(978) 692-9090

SHEET 1 OF 1
FIGURE
4

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.

b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.

c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.

d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.

e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.

f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.

g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006
O:\forms\Sea Turtle and Smalltooth Sawfish Construction Conditions.doc

Vessel Strike Avoidance Measures and Reporting for Mariners NOAA Fisheries Service, Southeast Region

Background

The National Marine Fisheries Service (NMFS) has determined that collisions with vessels can injure or kill protected species (e.g., endangered and threatened species, and marine mammals). The following standard measures should be implemented to reduce the risk associated with vessel strikes or disturbance of these protected species to discountable levels. NMFS should be contacted to identify any additional conservation and recovery issues of concern, and to assist in the development of measures that may be necessary.

Protected Species Identification Training

Vessel crews should use an Atlantic and Gulf of Mexico reference guide that helps identify protected species that might be encountered in U.S. waters of the Atlantic Ocean, including the Caribbean Sea, and Gulf of Mexico. Additional training should be provided regarding information and resources available regarding federal laws and regulations for protected species, ship strike information, critical habitat, migratory routes and seasonal abundance, and recent sightings of protected species.

Vessel Strike Avoidance

In order to avoid causing injury or death to marine mammals and sea turtles the following measures should be taken when consistent with safe navigation:

1. Vessel operators and crews should maintain a vigilant watch for marine mammals and sea turtles to avoid striking sighted protected species.

2. When whales are sighted, maintain a distance of 100 yards or greater between the whale and the vessel.

3. When sea turtles or small cetaceans are sighted, attempt to maintain a distance of 50 yards or greater between the animal and the vessel whenever possible.

4. When small cetaceans are sighted while a vessel is underway (e.g., bow-riding), attempt to remain parallel to the animal's course. Avoid excessive speed or abrupt changes in direction until the cetacean has left the area.

5. Reduce vessel speed to 10 knots or less when mother/calf pairs, groups, or large assemblages of cetaceans are observed near an underway vessel, when safety permits. A single cetacean at the surface may indicate the presence of submerged animals in the vicinity; therefore, prudent precautionary measures should always be exercised. The vessel should attempt to route around the animals, maintaining a minimum distance of 100 yards whenever possible.

6. Whales may surface in unpredictable locations or approach slowly moving vessels. When an animal is sighted in the vessel's path or in close proximity to a moving vessel and when safety permits, reduce speed and shift the engine to neutral. Do not engage the engines until the animals are clear of the area.

Additional Requirements for the North Atlantic Right Whale

1. If a sighted whale is believed to be a North Atlantic right whale, federal regulation requires a minimum distance of 500 yards be maintained from the animal (50 CFR 224.103 (c)).

2. Vessels entering North Atlantic right whale critical habitat are required to report into the Mandatory Ship Reporting System.

3. Mariners should check with various communication media for general information regarding avoiding ship strikes and specific information regarding North Atlantic right whale sighting locations. These include NOAA weather radio, U.S. Coast Guard NAVTEX broadcasts, and Notices to Mariners. Commercial mariners calling on United States ports should view the most recent version of the NOAA/USCG produced training CD entitled "A Prudent Mariner's Guide to Right Whale Protection" (contact the NMFS Southeast Region, Protected Resources Division for more information regarding the CD).

4. Injured, dead, or entangled right whales should be immediately reported to the U.S. Coast Guard via VHF Channel 16.

Injured or Dead Protected Species Reporting

Vessel crews should report sightings of any injured or dead protected species immediately, regardless of whether the injury or death is caused by your vessel.

Report marine mammals to the Southeast U.S. Stranding Hotline: 877-433-8299
Report sea turtles to the NMFS Southeast Regional Office: 727-824-5312

If the injury or death of a marine mammal was caused by a collision with your vessel, responsible parties should remain available to assist the respective salvage and stranding network as needed. NMFS' Southeast Regional Office should be immediately notified of the strike by email (takereport.nmfsser@noaa.gov) using the attached vessel strike reporting form.

For additional information, please contact the Protected Resources Division at:

NOAA Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701
Tel: (727) 824-5312
Visit us on the web at http://sero.nmfs.noaa.gov

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Caribbean Ecological Services
Field Office
P.O. Box 491
Boqueron, PR 00622

FEB 2 5 2013

In Reply Refer To:
FWS/R4/CESFO/72127-002

Mr. Eric P. Summa
Chief, Environmental Branch
US Army Corps of Engineers
Jacksonville District
PO Box 4970
Jacksonville, Florida 32207

Re: San Juan Harbor Mitigation Project, Puerto Rico

Dear Mr. Summa:

This is reply to your January 22, 2013, letter stating the Corps is gathering information for the proposed Environmental Assessment of the San Juan Harbor Submerged Aquatic Vegetation Compensatory Mitigation Project (SJH SAV). Our comments are provided as technical in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act (16 U.S.C. 1531 et seq. as amended).

The Corps is evaluating the feasibility of conducting the SJH SAV mitigation project in Condado Lagoon. The project will consist of restoration of about 1.2 acres of submerged aquatic vegetation (SAV) habitat during the channel improvements. The lagoon has suffered degradation of its bottom habitat by dredging in the 1950's causing deep depressions in the relatively shallow lagoon. The purpose of the project is to use the suitable dredge spoil in a beneficial way to and place it into the depressions caused by previous dredging. By eliminating these depressions, it is expected that increased flushing and light penetration would foment natural recruitment of SAV into the restored area. In order to transport the sediment to the lagoon a combination of barge and floating pipeline could be implanted.

We recommend that once the restoration of the depressions is complete and monitoring shows that light penetration is adequate, the Corps should actively place plugs or patches of SAV in various locations of the restored area to form a nucleus of SAV that can then spread out and colonize the remaining restoration area.

Thank you for the opportunity to comment on this action. If you have any questions regarding our comments please feel free to contact Felix Lopez of my staff at 787 851-7297 x 210.

Sincerely yours,

for Edwin E. Muniz
Field Supervisor

fhl
cc:
COE, Planning, San Juan
DNER, San Juan
EPA, San Juan
NMFS, Boqueron
SJBE, San Juan

AUTORIDAD DE
DESPERDICIOS SÓLIDOS
ESTADO LIBRE ASOCIADO DE PUERTO RICO

26 de febrero de 2013

Sr. Wilberto Cubero
División de Planificación
Área Ambiental Cuerpo Ingenieros
PO Box 4970
Jacksonville, Florida 32232-0019

Re: San Juan Harbor Submerged Aquatic Vegetation Compensatory Mitigation Project
Condado Lagoon, San Juan, Puerto Rico

Estimado señor Cubero:

Recientemente, fue presentada ante nuestra consideración, la solicitud del Cuerpo de Ingenieros del Distrito (CDI) de Jacksonville, referente a nuestros comentarios en relación al proyecto de dragado de la Bahía de San Juan junto a un proyecto de mitigación de la Laguna del Condado. De acuerdo a la misiva, el CDI se encuentra evaluando la viabilidad del proyecto e interesa nuestros comentarios para la realización del documento ambiental.

La División de Planificación Operaciones e Ingeniería, requiere que la siguiente información forme parte del documento ambiental:

a. Empleos a crearse (construcción y operación)
b. Residuos sólidos generados (construcción y operación)
    - Indicar el tipo, cantidad y frecuencia
    - Recogido de éstos (si es por el municipio o una compañía privada)
c. Lugar de disposición final
d. Materiales reciclables a ser recuperados (construcción y operación)
    - Indicar el tipo, cantidad y frecuencia
e. Duración del Proyecto

El CDI, además, debe identificar las regulaciones que puedan aplicar y presentar la forma en que se atenderá su cumplimiento. Estas regulaciones son, sin limitarse a:

1. Ley Núm. 70 de 18 de septiembre de 1992, Ley para la Reducción y Reciclaje de los Desperdicios Sólidos, según enmendada, establece el desarrollo e implantación de estrategias económicamente viables y ambientalmente seguras que resulten en la disminución del volumen de desperdicios sólidos que requerirá disposición final. Como parte de estas estrategias, se considera necesario modificar las prácticas de manejo y disposición existentes para reducir la intensidad de uso de los Sistemas de Relleno Sanitario (SRS) del país.

a. Los materiales a ser clasificados en la fuente de origen son: todo tipo de papel, cartón corrugado, aluminio, vidrio y plástico.

b. Todas las industrias, fábricas, tiendas, comercios y cualquier otro tipo de institución que emplee más de 10 personas, ya sea a tiempo completo o parcial, tendrán que implantar un Plan de Reciclaje. El mismo dispondrá el procedimiento para reducir y separar los materiales reciclables de los residuos sólidos generados por la institución.

c. Para acceder el Plan de Reducción, Reutilización y Reciclaje, para la fase de construcción, nuestra página electrónica www.ads.pr.gov/ Formularios/index.htm. o comuníquese al 787-765-7575, Área de Mercados, Reciclaje y Educación.

2. Reglamento para la Reducción, Reutilización y Reciclaje de Desperdicios Sólidos según enmendado. Aplicará a toda persona, natural o jurídica, ya sea municipios, cooperativas, industrias, comunidades, condominios, complejos de vivienda vertical tipo "walk-up", residenciales públicos, agencias gubernamentales, empresas o instituciones privadas (comercios y organizaciones sin fines de lucro) y empresas comunitarias que generen o manejen desperdicios sólidos, que contengan material reciclable, dentro de la jurisdicción del Estado Libre Asociado de Puerto Rico.

Esperamos que esta información le sea de utilidad en la preparación del documento ambiental. En caso de tener alguna duda o pregunta sobre este o cualquier otro particular, puede comunicarse con la señora Rosalía Llanos, Especialista Ambiental III, al (787) 765-7575, extensión 4674.

Cordialmente,

María V. Oquendo Padua
Directora
División de Planificación, Operaciones e Ingeniería

February 26, 2013

Mr. Wilberto Cubero
Planning Division
Corps of Engineers Environmental Area
PO Box 4970
Jacksonville, Florida 32232-0019

Re: San Juan Harbor Submerged Aquatic Vegetation Compensatory Mitigation Project Condado Lagoon, San Juan, Puerto Rico

Dear Mr. Cubero:

Recently, it was brought to our consideration, a request from the U.S Army Corps of Engineers (COE) Jacksonville District, regarding our comments in relation to the San Juan Harbor dredging project in conjunction to a mitigation project at the Condado Lagoon. According to the letter, the COE is assessing the project viability and is interested in our comments towards the preparation of the environmental document.

The Planning, Operations, and Engineering Division, requires that the following information be part of the environmental document:

a. Jobs to be created (construction and operation)
b. Solid wastes to be generated (construction and operation)
    - Indicate the type, amount and frequency.
    - Collection of these (if the municipality or a private company will do so)
c. Final disposal site.
d. Recyclable materials to be recovered (construction and operation)
    - Indicate the type, amount and frequency.
e. Project Duration.

The COE, also, must identify regulations that may apply and present how they will comply with them. These regulations are, not limited to:

1. Act No. 70 of September 18, 1992 (Ley Núm. 70 de 18 de septiembre de 1992) Act for the reduction and recycling of solid waste, as amended, provides for the development and implementation of economically viable and environmentally safe strategies resulting in the decrease of the volume of solid wastes that will require final disposition. As part of these strategies, it is considered necessary to modify the current management and disposal practices to reduce the use intensity of the Sanitary Landfill Systems (SRS) in the island.

    a. The materials to be sorted at the source of origin are: all types of paper, cardboard, aluminum, glass and plastics.
    b. All industries, factories, shops and any other institution that employs more than 10 people, either full or part time, will have to implement a recycling plan. The same will arrange the

procedure to reduce and separate recyclable materials from the solid waste generated by the institution.

c. To access the Reduction, Reuse and Recycling Plan, for construction phase, our website is www.ads.pr.gov/Formularios/index.htm. or call 787-765-7575, Market, Recycling and Education Area.

2. Regulation for the Reduction, Reuse and Recycling of Solid Waste, as amended. Apply to any person, natural or juridical, whether municipalities, cooperatives, industries, communities, condominiums, vertical housing complex type "walk-up", public housing, government agencies, private companies or institutions (commercial and non-profit organizations) and community enterprises that generate or handle solid waste, containing recyclable materials, within the jurisdiction of the Commonwealth of Puerto Rico.

We hope this information will be useful in the preparation of the environmental document. In case you have any questions about this or any other particular you may contact Mrs. Rosalia Llanos, Environmental Specialist III at (787) 765-7575, extension 4674.

Sincerely,

Maria V. Oquendo Padua
Director
Planning Operations and Engineering Division

ESTADO LIBRE ASOCIADO DE PUERTO RICO
DEPARTAMENTO DE AGRICULTURA
P.O. BOX 10163, SAN JUAN, PR 00908-1163

February 7, 2013

Mr. Eric P. Summa
Chief, Environmental Branch
Department of the Army
Jacksonville District Corps of Engineers
PO Box 4970
Jacksonville, Florida 32232-0019

Mister Summa:

ENVIRONMENTAL ASSESMENT
SAN JUAN HARBOR (SJH) SUBMERGED AQUATIC VEGETATION (SAV)
COMPENSATORY MITIGATION PROJECT (CMP)
CONDADO LAGOON, SAN JUAN, PR

In response to your letter dated January 22, 2013, regarding recommendations for the project on references.

In terms of the impact on agricultural land, we have no objection to this project.

If you require any other information do not hesitate to contact me at mcomas@agricultura.pr.gov.

Sincerely,

Myrna Comas Pagán

Myrna Comas Pagán, Ph.D
Secretaria Designada

AUTORIDAD DE CARRETERAS Y TRANSPORTACIÓN
PUERTO RICO HIGHWAY AND TRANSPORTATION AUTHORITY
ESTADO LIBRE ASOCIADO DE PUERTO RICO

CARRETERAS

Área de Programación y Estudios Especiales
Programming and Special Studies Area
Oficina de Estudios Ambientales
Environmental Studies Office

April 5, 2013

Mr. Eric P. Summa
Chief, Environmental Branch
US Army Corps of Engineers
Jacksonville District Corps of Engineers
PO Box 4970
Jacksonville, Florida 32232-0019

Attention: Mr. Wilberto Cubero

SAN JUAN HARBOR SUBMERGED AQUATIC VEGETATION COMPENSATORY MITIGATION PROJECT IN THE CONDADO LAGOON, SAN JUAN, PUERTO RICO

Dear Mr. Summa:

We make reference to your letter dated January 22, 2013, requesting comments or information related to the proposed mitigation project described above.

We are pleased to inform you that during 2011, the Puerto Rico Highway and Transportation Authority concluded the reconstruction and opened to the public the Dos Hermanos Bridge located at the entrance to the Laguna del Condado in San Juan near the area where you propose your compensatory mitigation.

For the reconstruction of this bridge, it was required an authorization from the US Army Corps of Engineers (Permit SAJ-1998-5848 (IP-CGR), granted on December 3, 2007, and several studies on the occurrence and distribution of the marine flora and fauna in the immediate area of the bridge.

The results of these studies showed the presence of the 4 species of marine seagrasses that inhabit the shores of the Island, as well as the presence of 10 species of macro-algae (green, red and brown), 42 species of invertebrates and 61 species of fish. Copies of these studies are part of the record on file for this project in the Regulatory Office of the Antilles Section in San Juan.

In May or June of this year, and as part of the special conditions required in the USACE's permit, we are contemplating to carry out a new survey plan of the benthic communities at the immediate area of the bridge and to manually remove solid wastes from the sea bottom at both sides of the bridge to enhance the growth and reproduction of the existing seagrasses.

In addition to the aforesaid information, we inform you that at the present time, the PRHTA does not have any project in construction that may impact the proposed mitigation area.

Should you need additional information, please contact our Environmental Studies Office, at telephone (787) 721-8787, extension 1527 or 1529.

Cordially yours,

Luis E. Rodríguez Rosa
Deputy Director
Programming and Special Studies Area

6704/CGA/MAD/egn

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

REPLY TO
ATTENTION OF

22 JAN 2013

Planning and Policy Division
Environmental Branch

TO WHOM IT MAY CONCERN:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is beginning to gather information which will aid in identifying issues and concerns to be addressed in an Environmental Assessment (EA) for the San Juan Harbor (SJH) Submerged Aquatic Vegetation (SAV) Compensatory Mitigation Project in the Condado Lagoon, San Juan, Puerto Rico. This project is a component of the San Juan Harbor Federal Navigation Project reauthorized by Section 301 of the Water Resources Development Act of 1996 (see enclosed Figure). The non-Federal sponsor for the project is the Puerto Rico Ports Authority.

The Corps is evaluating the feasibility of conducting the SJH SAV Compensatory Mitigation Project in the Condado Lagoon. It consists of the restoration of approximately 1.2 acres of SAV impacted during the SJH Navigation Channel improvements. Restoration of seagrass beds in the Condado Lagoon is one of the goals of the San Juan Bay Estuary Program (SJBEP) Comprehensive Conservation and Management Plan (CCMP), Action Plan HW-2, completed in August 2000. The 102-acre (0.42 square kilometers) lagoon has suffered severe degradation of its water quality, benthic and fish habitat due to dredging operations during the 1950's. As a result, tidal currents and wind action are not often enough to produce the adequate water circulation between the 35 feet (10.8 meters) deep bottom and surface waters, impairing the lagoon's water quality and living resources. The natural depth of the lagoon was less than 15 feet (4.6 meters). The proposed compensatory mitigation project consists of the beneficial use and placement of suitable dredged material from the SJH area into the artificial lagoon depressions to provide appropriate elevations to allow for natural recruitment and support maturation of SAV (e.g. seagrass). Although the main goal of the proposed project is to provide the required SAV mitigation (1.2 acres), additional areas within the lagoon may be restored to contribute to the overall purpose of the CCMP, Action Plan HW-2.

The proposed handling of the dredged material could involve several methods for transporting all suitable material from the SJH to the artificial depressions in the Condado Lagoon. A combination of scow barge and pumping through a floating pipeline could be implemented for transporting the material along the San Antonio Channel into the lagoon. Environmental considerations will include the effects of the proposed action on aesthetics, water quality, fish and wildlife habitats and values, endangered or threatened species, and historical or archeological resources.

CN 078-04495
REV. 01/13

COMMONWEALTH OF PUERTO RICO
PUERTO RICO ELECTRIC POWER AUTHORITY

SAN JUAN, PUERTO RICO

www.prepa.com

GPO BOX 364267
SAN JUAN, PR 00936-4267

February 12, 2013

Mr. Wilberto Cubero
Planning Division, Environmental Branch
US Army Corps of Engineers
Antilles Regulatory Section
400 Fernández Juncos Ave.
San Juan, PR 00901-3299

Dear Mr. Cubero:

RE: SJH SAV Compensatory Mitigation Project
Condado Lagoon

The Puerto Rico Electric Power Authority (PREPA) reviewed the information regarding the Mitigation Project considered for the Condado Lagoon. PREPA has no comments about the resources, study objectives or other features within the study area.

If additional information is needed, please contact Ms. Ivelisse Sánchez Soultaire, Acting Manager, Projects and Licensing Department, at (787) 521-4969.

Cordially,

Rafael Marrero Carrasquillo, Acting Head
Environmental and Quality Assurance Division

Part 2: Endangered Species Act consultation and Essential Fish Habitat coordination.

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

REPLY TO
ATTENTION OF

APR 2 2 2014

Planning Division
Environmental Branch

Mr. Jose Rivera
National Marine Fisheries Service
Habitat Conservation Division
400 Fernandez Juncos
San Juan, Puerto Rico 00901-3299

Dear Mr. Rivera:

I am providing the Essential Fish Habitat Assessment for the San Juan Harbor Mitigation Project in San Juan, Puerto Rico. This project involves the filling of 4 acres (including side slopes) of dredged holes in the Condado Lagoon with 46,000 cubic yards of dredged material to create 1.2 acres of habitat to an elevation of -12 feet to -15 feet for submerged aquatic vegetation. The dredged material would come from two shoaled areas in the La Esperanza Ecosystem Restoration Project and/or the San Antonio Channel of San Juan Harbor (see enclosed maps, drawings, and description).

The mitigation site, borrow sites, possible pipeline routes, and transit areas are located in estuarine environments. The greater San Juan Estuary contains habitat for corals, other hard grounds, and sea grass which support (or potentially could support) associated sports/commercial fish, spiny lobster, queen conch, and aquarium trade species.

Neither the borrow sites nor the mitigation site currently provide quality habitat within the project footprint. The mitigation site is a dredged hole that is currently too deep to support sea grass or experience good water circulation. The La Esperanza borrow site is likely to benefit from removal of shoaled areas that tend to reduce flow and circulation to the lagoon and are susceptible to invasion by Australian pine. The San Antonio Channel borrow site is a navigation channel that is subject to frequent use and periodic maintenance. The proposed mitigation would improve habitat at the mitigation site, it would counteract shoaling at the La Esperanza borrow sites, and would have little impact on the San Antonio navigation channel borrow site.

The pipeline impacts would be limited to a narrow corridor. We will survey any pipeline corridors in Condado Lagoon, San Juan Harbor, and the channel that connects the two for presence of coral. If listed or proposed threatened or endangered coral cannot be avoided (e.g., by re-routing or bridging over), we will re-initiate consultation with the protected resources element of your agency. Any impacts to sea grass from pipelines would be minor and temporary. Transit of the areas by dredges or other project vessels would have little impact on benthic habitat.

If you have any questions, please contact Kenneth Dugger at 904-232-1686 (kenneth.r.dugger@usace.army.mil).

The point of contact in Puerto Rico is Johann Sasso at 787-729-6893 (johann.m.sasso@usace.army.mil). Additional information on this project is available on our Environmental Documents web page <http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalDocuments.aspx#Puerto_Rico>.

Sincerely,

Kenneth R Dugger

for Eric P. Summa
Chief, Environmental Branch

Enclosures

Copy Furnish:

Dr. Lisamarie Carrubba, National Marine Fisheries Service, Boqueron Field Office, P.O. Box 3323, Lajas, Puerto Rico 00667-3323

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

REPLY TO
ATTENTION OF

APR 2 2 2014

Planning Division
Environmental Branch

Mr. Edwin E. Muñiz
U.S. Fish and Wildlife Service
Post Office Box 491
Boquerón, Puerto Rico 00622-0491

Dear Mr. Muñiz:

I am initiating consultation under the Endangered Species Act for the San Juan Harbor Mitigation Project in San Juan, Puerto Rico. This project involves the filling of 4 acres (including side slopes) of dredged holes in the Condado Lagoon with 46,000 cubic yards of dredged material to create 1.2 acres of habitat to an elevation of -12 feet to -15 feet for submerged aquatic vegetation. The dredged material would come from two shoaled areas in the La Esperanza Ecosystem Restoration Project and/or the San Antonio Channel of San Juan Harbor (see enclosed maps, drawings, and description).

The mitigation site, borrow sites, possible pipeline routes, and transit areas are within the habitat range of the Antillean manatee. We will require the standard manatee protection measures for all in water work. We conclude that the proposed action may affect but is not likely to adversely affect the Antillean manatee. No other listed species under your purview would be affected.

If you have any questions, please contact Kenneth Dugger at 904-232-1686 (kenneth.r.dugger@usace.army.mil). The point of contact in Puerto Rico is Johann Sasso at 787-729-6893 (johann.m.sasso@usace.army.mil). Additional information on this project is available on our Environmental Documents web page <http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalDocuments.aspx#Puerto_Rico>.

Sincerely,

Kenneth R Dugger

for Eric P. Summa
Chief, Environmental Branch

Enclosures

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Caribbean Ecological Services
Field Office
P.O. Box 491
Boqueron, PR 00622

MAY 0 5 2014

In Reply Refer To:
FWS/R4/CESFO/72127-002

Eric P. Summa
Chief, Environmental Branch
P.O. Box 4970
Jacksonville, Florida 32232-0019

Re: San Juan Harbor Mitigation Project,
San Juan, Puerto Rico

Dear Mr. Summa:

Thank you for your letter dated April 22, 2014, requesting concurrence with your effect determination for the compliance with Section 7 of the Endangered Species Act. Our comments are provided under the Endangered Species Act (Act) (87 Stat. 884, as amended; 16 United States Code 1531 *et seq.*), and in accordance with the Fish and Wildlife Coordination Act (47 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*), and the Marine Mammal Protection Act (86 Stat. 1027, as amended; 16 U.S.C. 1361 *et seq.*).

The project consists of the filling of 4 acres of dredged holes in the Condado Lagoon with dredged material to create 1.2 acres of habitat for submerged aquatic vegetation. The dredge material would come from La Esperanza Ecosystem Restoration Project and/or the San Antonio Channel of San Juan Harbor, San Juan, Puerto Rico.

Based on a review of the information provided and that available in our office, the proposed action lies within the range of the endangered Antillean manatee (*Trichechus manatus*). However, based on the nature of the project, the site characteristics and on the implementation of appropriate manatee conservation measures (enclosed) we concur with your determination that the proposed project may affect, but is not likely to adversely affect the Antillean manatee or its habitat. Therefore, no further consultation is required. Nevertheless, if the project is modified or if information on impacts to listed species becomes available this office should be contacted concerning the need for the initiation of consultation under section 7 of the Act.

Thank you for the opportunity to comment on this project. We appreciate your interest in protecting endangered species and their habitats. It is the Service's mission to work with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the

continuing benefit of our people. Please do not hesitate to contact Marelisa Rivera 787-851-7297, extension 206, should you have any questions concerning our comments.

Sincerely yours,

Edwin E. Muñiz
Field Supervisor

mrh

Enclosure

cc: COE, San Juan

U.S. FISH & WILDLIFE SERVICE
CARIBBEAN ECOLOGICAL SERVICES FIELD OFFICE
JANUARY 2012

TECHNICAL ASSISTANCE TO EVALUATE EFFECTS ON ANTILLEAN MANATEES

The Service considers shallow coastal areas, bays, estuaries, river mouths and mangrove lagoon ecosystems as important for the conservation of the Antillean manatee because these areas contain all the natural elements preferred by manatees: abundant sea grass relatively calm waters, sheltered spots, and freshwater sources, as well as a relatively low number of boats within the bay. Actions proposed for these areas should be carefully examined, to ensure that elements required by this species are not compromised.

To evaluate the potential effect of proposed action on manatees, we need the applicants to address the following issues:

1. Type and amount of watercraft associated to the project
2. Amount of boat facilities (e.g. ramps, piers, dry-stacks, buoys, among others)
3. Amount of habitat to be affected (e.g. acres of sea grasses and/or mangroves)
4. Provisions / restrictions to be taken to prevent collisions with manatees (e.g. delineation of an entrance channel, marking buoys, navigation aids, among others).
5. Outreach efforts to be implemented concerning boat operation. One of the main components of a successful operation of facilities that implement mechanisms to safeguard threatened and endangered species is a comprehensive outreach program that clearly indicates to the public 1) the actions that the facility is undertaking to protect such species (including assurances on the implementation of protection measures), and 2) the activities that the public should take to minimize or prevent impacts to sensitive species and their habitats. Guidelines for safe operation of watercrafts should be included as part of the outreach/education component of the proposed project (example attached below).
6. Any other site-specific conservation measure applicable for the project.

EXAMPLE OF CONSERVATION MEASURES FOR IN-WATER PROJECTS (INCLUDING DREDGING ACTIVITIES)

The following manatee conservation measures are recommended:

1. The contractor instructs all personnel associated with construction of the facility of the presence of manatees and the need to avoid collisions with manatees.
2. All construction personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Endangered Species Act of 1973 and the Marine Mammal Protection Act of 1972. The permit holder and/or contractor will be held responsible for any manatee harmed, harassed, or killed as a result of construction of the project.

3. The project work area shall be surveyed for the presence of manatees at least one hour before any dredging starts and prior to the installation of the silt fence. If manatees are found before any in-water project activity starts, the contractor shall wait for the manatee to leave the area by itself and be at least 100 feet from the project in-water area. Manatees must not be herded or harassed into leaving the area.

4. Siltation barriers will be made of material in which manatee cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exit from essential habitat.

5. All vessels associated with the project construction will operate at "no-wake/idle" speed at all times while in water within manatee areas and vessels will follow routes of deep water whenever possible.

6. If manatees are seen within 100 yards (300 feet) of the in-water work area, all appropriate precautions shall be implemented to ensure protection of the manatees. These precautions shall include operating all equipment in such a manner that moving equipment does not come any closer than 50 to 100 feet of any manatee. If a manatee is within 50 feet of in-water work, all in-water activities must shut down, until manatee moves on its own at least 100 feet away from the in-water work area. Manatees must not be herded or harassed into leaving the area.

7. Any collision with and/or injury to a manatee shall be reported immediately to the Department of Natural and Environmental Resources Law Enforcement (787-724-5700) and the USFWS Caribbean Ecological Services Field Office (787-851-7297).

8. The contractor shall keep a log detailing sightings, collisions, or injury to manatees, which have occurred during the contract period. Following project completion, a report summarizing the above incidents and sightings will be submitted to the U.S. Fish and Wildlife Service, Caribbean Ecological Services Field Office, P.O. Box 491, Boquerón, Puerto Rico 00622.

9. The permit holder and/or contractor shall install and maintain temporary and permanent manatee signs as recommended by the following guidelines:

    a. Signs must be placed in a prominent location for maximum visibility. Areas that are recommended include: dock walkways, dock master offices, near restrooms or other high patron foot traffic areas.
    b. Signs must be replaced when faded, damaged or outdated.
    c. If the facility is large or has multiple docks with separate walkways that are a considerable distance apart, multiple signs should be installed.
    d. These signs must not face the water, must never be attached to pilings or navigational markers in the water. Some exceptions to signs facing the water exist for temporary signs during in-water work.
    e. For durability, all signs should be fiberglass, PVC or metal with rounded corners (hand-sanded to remove all sharp edges and burrs), constructed of 0.08 Gauge 5052-H38 Aluminum with an Alodine 1200 conversion coating and Engineer Grade Type I reflective sheeting. Signs constructed to other specifications may not provide durability acceptable to the consumer.
    f. Signs other than depicted may be considered, but should be approved by USFWS.

PRECAUCIÓN: HÁBITAT DE MANATÍ
CAUTION: MANATEE HABITAT

Toda embarcación

VELOCIDAD MÁXIMA 5MPH

All project vessels **IDLE SPEED/NO WAKE**

Si observa un manatí a 50 pies o menos del área de trabajo, toda actividad en el agua debe

DETENERSE

When a manatee is within 50 feet of work all in-water activities must **SHUT DOWN**

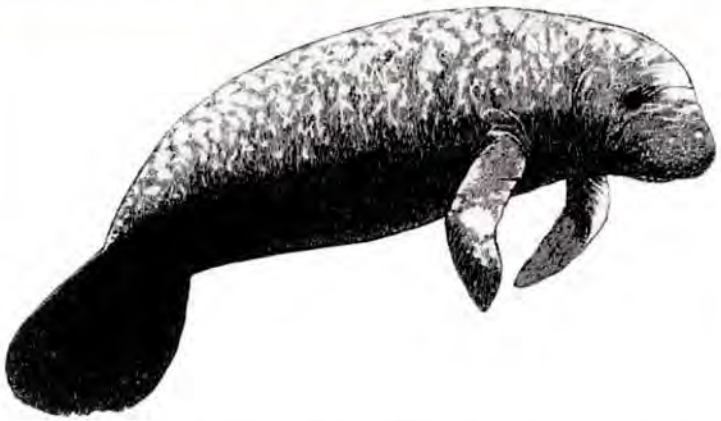
Informe cualquier accidente con un manatí.
Report any collision with or injury to a manatee.

Vigilantes DRNA
(787)724-5700

This **temporary** bilingual sign is required as part of the standard manatee construction conditions and is intended to be placed near dredge, tugboat and work boat operators. Minimum size should be at least 8½" inches tall by 11" inches wide, and besides the above recommendation, the sign may be in laminated paper. This sign shall be installed or distributed prior to the initiation of construction. Temporary signs will be removed by the permit holder upon completion of construction.

To obtain a ready to print copy of this sign, please contact the USFWS Caribbean Ecological Services Field Office at 787-851-7297 ext. 220 or by email at jan_zegarra@fws.gov

PRECAUCIÓN
Manatíes en el Área
Caution: Watch for Manatees



VELOCIDAD MÁXIMA 5MPH
IDLE SPEED/NO WAKE

Informe cualquier accidente con un manatí.

Vigilantes DRNA

(787) 724-5700

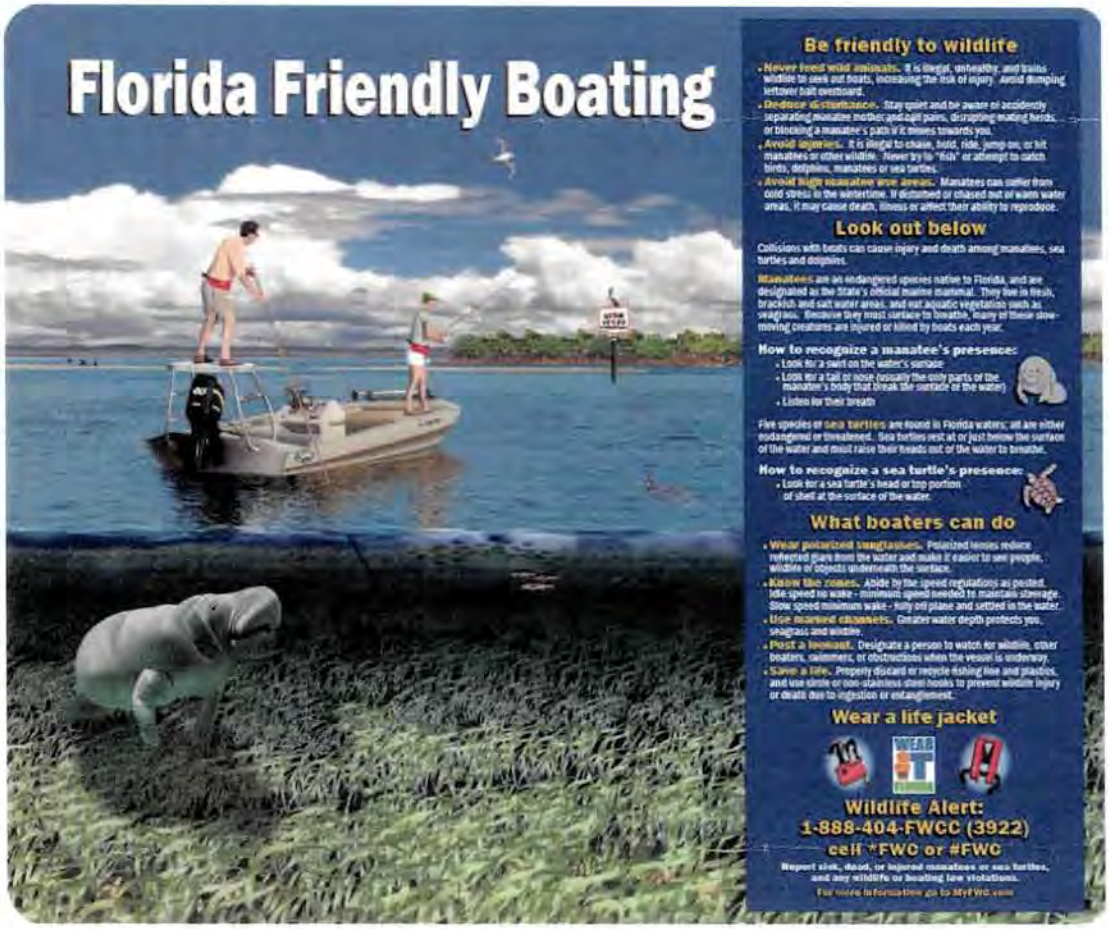
Report collisions, sick, dead or injured manatees.

This **permanent** bilingual sign is required as part of the standard manatee construction conditions and is intended to be placed within docking and launching facilities. Minimum size should be at least 30" inches tall by 24" inches wide with rounded corners. This sign shall be installed prior, during or after project construction. This permanent sign may not be required for coastal projects that **do not** have docking and/or launching facilities.

To obtain a ready to print copy of this sign, please contact the USFWS Caribbean Ecological Services Field Office at 787-851-7297 ext. 220 or by email at jan_zegarra@fws.gov

10. A permanent bilingual manatee educational sign should be installed and maintained prior to mooring occupancy at a prominent location to increase the awareness of boaters using the facility of boats to these animals. The numbers of educational signs that may be installed will depend on the docking facility design. One manatee educational sign is recommended at each boat ramp or travel lift (if applicable). Manatee educational signs remain the responsibility of the owner(s) and the Service recommends the signs be maintained for the life of the docking facility in a manner acceptable to the Corps of Engineers.

EXAMPLE MANATEE EDUCATIONAL SIGN



This **permanent** educational sign should have a minimum size of at least 30" inches tall by 36" inches wide with rounded corners.

11. A notarized verification letter stating that permanent signs have been installed at designated locations shall be forwarded to the Corps of Engineers, Antilles Regulatory Section, as soon as they are installed. Signs and pilings remain the responsibility of the owner(s) and are to be maintained for the life of the docking and launching facility in a manner acceptable to the Corps of Engineers.

12. Signs other than depicted above may be considered, but should be approved by USFWS. Signs shall have at least the following minimal recommend information:

    a. Temporary bilingual signs:

PRECAUCIÓN
MANATÍES EN EL ÁREA
Mantenga velocidad de 5 mph dentro del área de construcción
Informe cualquier incidente con un manatí
Vigilantes DRNA 787-724-5700

CAUTION
MANATEES IN THE AREA
Maintain idle speed/no wake (5 mph) within construction site
Report any collisions with or injury to a manatee

    b. Permanent bilingual signs:

PRECAUCIÓN
MANATÍES EN EL ÁREA
Velocidad máxima 5 mph
Informe cualquier incidente con un manatí
Vigilantes DRNA 787-724-5700

CAUTION
MANATEES IN THE AREA
Idle speed/No wake (5 mph) zone
Report collisions, sick, dead or injured manatees

    c. Permanent bilingual educational sign and some of the of the recommended information it should include:

GUÍA PARA LA PROTECCIÓN Y CONSERVACIÓN DEL MANATÍ
(*MANATEE PROTECTION AND CONSERVATION GUIDELINES*)

1. Utilice gafas polarizadas mientras navega. Éstas ayudan a detectar mejor al manatí, las áreas llanas y cualquier obstáculo en el mar. (*Use polarized sunglasses while navigating. These help to detect any manatee, shallow waters and any other obstacle in the wáter.*)

2. Si usted ve un manatí en la trayectoria de su embarcación, reduzca la velocidad a 5 mph y conduzca la embarcación fuera del paso del manatí o espere a que el manatí salga del área poniendo su embarcación en neutro. (*If you see a manatee within the*

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

REPLY TO
ATTENTION OF

APR 2 2 2014

Planning Division
Environmental Branch

Mr. David Bernhart
National Marine Fisheries Service
Protected Resources Division
263 13th Avenue South
St. Petersburg, Florida 33701-5505

Dear Mr. Bernhart:

I am initiating consultation under the Endangered Species Act for the San Juan Harbor Mitigation Project in San Juan, Puerto Rico. This project involves the filling of 4 acres (including side slopes) of dredged holes in the Condado Lagoon with 46,000 cubic yards of dredged material to create 1.2 acres of habitat to an elevation of -12 feet to -15 feet for submerged aquatic vegetation. The dredged material would come from two shoaled areas in the La Esperanza Ecosystem Restoration Project and/or the San Antonio Channel of San Juan Harbor (see enclosed maps, drawings, and description).

The mitigation site, borrow sites, possible pipeline routes, and transit areas are within the habitat range of sea turtles and listed or proposed coral species (including designated Critical Habitat for *Acropora* coral). The mitigation site consists of dredged holes in Condado Lagoon. The borrow sites are either recently shoaled areas subject to invasion by Australian pine (La Esperanza) or an existing navigation channel in San Juan Harbor (San Antonio Channel). The pipeline impacts would be limited to a narrow corridor. Transit of the areas by dredges or associated vessels would have little impact on the bottom.

While sea turtles would be uncommon in the affected area, the Green Sea Turtle commonly feeds on sea grass and the proposed mitigation may benefit the species. We will follow the sea turtle and smalltooth sawfish construction conditions. We will survey any pipeline corridors in Condado Lagoon, San Juan Harbor, and the channel that connects the two for presence of coral. If listed or proposed species cannot be avoided (e.g., by re-routing or bridging over), we will re-initiate consultation.

We conclude that the proposed action may affect but is not likely to adversely affect Green Sea Turtles and may affect coral (listed or proposed). The proposed action would not destroy or adversely modify designated Critical Habitat for *Acropora* coral. No other listed species under your purview would be affected. If you have any questions, please contact Kenneth Dugger at 904-232-1686 (kenneth.r.dugger@usace.army.mil).

The point of contact in Puerto Rico is Johann Sasso at 787-729-6893 (johann.m.sasso@usace.army.mil). Additional information on this project is available on our Environmental Documents web page <http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalDocuments.aspx#Puerto_Rico>.

Sincerely,

Kenneth R Dugger

for Eric P. Summa
Chief, Environmental Branch

Enclosures

Copy Furnish:
Dr. Lisamarie Carrubba, National Marine Fisheries Service, Boqueron Field Office, P.O. Box 3323, Lajas, Puerto Rico 00667-3323

Part 3: Notice of Availability of the draft FONSI/EA and resulting correspondence.

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

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

May 23, 2014

TO WHOM IT MAY CONCERN:

I refer to the proposed mitigation for the San Juan Harbor Navigation Project in San Juan, Puerto Rico. Mitigation is required as a result of widening the Puerto Nuevo Channel, which impacted an estimated 1.2 acres of sea grass (*Halophila decipiens*) and marine macro-algae. The mitigation originally proposed in the San Juan Harbor Mitigation Baseline Survey and Conceptual Design of July 11, 2003, involved raising the bottom elevation of a portion of San Juan Harbor to support sea grass. This mitigation plan presents engineering concerns over the confinement of the material used for raising the elevation. Extensive and costly structures would be needed to contain the material and prevent migration of material into the navigation channel.

The new mitigation proposal would involve filling of approximately 4 acres (including side slopes) of dredged holes in the nearby Condado Lagoon to create 1.2 acres of habitat for submerged aquatic vegetation (to approximately -12 feet to -15 feet below the surface with approximately 46,000 cubic yards of suitable material). The fill material would come from the shoaled areas of the La Esperanza Ecosystem Restoration project located along the southern shore of San Juan Bay. An alternative borrow source would be the San Antonio channel in San Juan Harbor. In La Esperanza, one borrow source would be the north-facing opening into San Juan Bay. The east-facing opening could also provide some material if needed. See enclosed maps and drawings for additional details.

Pursuant to the National Environmental Policy Act and U.S. Army Corps of Engineers Regulation (ER 200-2-2), this letter constitutes the Notice of Availability of the enclosed Draft Finding of No Significant Impact. This letter (along with its enclosures and referenced documents) also follows the public notice requirement of Section 404(a) of the Clean Water Act. Evaluation of the impact of the proposed action on the public interest includes application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, pursuant to Section 404(b) of the Clean Water Act (40 CFR part 230). Any person may request, in writing, within the comment period specified herein, that a public hearing be held to consider the proposed action (which involves the placement of dredged or fill material into wetlands or other waters of the United States). Requests for a public hearing shall state, with particularity, the reasons for holding a public hearing.

The comment period ends 30 days from the date of this notice. Questions and comments concerning this letter should be directed to Kenneth Dugger, Environmental Branch, at the letterhead address, 904-232-1686, or fax 904-232-3442. A copy of the Environmental Assessment, high resolution drawings, and other information is available on our Environmental Documents web page <http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalDocuments.aspx>.

Sincerely,

/signed/

Eric P. Summa
Chief, Environmental Branch

Enclosures

Enclose Plan Views (high resolution):

-San Juan Harbor Navigation Project
-Mitigation Site in Condado Lagoon
-Borrow Site, La Esperanza, North Opening
-Borrow Site, La Esperanza, East Opening
-San Antonio Channel Borrow Site
.
Enclose draft/unsigned FONSI

Honorable Alejandro Garcia Padilla
Governor of Puerto Rico
P.O. Box 9020082
San Juan, Puerto Rico 00902-0082

Honorable Carmen Yulin Cruz
Mayor of San Juan
P.O. Box 70179
San Juan, Puerto Rico 00936-8179

Honorable Pedro Pierluisi,
Resident Commissioner of Puerto Rico
Ave. de la Constitucion,
Ant. Edif. Medicina Tropical, 2ndo Piso, Puerta de Tierra
San Juan, Puerto Rico 00901

Honorable Victor Suarez
Executive Director
Puerto Rico Ports Authority
P.O. Box 362829
San Juan, Puerto Rico 00936-2628

Ms. Milagros Rodriguez Castro
Environmental Manager Puerto Rico Ports
Authority P.O. Box 362829
San Juan, Puerto Rico 00936-2628

Honorable Carmen R. Guerrero, Secretary
Department of Natural & Environmental Resources
P.O. Box 366147
San Juan, Puerto Rico 00936

Honorable Luis Garcia Pelatti, President
Puerto Rico Planning Board
P.O. Box41119, Minillas Station
San Juan, Puerto Rico 00940-1119

Honorable Laura M. Velez Velez, President
Environmental Quality Board
P.O. Box 11488
San Juan, Puerto Rico 00910

Ms. Rose Ortiz
Coastal Zone Management Consistency Office
Puerto Rico Planning Board
P.O. Box41119, Minillas Station
San Juan, Puerto Rico 00940

Ms. Wilmarie Rivera
Federal Facilities Coordinator
Environmental Quality Board
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San Juan, Puerto Rico 00910

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Puerto Rico Department of Agriculture
P.O. Box 10163
Santurce, Puerto Rico 00908

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Puerto Rico Aqueduct and Sewer Authority
P.O. Box 7066
San Juan, Puerto Rico 00916-7066

Eng. Miguel Torres, Secretary
Puerto Rico Highway Transportation Authority
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San Juan, Puerto Rico 00940-2007

Esq. Grace M. Santana, Infrastructure Financing
Ave. De Diego,
Centro Gubernamental Roberto Sanchez Vilella
Torre Norte Piso 8,
Santurce, Puerto Rico 00940

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Executive Director
Puerto Rico Land Administration
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Hato Rey, Puerto Rico 00918-0903

Dr. Javier Laureano
Executive Director
San Juan Bay Estuary Program
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San Juan, Puerto Rico 00908-9509

Agro. Salvador Ramirez, Executive Director
Puerto Rico Land Authority
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Santurce, Puerto Rico 00908

Eng. Sonia Miranda Vega, Executive Director
Puerto Rico Electric Power Authority
P.0. Box 364267
San Juan, Puerto Rico 00936-4267

Arq. Berenice Sueiro, Acting Director
State Historic Preservation Office
P.O. Box 9023935
San Juan, Puerto Rico 00902-3935

Ms. Mercedes Gomez Marrero, Executive Director
Institute of Puerto Rican Culture
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San Juan, Puerto Rico 00902-4184

Esq. Agustin Carbo Lugo, President
Puerto Rico Solid Waste Management Authority
P.O. Box 40285
San Juan, Puerto Rico 00940-0285

Esq. Javier D. Ferrer, President
Government Development Bank of Puerto Rico
P.O. Box 42001,
San Juan, Puerto Rico 00940-2001

Esq. Juan Eugenio Hernandez Mayoral
Executive Director
Puerto Rico Federal Affairs Administration
1100 17th St. NW, Suite 800
Washington, DC 20036

Water Quality Area
Puerto Rico Environmental Quality Board
P.O. Box 11488
San Juan, Puerto Rico 00910

Honorable David Bernier
Secretary of State
Puerto Rico Department of State
P.O. Box 9023271
San Juan, Puerto Rico 00902-3271

Eng. Miguel Torres, Secretary
Puerto Rico Department of Transportation and
Public Works
P.O. Box 42007
San Juan, Puerto Rico 00940

Arq. Alberto Lastra Power, Director
Permits Management Office
P.O. Box41179
San Juan, PR 00940-1179

Mr. Miles Croom, Assistant Regional Administrator
Habitat Conservation Division
National Marine Fisheries Service
263 13th Avenue South
St. Petersburg, Florida 33701

U.S. Coast Guard
Sector San Juan
#5 Calle La Puntilla Final
San Juan, PR 00901-1800

U.S. Geological Survey
Caribbean Water Science Center
651 Federal Drive, Suite 400-15
Guaynabo, Puerto Rico 00965

Mr. Miguel A. Rios Torres, Executive Director
Puerto Rico Emergency Management Agency
P.O. Box 194140
San Juan, Puerto Rico 00919-4140

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San Juan, Puerto Rico 00936-2350

Ms. Ingrid Rivera Rocafort
Executive Director
Puerto Rico Tourism Company
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San Juan, Puerto Rico 00902-3960

Esq. Alberto Baco Bague, Secretary
Puerto Rico Department of Economic Development
P.O. Box 362350
San Juan, Puerto Rico 00936-2350

Mr. Ramon Orta, Secretary
Puerto Rico Department of Sports and Recreation
760 Calle Los Angeles
San Juan, Puerto Rico 00909

Dr. Lisamarie Carrubba
NOAA Fisheries
Caribbean Field Office
P.O. Box 1310
Boqueron, PR 00622

Mr. Jose Rivera,
Habitat Conservation Division
National Marine Fisheries Service
400 Fernandez Juncos
San Juan, Puerto Rico 00901-3299

Mr. Edwin Almodovar, State Director
Natural Resources Conservation Service
Caribbean Area State Office
P.O. Box 364868
San Juan, Puerto Rico 00936-4868

Mr. Mark Reiss
Division of Environmental Planning and Protection
U.S. Environmental Protection Agency, Region II
290 Broadway, 24th Floor
New York, New York 10007-1866

Eng. Carl Soderberg, Director
Environmental Protection Agency
Centro Europa Building, Suite 417
1492 Ponce de Leon Avenue, Stop 22
Santurce, Puerto Rico 00909

Caribbean Fishery Management Council
270 Luis Munoz Rivera Ave., 4th Floor, Suite 401
San Juan, Puerto Rico 00918

Mr. Edwin E. Muniz, Field Supervisor
U.S. Fish and Wildlife Service
Carr. 301, Km. 5.1, Bo. Corozo
Boqueron, Puerto Rico 00662

Mr. Alejandro De La Campa, Director, Caribbean Office
Federal Emergency Management Office
PO Box 70105
San Juan, Puerto Rico 00936-8105

Mr. Johann Sasso
CESAJ-DS-PD
400 Fernandez Juncos Ave.
San Juan, Puerto Rico 00901-3299

Mr. Sindulfo Castillo
CESAJ-DS-RD
U.S. Army Corps of Engineers
400 Fernandez Juncos Ave.
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Eng. Yamil Castillo
CESAJ-DS-CD
U.S. Army Corps of Engineers
400 Fernandez Juncos Ave.
San Juan, Puerto Rico 00901-3299

San Juan Bay Estuary Program
Department of Natural and Environmental Resources
P.O. Box 366147
San Juan, Puerto Rico 00936

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DRAFT FINDING OF NO SIGNIFICANT IMPACT (FONSI)
MITIGATION FOR
SAN JUAN HARBOR NAVIGATION PROJECT
SAN JUAN, PUERTO RICO

I have reviewed the Environmental Assessment (EA) for the proposed action. This finding incorporates by reference all discussions and conclusions contained in the EA enclosed hereto. Based on information analyzed in the EA, reflecting pertinent information obtained from agencies having jurisdiction by law and/or special expertise, I conclude that the proposed action will not significantly impact the quality of the human environment and does not require an Environmental Impact Statement (EIS). Reasons for this conclusion are in summary:

a. The proposed action would provide habitat for sea grass and other submerged vegetation to mitigate for the unavoidable impacts of the expansion of the San Juan Harbor Navigation Project.

b. The proposed action would not jeopardize the continued existence of any listed threatened or endangered species and would not destroy or adversely modify designated critical habitat (*Acropora* coral). No incidental take of any listed species is anticipated.

c. The proposed action is consistent with the Coastal Zone Management program of Puerto Rico (see Appendix B of the EA for the Coastal Zone Consistency Statement) and Section 404(b) of the Clean Water Act (see Appendix A of the EA).

d. The proposed action would not impact any property eligible for inclusion in the National Register of Historic Places.

e. Measures to eliminate, reduce, or avoid potential impacts to environmental and cultural resources include the following: (1) locating the borrow and fill sites outside of established coral reef areas, (2) providing a net gain of habitat for sea grass and other submerged vegetation, (3) avoiding eligible historic resources, (4) following standard manatee protection measures for any water based activity in manatee habitat, (5) following the sea turtle and smalltooth sawfish construction conditions, (6) monitor for and avoid destruction of migratory birds (including eggs, chicks, and active nests) in nesting habitat, (7) survey any pipeline corridor to avoid impacts to coral, (8) monitor and manage turbidity as required and (9) sampling and testing to ensure suitability of borrow material.

f. The contractor is required to obtain a “permit or license for and the location of the solid waste disposal area” and “the Contractor shall comply with Federal, State CommonwealthTerritorial and local regulations pertaining to the use of the solid waste disposal site.” In addition, “the Contractor shall comply with all applicable Federal, StateCommonwealthTerritorial, or local laws and regulations”. This may include, but is not limited to, applicable requirements for an approved solid waste management plan in Puerto Rico.

The point of contact for this finding is Kenneth Dugger at 904 232-1686 (kenneth.r.dugger@usace.army.mil).

A scoping letter was coordinated with the public and agencies on January 22, 2013. Comments received from the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, and the Solid Waste Management Authority of Puerto Rico (Autoridad de Desperdicios Sólidos) have been addressed in the EA.

The draft FONSI was coordinated with the public and agencies on May 23, 2014, with a 30-day comment period pursuant to 40 CFR 1501.4(e) and 1508.13. Comments from coordination of the draft FONSI have been addressed.

[un-signed draft]

_____ _____

Alan M. Dodd Date
Colonel, U.S. Army
District Engineer

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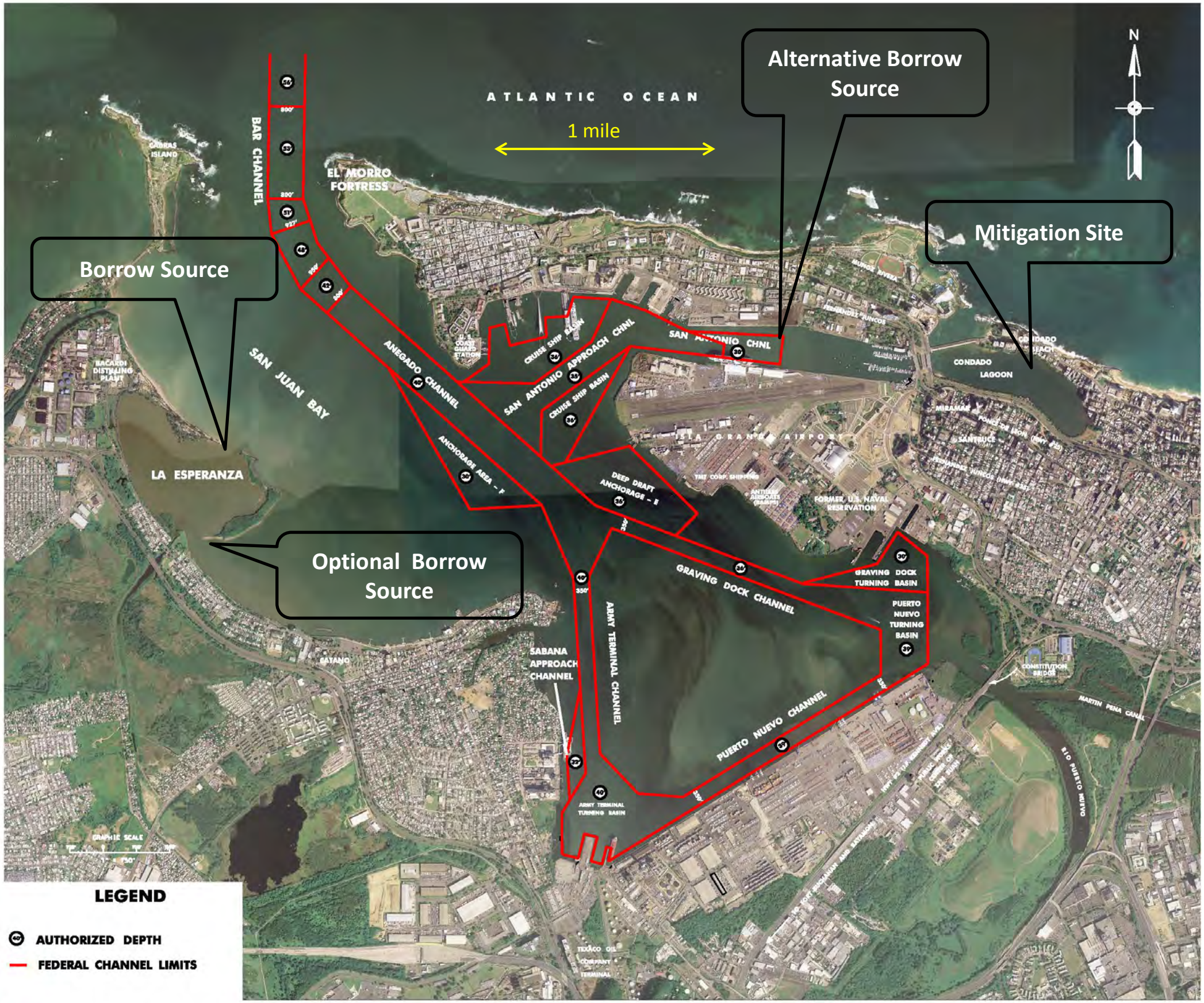
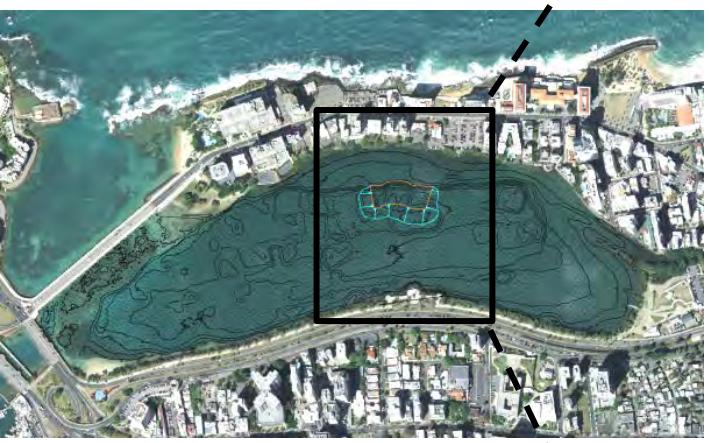
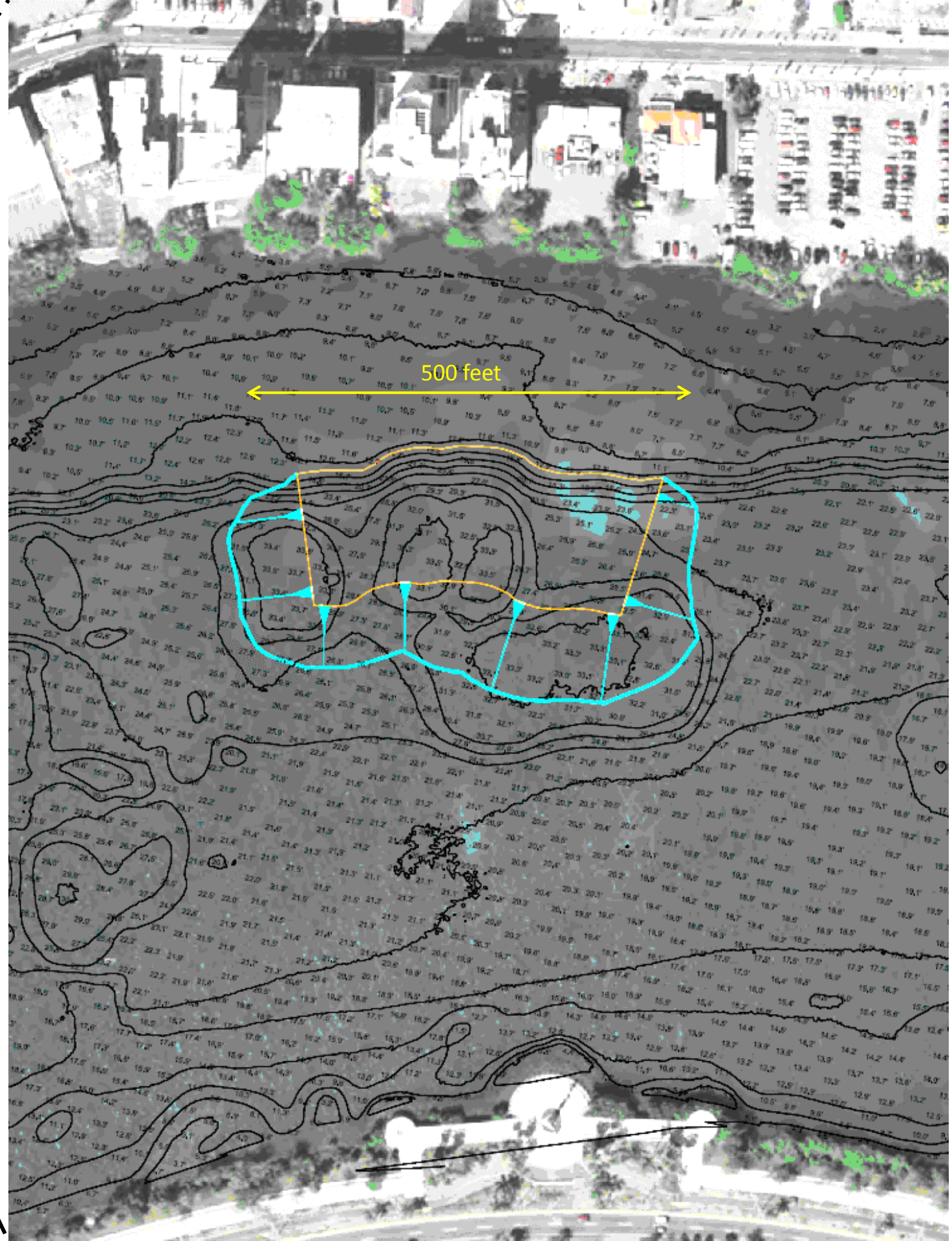


US Army Corps of Engineers
Jacksonville District

SAN JUAN HARBOR NAVIGATION PROJECT

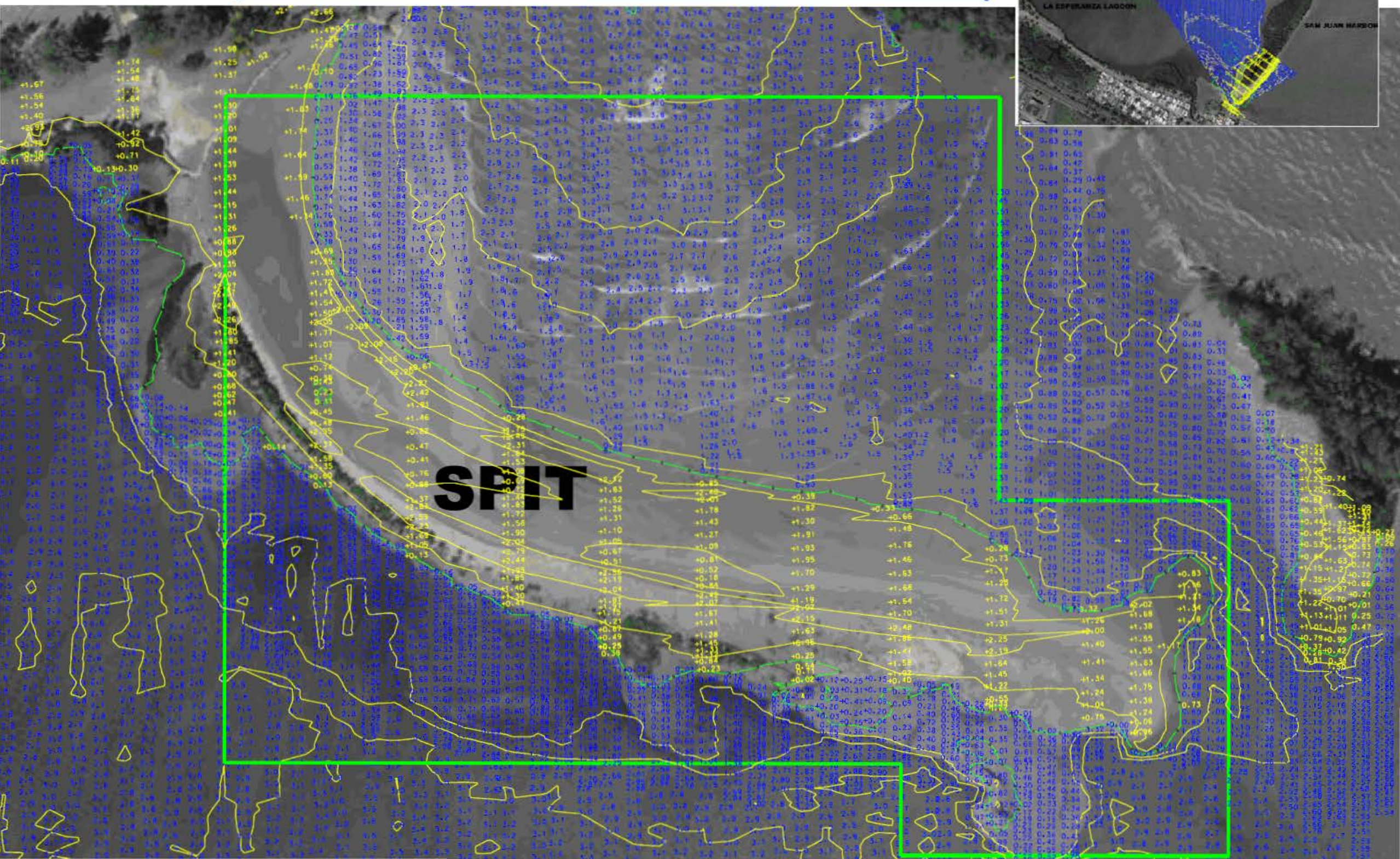
Mitigation Site for
San Juan Harbor
in Condado Lagoon

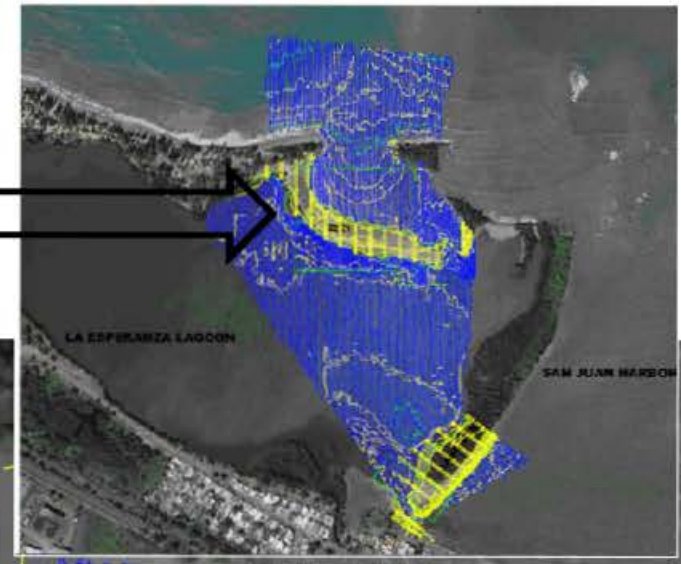




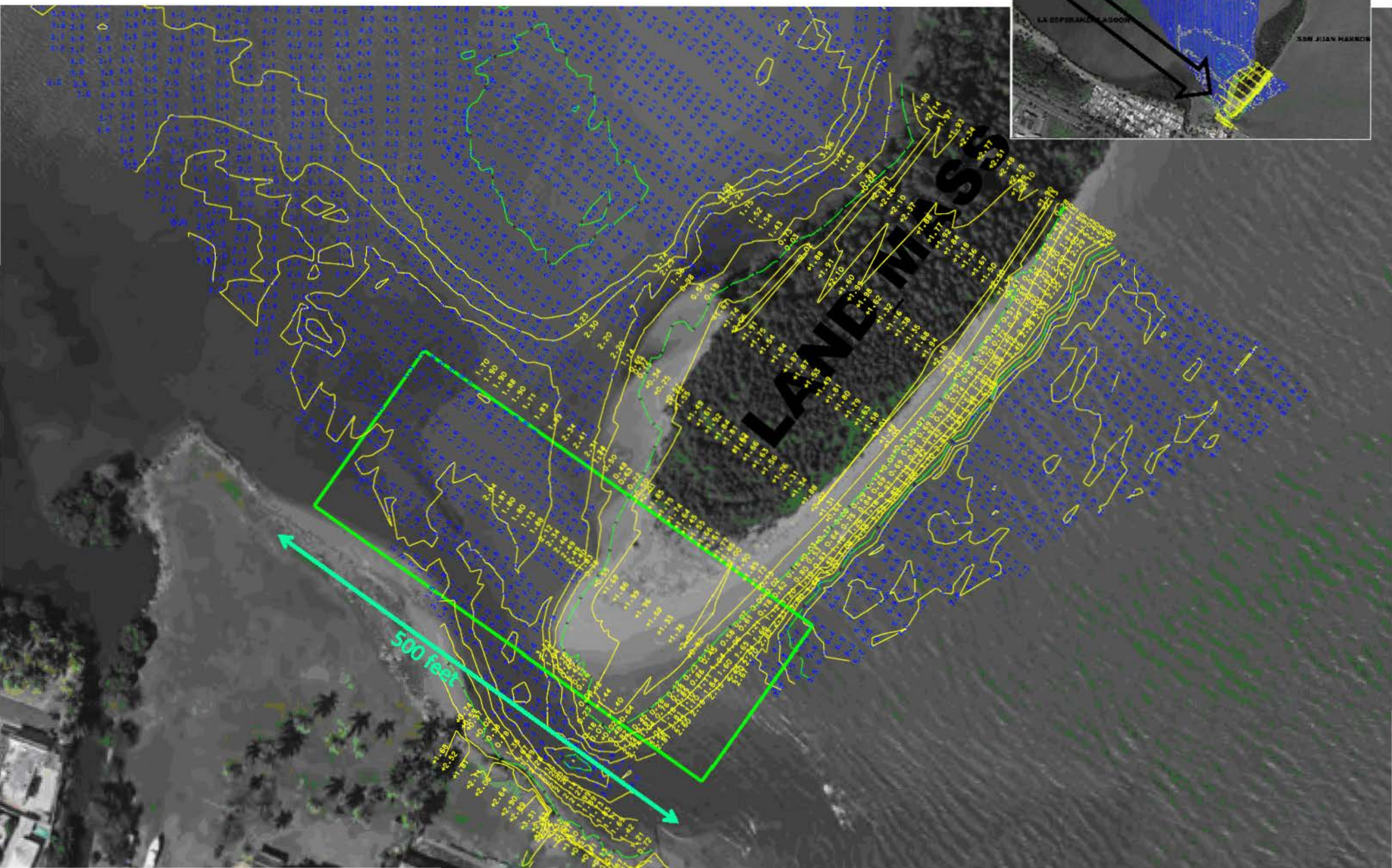
Borrow Site, La Esperanza, North Opening

800 feet

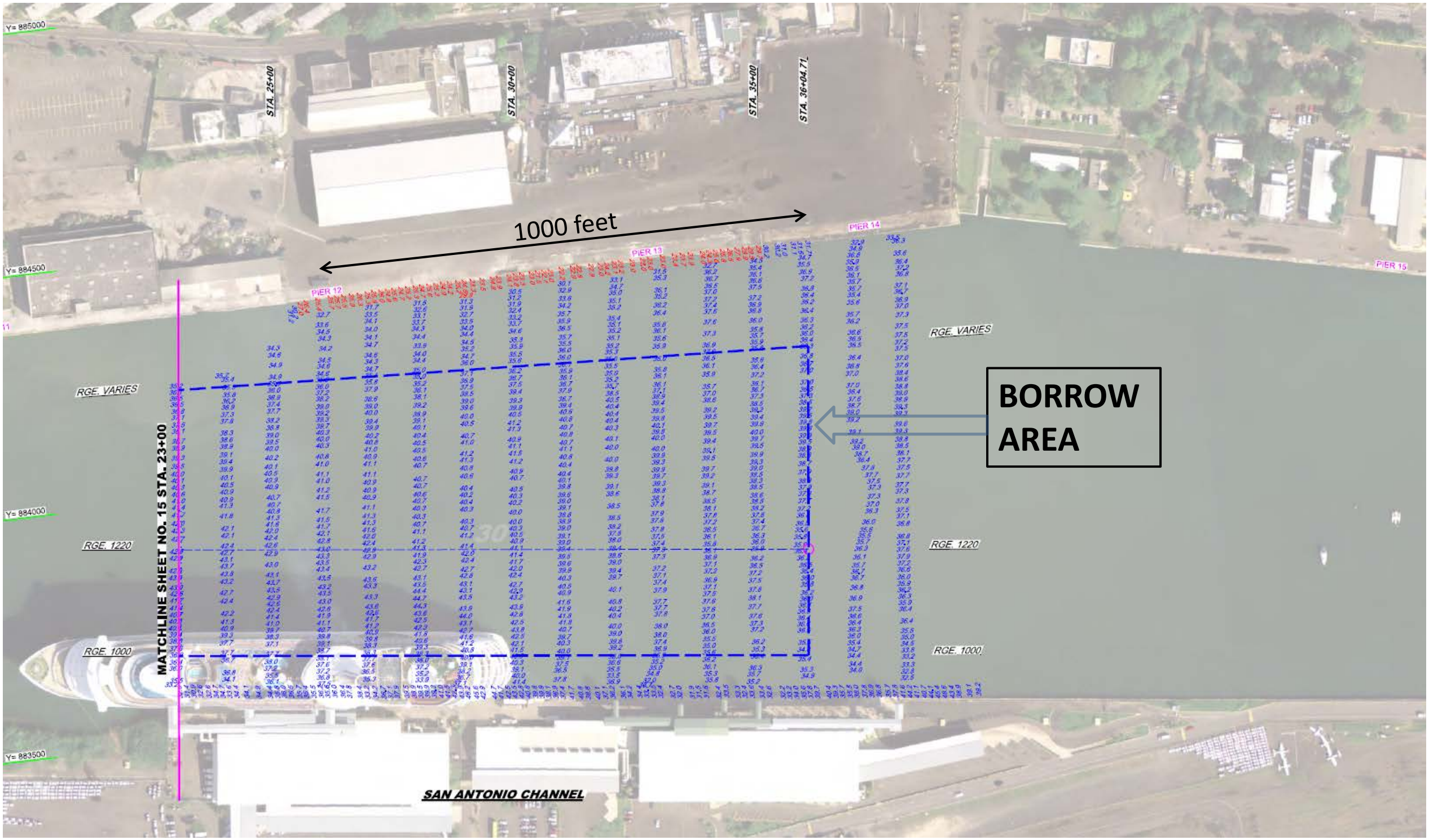




Borrow Site, La Esperanza, East Opening

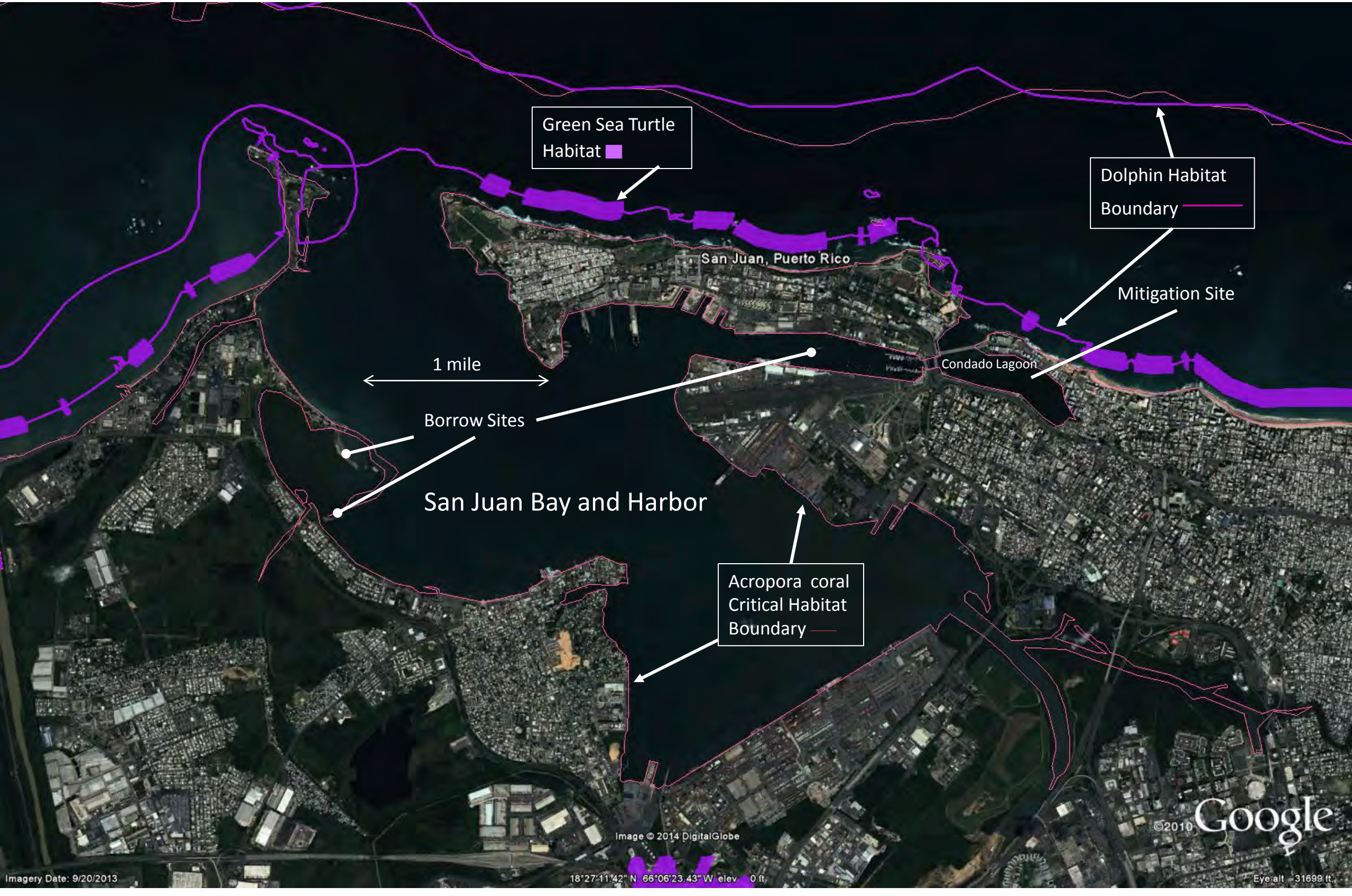


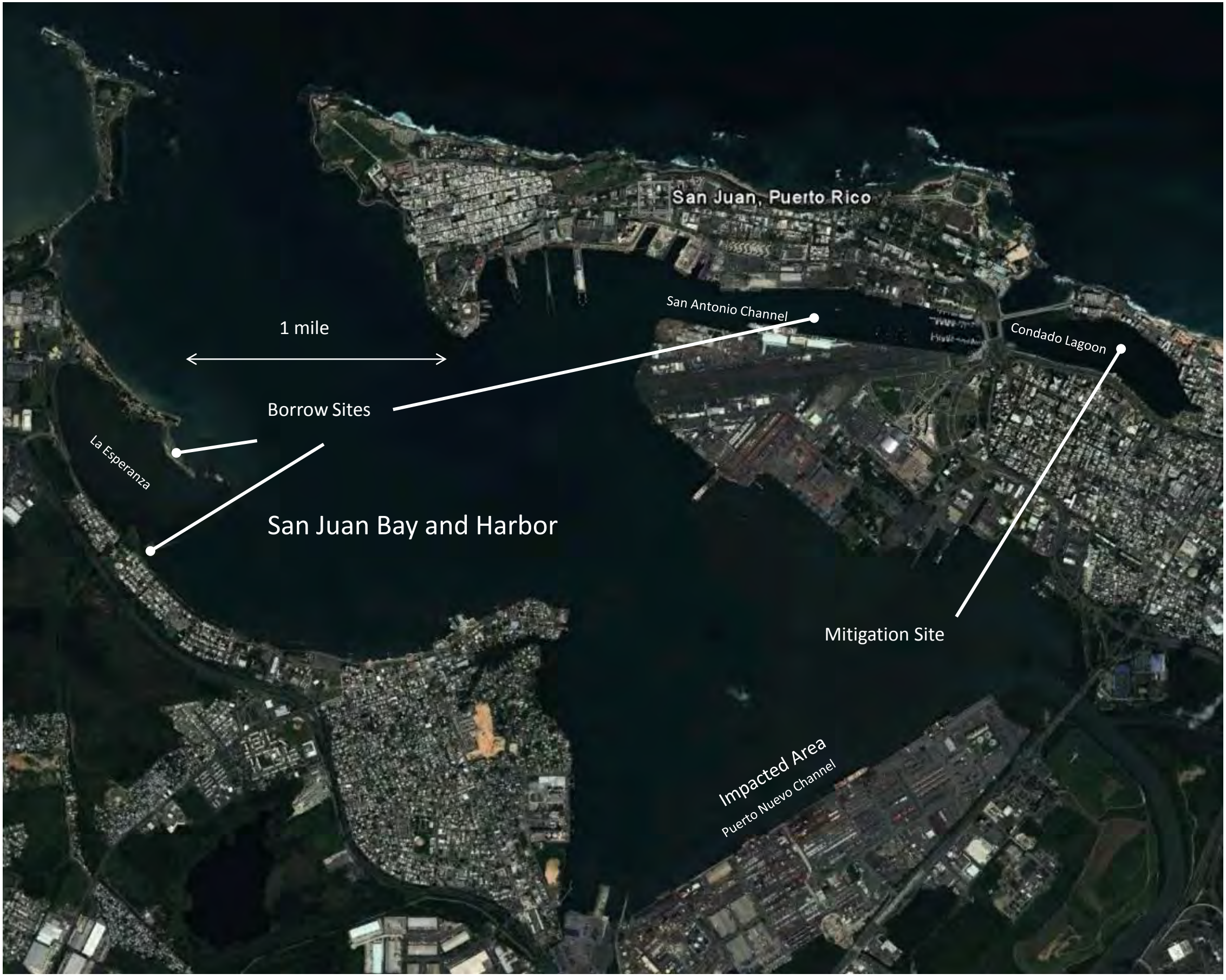
Borrow Site, San Antonio Channel



Resources: Sea Turtles, Marine Mammals, and Acropora Coral

(from Resources at Risk (RAR), Google Earth Application)




San Juan, Puerto Rico
1 mile
San Antonio Channel
Condado Lagoon
Borrow Sites
La Esperanza
San Juan Bay and Harbor
Mitigation Site
Impacted Area
Puerto Nuevo Channel

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

APR 2 2 2014

Diana López Sotomayor, Archaeologist
State Historic Preservation Officer
P.O. Box 9023935
San Juan, Puerto Rico 00902-3935

Dear Arq. López Sotomayor:

I am writing in reference to our proposed project of Compensatory Mitigation, Condado Lagoon, San Juan, Puerto Rico (SHPO 02-21-13-03). Mitigation is required as a result of widening the Puerto Nuevo Channel in San Juan Harbor, which impacted an estimated 1.2 acres of sea grass. The proposed mitigation would involve filling of approximately 4 acres (including side slopes) of certain dredged holes in the Condado Lagoon with approximately 46,000 cubic yards of suitable material to a depth of -12 feet to -15 feet resulting in 1.2 acres at an elevation suitable for sea grass. The fill material would come from the recently shoaled areas of the La Esperanza Ecosystem Restoration project located along the western shore of San Juan Bay. In La Esperanza, one borrow source would be the north-facing opening into San Juan Bay. The east-facing opening could also provide some material if needed. Both of these areas have experienced substantial shoaling since the completion of the La Esperanza Ecosystem Restoration Project on May 20, 2005. Removal of the shoals would enhance the function of the Ecosystem Restoration Project, and restoration of sea grass beds in Condado Lagoon would support a goal of the San Juan Bay Estuary Program's Comprehensive Conservation and Management Plan. Some minimal amount of clearing and grubbing will likely be required on La Esperanza, with the proper disposal of the associated vegetative materials in a permitted or licensed location.

If there is not sufficient material to in the La Esperanza shoals, an alternative borrow source would be the San Antonio channel in the San Juan Harbor Federal Navigation Channel. Enclosure 1 shows the location of the borrow source, the optional borrow source, the alternative borrow source the mitigation site. Enclosures 2 and 3 show the La Esperanza North and East opening borrow areas in detail, and Enclosure 4 shows the progression of the shoaling since the restoration project was completed.

In your previous letter dated March 27, 2013, responding to our Scoping Letter, you asked us to review information on earlier modifications to the Condado Lagoon to determine whether the mitigation project will affect previously undisturbed areas within the lagoon. An image from the Condado Lagoon Bathymetric Survey (Enclosure 5) clearly shows deep rectangular shaped dredged holes that will be filled, as shown in Enclosure 6.

An additional source of information is the U.S. Geological Survey, Water Resources Division document titled History of Dredging and Filling of Lagoons in the San Juan Area, Puerto Rico (Ellis 1976). A copy of this document is on file in our Jacksonville Office. Figure 19 from the document is included here as Enclosure 7, showing our placement area within the dredged area of Condado Lagoon.

It is unlikely that a contractor will bury the pipeline from La Esperanza and below the Federal Channel for such a long distance. We anticipate that the contractor will barge material from La Esperanza to a pumpout location on the east end of the San Antonio Channel. That leaves the anticipated pipeline route as only the distance between a pumpout location, under the Dos Hermanos Bridge and across the Condado Lagoon to the placement location.

Based on the information provided, the Corps has determined that the proposed mitigation will not affect historic properties eligible for inclusion on the National Register of Historic Places. We seek your concurrence with this determination. If you have questions or require additional information, please contact archeologist David McCullough by email at david.l.mccullough@usace.army.mil or by phone at 904-232-3685.

Sincerely,

Eric P. Summa
Chief, Environmental Branch

Enclosure

APPENDIX D – MITIGATION PLAN

1.00 Monitoring.

The construction contract will be subject to survey of final elevations at the end of construction.

2.00 Criteria for Ecological Success.

The primary criteria for success is the creation of 1.2 acres at elevation -12 feet to -15 feet as habitat suitable for Submerged Aquatic Vegetation (SAV). The natural recruitment and establishment of SAV is anticipated. The amount and nature of recruitment will depend, in part, on water quality at the time (turbidity and nutrient load).

3.00 Lands and Interests.

Mitigation would occur on 4 acres of publicly owned submerged lands.

4.00 Description of Mitigation.

4.01 Types and Amount.

1.2 acres of In-kind mitigation in the near-by and hydrologically connected Condado Lagoon.

4.02 Physical Action Undertaken.

Approximately 4 acres of dredged holes in the Condado Lagoon would be filled with about 46,000 cubic yards of material to create 1.2 acres at elevation -12 feet to -15 feet.

4.03 Resulting Functions and Values.

Once the specified elevation is achieved, recruitment of SAV is expected.

5.00 Contingency Plan.

The construction contractor will be required to correct deficiencies in finished product (final elevation with suitable material).

6.00 Entity Responsible for Monitoring.

The Corps will require a survey of the finished product to ensure proper elevation with suitable material.

7.00 Annual Monitoring and Consultation with Federal and State/Commonwealth Agencies.

7.01 Monitoring Frequency and Schedule.

Once constructed, the mitigation effort will be surveyed for proper finished elevation with suitable material. This information will be coordinated with appropriate Federal and state/commonwealth agencies.

7.02 List of Federal and State/Commonwealth Agencies to be Consulted.

The fish and wildlife resource agencies listed below will be consulted for their views on the success of the mitigation, the likelihood of achieving the mitigation goal, the projected timeline for success, and any recommendations for improving the likelihood of success.

Appropriate Federal and state/commonwealth agencies:

1. US Fish and Wildlife Service Boqueron, Puerto Rico Field Office.
2. NOAA Fisheries, Southeast Regional Office.
3. Puerto Rico Department of Natural and Environmental Resources.

7.03 Public Involvement.

The mitigation plan as part of this EA is available to the public through posting on the Environmental Documents Web <http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalDocuments.aspx>

8.00 Use of Mitigation Bank.

There are no mitigation banks for SAV in Puerto Rico.

9.00 Unsuccessful or Unimplemented Mitigation. Once constructed at the specified elevation with suitable material, the probability of success is good.