

APPENDIX A – CLEAN WATER ACT 404(b)1

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Final Evaluation of 404(b)(1) Guidelines

San Juan Harbor, Puerto Rico
Seagrass Mitigation,
Additional Sand Source Project

October 2021

1. Technical Evaluation Factors

a. Physical and Chemical Characteristics of the Aquatic Ecosystem (230.20-230.25)(Subpart C)

	N/A	Not Significant	Significant
(1) Substrate impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(2) Suspended particulates/turbidity impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Water Quality Control	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(4) Alteration of current patterns and water circulation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5) Alteration of normal water fluctuations/hydroperiod	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6) Alteration of salinity gradients	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The proposed project includes the use of a borrow area, adjacent/west of Cut-6 to obtain the additional sand/dredged material required to create approximately 18 acres (ac) of seagrass habitat through filling artificial depressions in Condado Lagoon. The remainder of the material would be obtained as approved in the San Juan Harbor Navigation Improvements (SJHNI) Project (2018). This approximately 15-ac borrow area adjacent (west) of Cut-6 would match slopes and depths of the entrance channel's transition into the Anegado Channel. Potential methods to obtain the sand include a hydraulic cutterhead dredge, hopper dredge, or mechanical excavator.

Placement of dredged material in Condado Lagoon is expected to begin in the southeast portion of the Condado Lagoon and transition to the northwest. However, attempts would be made to fill as many of deeper dredged holes as possible. Placement operations would fill to a target depth of -13, thereby meeting the desired -12 to -15 depths. Thus, potentially creating up to 18 ac of seagrass habitat. Furthermore, a silt curtain/turbidity screen would be used to confine suspended sediments and reduce turbidity levels during material placement operations. Another method may include fluctuating placement rates to allow time for suspended sediments to settle.

b. Biological Characteristics of the Aquatic Ecosystem (230.30-230.32) (Subpart D)

	N/A	Not Significant	Significant
(1) Effect on threatened/endangered species and their habitat	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(2) Effect on the aquatic food web	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Effect on other wildlife (mammals, birds, reptiles, and amphibians)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The proposed action would have less than or similar effects to Endangered Species Act (ESA) listed species as determined under the San Juan Harbor Navigation Improvements Study Integrated Feasibility Report & Environmental Assessment (2018 IFR/EA) which concluded the SJHNI Project would not result in significant adverse impacts to ESA listed species in the study area. The National Marine Fisheries Service (NMFS), in their 2018 Biological Opinion (BO), concurred with the U.S. Army Corps of Engineers (USACE) determination that the proposed project, “may affect, but is not likely to adversely affect” scalloped hammerhead shark, Nassau grouper, giant manta ray, leatherback sea turtles, Antillean manatee, sperm, sei, blue, or fin whales, elkhorn, staghorn, pillar, rough cactus, lobed star, mountainous star or boulder star corals, and would not adversely modify designated critical habitat for Acroporid corals. The U.S. Fish and Wildlife Service (USFWS) concurred with the USACE may affect, not likely to adversely affect determination for the Antillean manatee via informal consultation letter dated June 21, 2018. Additionally, in July 2021 USACE contacted the USFWS and NMFS regarding the proposed project modifications concerning the proposed action. Based on agency discussions and the mutual understanding that the proposed action would not result in any major modifications, the agencies tentatively indicated that coordination and determinations from 2018 would likely be applicable to the currently proposed project. Consultation with NMFS and USFWS will be completed prior to finalization of the proposed projects Supplemental Environmental Assessment (SEA).

c. Special Aquatic Site (230.40-230.45) (Subpart E)

	N/A	Not Significant	Significant
(1) Sanctuaries and refuges	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Wetlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) Mud flats	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) Vegetated shallows	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(5) Coral reefs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(6) Riffle and pool complexes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In conjunction with known submerged aquatic vegetation (SAV) and coral reef locations identified in 2018, benthic surveys were conducted in 2021 within the area of potential effect. A draft benthic survey (2021) was provided to USACE identifying hardbottom habitat and seagrass locations. No rocky corals are located in the proposed dredge area west of Cut-6; however, non-ESA listed rocky corals were found within 1,000 meters. Effects would be minor related to the temporary increases in suspended solids

associated to dredging operations. Seagrass areas within Condado Lagoon, located along the edge of the fill placement area, could be blanketed with dredge material. However, impacts would be minor and temporary because reestablishment is expected from existing root systems or recolonization from the abundance of seagrass in Condado Lagoon. Furthermore, any suspended sediment effects are considered minor and temporary because the proposed action would not exceed Puerto Rico Department of Natural and Environmental Resources water quality certification (WQC) standards (i.e., 10 nephelometric turbidity units (NTU) above background) and through the implementation of countermeasures (silt screens/curtains, reducing discharge flows, etc.) to reduce material movement through resuspension.

d. Human Use Characteristics (230.50-230.54) (Subpart F)

	N/A	Not Significant	Significant
(1) Effects on municipal and private water supplies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Recreational and Commercial fisheries impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Effects on water-related recreation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(4) Aesthetic impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Essential Fish Habitat (EFH) has been identified for the project area and documented in the draft benthic survey (2021). The NMFS was notified, and coordination is ongoing. However, EFH will be avoided to the extent practical. Any adverse effects would be offset by the expected establishment of approximately 18 ac of SAV as a result of filling artificial depressions in Condado Lagoon. Equipment used during dredging and placement operations will be visible during construction, which may be considered unsightly by members of the public. Furthermore, turbidity levels in Condado Lagoon could increase from dredge placement operations. However, levels would not be allowed to exceed 10 NTU above background. Adverse effect to aesthetic values would be temporary during construction. Furthermore, dredge operations may cause minor, temporary restrictions in recreation during operations, such as temporarily interruptions in boat traffic.

2. Evaluation of Dredged or Fill Material (230.60) (Subpart G)

a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. **(Check only those appropriate)**

- (1) Physical characteristics
- (2) Hydrography in relation to known or anticipated sources of contaminants

- (3) Results from previous testing of the material in the vicinity of the project
- (4) Known, significant, sources of persistent pesticides from land runoff or percolation
- (5) Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances
- (6) Other public records of significant introduction of contaminants from industries, municipalities or other sources
- (7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge/fill
- (8) Other sources (specify)

Dredged material is not generally considered as either a "hazardous substance" under the definitions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. 9601(14)) or a "hazardous waste" under the definitions of the Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6921 et seq.). Specific to this project, the USACE incorporated a Hazardous, Toxic, and Radioactive Waste (HTRW) Assessment into the 2018 SJHNI Project Integrated Feasibility Report/Environmental Assessment (Sections 2.4.18 and 5.4.18) and was further assessed in the environmental document associated to this evaluation. Neither of which did identified contaminants of concern within the Harbor or Condado Lagoon. Standard protocols would be implemented to prevent release of contaminants. The proposed project would not violate WQCs or other applicable Clean Water Act (CWA) requirements.

- b. An evaluation of the appropriate information in 2a above indicated that there is reason to believe the proposed dredged or fill material is not a carrier of contaminants, of that levels of contaminants are substantively similar at extraction and disposal sites and not likely to exceed constraints. The material meets the testing exclusion criteria.

YES NO

3. Disposal Site Delineation (Section 230.11(f))

- a. The following factors, as appropriate, have been considered in evaluating the disposal site.

- (1) Depth of water at disposal site
- (2) Current velocity, direction, and variability at disposal site
- (3) Degree of turbulence
- (4) Water volume stratification
- (5) Discharge vessel or fill speed and direction
- (6) Rate of discharge/fill
- (7) Dredged material characteristics (constituents, amount, and type of material, settling velocities)
- (8) Number of discharges/fill per unit of time

(9) Other factors affecting rates and patterns of mixing (specify)

There will be a temporary increase in turbidity levels at the dredge operations and placement areas during construction. These elevated turbidity levels will be temporary and would be allowed to exceed DNER water quality thresholds (i.e., 10 NTU above background). Countermeasures (silt screens/curtains, reducing discharge flows, etc.) would be implemented to reduce material movement through resuspension. No long-term adverse effects to water quality are expected. Applicable CWA requirements, permits, and regulations (Federal, local, or DNER) would be obtained prior to construction.

- b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable.

YES NO

4. Actions to Minimize Adverse Effects (Section 230.70-230.77) (Subpart H)

All appropriate and practicable steps have been taken, through application of recommendation of Section 230.70-230.77 to ensure minimal adverse effects of the proposed discharge/fill.

YES NO

5. Factual Determination (Section 230.11)

A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short or long-term environmental effects of the proposed discharge/fill as related to:

- a. Physical substrate at the disposal site (review sections 2a, 3, 4, & 5)
- b. Water circulation, fluctuation & salinity (review sections 2a, 3, 4, & 5)
- c. Suspended particulates/turbidity (review sections 2a, 3, 4, & 5)
- d. Contaminant availability (review sections 2a, 3, & 4)
- e. Aquatic ecosystem structure and function (review sections 2b, c; 3, & 5)
- f. Disposal site (review sections 2, 4, & 5)
- g. Cumulative impact on the aquatic ecosystem
- h. Secondary impacts on the aquatic ecosystem

6. Review of Compliance (230.10(a)-(d) (Subpart B)

A review of the permit application indicates that:

- a. The discharge/fill represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge/fill must have direct access or proximity to, or be located in the

aquatic ecosystem to fulfill its basic purpose (if no, see section 2 and information gathered for SEA alternative);

YES NO

- b. The activity does not appear to 1) violate applicable state water quality standards or effluent standards prohibited under Section 307 of the CWA; 2) jeopardize the existence of Federally designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies);

YES NO

- c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values (if no, see section 2);

YES NO

- d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge/fill on the aquatic ecosystem (if no, see section 5);

YES NO

7. Findings

- a. The proposed disposal site for discharge of dredged or fill material complies with the Section 404 (b)(1) guidelines
- b. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines with the inclusion of the following conditions:

- c. The proposed disposal site for discharge of dredged or fill material does not comply with the Section 404(b)(1) guidelines for the following reason(s):

- (1) There is a less damaging practicable alternative
- (2) The proposed discharge/fill will result in significant degradation of the aquatic ecosystem
- (3) The proposed discharge/fill does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem