Clean Water Act 404(b)(1) Guidelines Evaluation

Environmental Assessment

Turpentine Run, St. Thomas
United States Virgin Islands (USVI)
Continuing Authorities Program (CAP) Conversion Feasibility Report

US Army Corps of Engineers
JACKSONVILLE DISTRICT

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FINAL EVALUATION OF 404(b)(1) GUIDELINES
JANUARY 2020

1. Technical Evaluation Factors

a. Physical and Chemical Characteristics of the Aquatic Ecosystem (40 CFR §§ 230.20-230.25)(Subpart C)

	N/A	Not Significant	Significant
(1) Substrate impacts	☐	☒	☐
(2) Suspended particulates/turbidity impacts	☐	☒	☐
(3) Water Quality Control	☐	☒	☐
(4) Alteration of current patterns and water circulation	☐	☒	☐
(5) Alteration of normal water fluctuations/hydroperiod	☐	☒	☐
(6) Alteration of salinity gradients	☒	☐	☐

The purpose of the project is to reduce flood damages in the Nadir community in St. Thomas, USVI. The Recommended Plan consists of the following:

- 460-foot long concrete “U” shape channel that transitions to a trapezoidal, earthen channel (1,385 feet long) lined with rip rap;
- Drop structure and 170-foot long sheetpile wall along the developed side of the channel;
- 260-foot levee along the northern edge of Nadir;
- 1,300-foot long levee starting south of the new Bovoni Road Bridge and ending at the Nadir racetrack with rip rap on the left side of the channel as it flows around the corner of the racetrack;
- Interior drainage conveyance from the existing small concrete channel by a 72-inch underground pipe (length of 1,745 feet) which will run under the levee footprint and racetrack and ultimately discharge into Mangrove Lagoon.

b. Biological Characteristics of the Aquatic Ecosystem (40 CFR §§ 230.30-230.32) (Subpart D)

	N/A	Not Significant	Significant
(1) Effect on threatened/endangered species and their habitat	☐	☒	☐
(2) Effect on the aquatic food web	☐	☒	☐
(3) Effect on other wildlife (mammals, birds, reptiles, and amphibians)	☐	☒	☐

The Corps has concluded that the project may affect, but is not likely to adversely affect, the Virgin Island tree boa (*Epicrates monensis granti*). The Corps determined no effects to listed species under National Marine Fisheries Service (NMFS) will occur. No U.S. Fish and Wildlife Service (USFWS) or NMFS designated critical habitat (DCH) is located within the project footprint. Temporary displacement of wildlife during construction due to noise and/or construction activities may occur; however, these effects are expected to be minor and will cease with the completion of construction.

c. Special Aquatic Site (40 CFR §§ 230.40-230.45) (Subpart E)

	N/A	Not Significant	Significant
(1) Sanctuaries and refuges	☒	☐	☐
(2) Wetlands	☐	☒	☐
(3) Mud flats	☒	☐	☐
(4) Vegetated shallows	☒	☐	☐
(5) Coral reefs	☒	☐	☐
(6) Riffle and pool complexes	☒	☐	☐

The project's 2020 Environmental Assessment (EA) evaluates potential effects to wetlands. Debris and vegetation would be removed during the levee construction, channelization, clearing, and grubbing activities. While portions of the Recommended Plan may affect wetlands, the project design minimizes destruction, loss, and/or degradation of wetlands. In addition, the design preserves and enhances the natural and beneficial values of wetlands in adjacent lands. Potential impacts to wetlands have been avoided to the extent practicable and the final design will minimize any additional impact. Further, BMPs during construction will be employed and the Recommended Project will not have more than negligible impacts on ecological resources.

d. Human Use Characteristics (40 CFR §§ 230.50-230.54) (Subpart F)

	N/A	Not Significant	Significant
(1) Effects on municipal and private water supplies	☐	☒	☐
(2) Recreational and Commercial fisheries impacts	☒	☐	☐
(3) Effects on water-related recreation	☒	☐	☐
(4) Aesthetic impacts	☐	☒	☐
(5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves	☐	☒	☐

Full coordination during the PED phase of the project will occur between the Corps, Federal Emergency Management Agency (FEMA), USVI Department of Public Works, and USVI Waste Management Authority to avoid potential conflicts for upgrades, repairs, or replacement of utilities during construction. The Corps and FEMA have been in coordination throughout the development of the EA and will continue to coordinate through PED and construction. The Corps provided a set of the 1999 construction drawings to FEMA for their planning purposes in April 2019.

The Corps executed a Programmatic Agreement with USVI State Historic Preservation Officer (SHPO) on January 13, 2020. The Programmatic Agreement outlines the process in which the Corps will consult with the agencies to avoid, minimize, and mitigate adverse effects to historic properties. Dependent on further consultation/reevaluation of effects on cultural resources, project design modifications may be necessary to avoid or minimize impacts to historic properties.

2. Evaluation of Dredged or Fill Material (40 CFR § 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

☒ (8) Other sources (specify)

Dredging is not a component of this project. Any required fill material, if needed, would come from excavation occurring at the project area or from a permitted and approved commercial borrow site. The project footprint has no known hazardous, toxic, and radioactive waste (HTRW) problems (e.g., super fund, territory records, etc.). A review of the U.S. Environmental Protection Agency's (USEPA) EnviroMapper in November 2018 confirmed there are no documented superfund, toxic release, or brownfield sites in the project vicinity; however, open channel areas are used as refuse dumping and sewage sites by nearby residents. Additionally, the Corps is aware of the work conducted by the University of the Virgin Islands (UVI) and National Oceanic and Atmospheric Administration (NOAA) regarding contamination in Mangrove Lagoon. During the project's PED phase, the Corps will conduct a hazardous, toxic, radioactive, and waste (HTRW) initial assessment in accordance with the guidelines provided in Engineering Regulation (ER) 1165-2-132. If the initial assessment indicates the potential for HTRW, further testing and analysis would be conducted during the project design to determine the path forward.

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

YES ☒ NO ☐

<u>3. Disposal Site Delineation (40 CFR § 230.11(f))</u>

a. If applicable, 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 speed and direction

☐ (6) Rate of discharge

☐ (7) Dredged material characteristics (constituents, amount, and type of material, settling velocities)

☐ (8) Number of discharges per unit of time
☐ (9) Other factors affecting rates and patterns of mixing (specify)

Disposal sites are not a component of the project; therefore, this section is not applicable to this project.

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 (40 CFR §§ 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 or fill.

YES ☒ NO ☐

5. Factual Determination (40 CFR § 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 or fill as related to:

☒ a. Physical substrate at the disposal or fill 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 or fill site (review sections 2, 4, & 5)
☒ g. Cumulative impact on the aquatic ecosystem
☒ h. Secondary impacts on the aquatic ecosystem

6. Review of Compliance (40 CFR § 230.10(a)-(d) (Subpart B)

A review of the permit application indicates that:

a. The discharge or fill represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge or 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 EA 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 or fill on the aquatic ecosystem (if no, see section 5);

YES ☒ NO ☐

7. Findings

☒ a. The proposed location of fill or disposal site for discharge of dredged material complies with the Section 404 (b)(1) guidelines

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

c. The proposed location of fill or disposal site for discharge of dredged 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 or fill will result in significant degradation of the aquatic ecosystem

☐ (3) The proposed discharge or fill does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem