404(b) Evaluation (Short Form) for the
J. Bennett Johnston Waterway 12-FT Channel

The following short form 404(b)(1) evaluation follows the format designed by the U.S. Army Corps of Engineers, Vicksburg District, Office of the Chief of Engineers (CEMVN-OCE). As a measure to streamline regulation procedures, while fulfilling the spirit and intent of environmental statues, CEMVK-EC-HH is using this format for all proposed project elements requiring a 404(b)(1) evaluation but involving no adverse significant impacts.

PROJECT DESCRIPTION.

The planning goal of this JBJ Waterway 12-FT Channel Feasibility Study is to develop and evaluate alternatives to improve the navigational transportation within the Red River and the five the lock & dams (Figure 1) between RM 0 to RM 228: Lindy C. Boggs, John H. Overton, Lock & Dam 3, Russell B. Long, Joe D. Waggoner. The study area comprises the JBJ Waterway, a part of the Red River that runs from the confluence of Mississippi River to mile 236 at the I-220 bridge in the Shreveport-Bossier City area.

The following objectives were established in response to the problems, needs, and opportunities identified by the PDT and stakeholders. All of the objectives focus on alternatives within the study area and within the 50-year period of analysis. The study planning objectives included:

- Improve channel navigability and reliability through the JBJ Waterway
- Increase movement of commodities through the JBJ Waterway
- Enhance economic opportunities in the region
- Decrease overall Operations, Maintenance, Repair Replacement, Rehabilitation (OMRR&R) costs

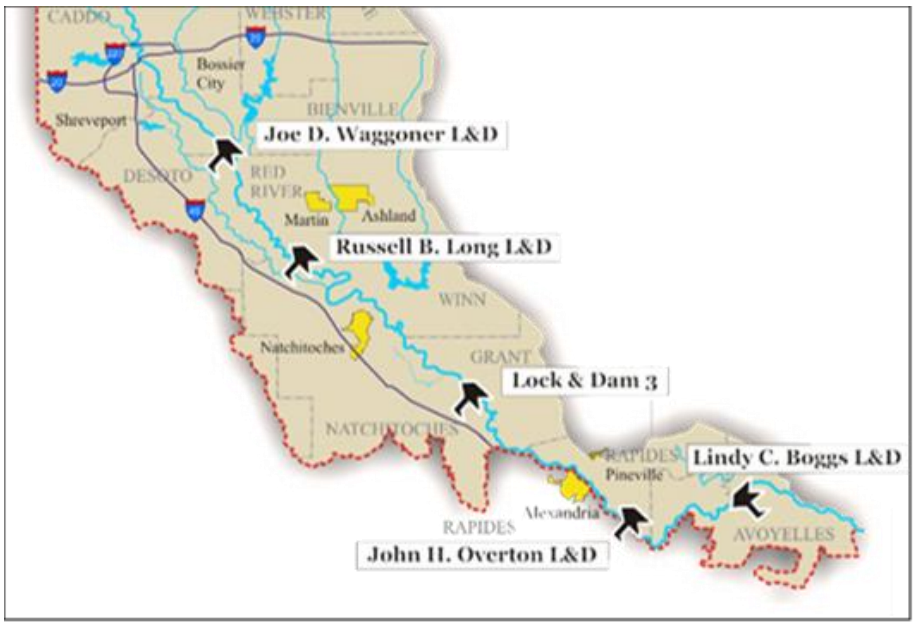

Figure 1. Image of the J. Bennett Johnston Waterway from Shreveport area to Atchafalaya River

The following alternatives were analyzed as part of the JBJ feasibility study:

- No action: Under the future without project scenario, there would be no Federal action to address the navigation restrictions experienced on the JBJ WATERWAY to achieve a 12FT channel. Industry will continue to be limited in their ability to carrying capacity per trip and barges will continue to light-load.

- Alternative 3: This alternative features the deviation, draft restrictions and construction dredging in 18 locations. The total amount of excavated material for the initial construction dredging from 9FT to 12FT is 1,525,200 cy.

  It is estimated that about 28 days of O&M dredging on a yearly basis will be required. The O&M dredging requirement is on an annual basis and is estimated at $1,275,000. There are minor aquatic impacts and no impacts to wetland or terrestrial resources. No mitigation is required. All work is within the original project footprint for the 9FT channel designs. The excavated material will be in channel placement.

- Alternative 3a: This alternative features the deviation, draft restrictions and improvements to the existing dikes in order adjust the dike dimensions appropriately for supporting a 12FT channel. Dike improvements would apply to various types of revetments throughout the river, including trail dikes, kicker dikes, and tiebacks.

- Additional rock will be added to approximately 8 dike field locations. The total amount of stonework is estimated at 361,100 tons.

  It is estimated that about 28 days of O&M dredging within 2 years will be required. The O&M dredging cost requirement is estimated at $1,275,000on a biennial basis. O&M dredging is reduced by 50% in comparison with the future without project condition (FWOP). There are minimal aquatic impacts and no impacts to wetland or terrestrial resources. No mitigation is required. All work is within the original project footprint for the 9FT channel designs.

- Alternative 3b: This alternative features the deviation, draft restrictions and new dike construction in approximately 20 dike field locations. The total amount of stonework is estimated at 1,183,100 tons.

  It is estimated that about 28 days of O&M dredging within 25 years will be required. The O&M dredging cost requirement is estimated at $1,275,000applied throughout the 25-year period. O&M dredging is reduced by 90% in comparison with the FWOP. There are minor aquatic impacts, expected 21.8 acres of wetlands will be impacted, and an expected 19.1 acres of wildlife habitat. Mitigation based off of these impacts will be required.

- Alternative 3c: This alternative features the deviation, draft restrictions improvement to dikes as described in alternative 3a and construction of new dikes in 7 high priority locations. (High priority locations are those cause severe depth restraints in the channel that also impact the navigability of the 9-FT channel. For more details, see Appendix A Engineering.) The total amount of stonework is estimated at 834,600 tons.

It is estimated that about 28 days of O&M dredging within 25 years will be required. The O&M dredging cost requirement is estimated at $1,275,000 applied throughout the 25-year period. O&M dredging is reduced by 90% in comparison with the FWOP. There are minor aquatic impacts, an anticipated 5.5 wetland acres impacted, and an anticipated 4.8 acres of wildlife habitat impacted. Mitigation will be required based on these impacts.

- Alternative 3ab: This alternative features the deviation, draft restrictions, new dike construction in 20 locations as described in alternative 3b, and the improvements to dikes as described in alternative 3a. The total amount of stonework is estimated at 1,544,900 tons.

  It is estimated that O&M dredging will be reduced 100 percent. There are minor aquatic impacts, estimated 21.8 acres of wetland impacts, 19.1 wildlife habitat impacts. Mitigation will be required based off of these impacts.

During the feasibility study Alternative 3a was chosen as the Tentatively Selected Plan (TSP) and will therefore be the only alternative discussed in this 404(b)(1) analysis.

404(b)(1) EVALUATION – SHORT FORM

1. Review of Compliance (§230.10 - **Restrictions on discharge** (a)-(d))

A review of this project indicates that:

	Preliminary[1]	
	Yes	No
a. The discharge represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge 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 environmental assessment alternative)	X	
b. The activity does not appear to: **i.** violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act; **ii.** jeopardize the existence of Federally listed endangered or threatened species or their habitat; and **iii.** violate requirements of any Federally designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies)	X	
c. The activity will not cause or contribute to significant degradation of waters of the United States including adverse effects on human health, life stages of organism's dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, esthetic, and economic values (if no, see section 2)	X	
d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see section 5)	X	

2. Technical Evaluation Factors (Subparts C-F)

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

	N/A	Not Significant	Significant [3,5]
i. Substrate impacts		x	
ii. Suspended particulates/turbidity impacts.		x	
iii. Water column impacts		x	
iv. Alteration of current patterns and water circulation		x	
v. Alteration of normal water fluctuations/ hydroperiod		x	
vi. Alteration of salinity gradients	x		

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

i. Effect on threatened/endangered species and their habitat		X	
ii. Effect on the aquatic food web		X	
iii. Effect on other wildlife (mammals, birds, reptiles, and amphibians)		X	

c. Special Aquatic Sites (Subpart E)

i. Sanctuaries and refuges		X	
ii. Wetlands	X		
iii. Mud flats	X		
iv. Vegetated shallows	X		
v. Coral reefs	X		
vi. Riffle and pool complexes	X		

d. Human Use Characteristics (Subpart F)

i. Effects on municipal and private water supplies		X	
ii. Recreational and commercial fisheries impacts		X	
iii. Effects on water-related recreation.		X	
iv. Aesthetic impacts	X		
v. Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves	X		

3. Evaluation of Dredged or Fill Material (Subpart G)

a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material.

i.	Physical characteristics	x
ii.	Hydrography in relation to known or anticipated sources of contaminants	x
iii.	Known, significant sources of persistent pesticides from land runoff or percolation	
iv.	Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances	
v.	Other public records of significant introduction of contaminants from industries, municipalities, or other sources	
vi.	Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	
vii.	Other sources (specify)	

Appropriate references: See Encl 2

	Yes	No[3]
b. An evaluation of the appropriate information in 3.a above indicates that there is reason to believe the proposed dredge or fill material is not a carrier of contaminants, or the material meets the testing exclusion criteria.[6]	x	

4. Disposal Site Delineation (§230.11(f))

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

i.	Depth of water at disposal site	x
ii.	Current velocity, direction, and variability at disposal site	x
iii.	Degree of turbulence	x
iv.	Water column stratification	x
v.	Discharge vessel speed and direction	x
vi.	Rate of discharge	x
vii.	Dredged or fill material characteristics (constituents, amount, and type of material, settling velocities)	x
viii.	Number of discharges per unit of time	
ix.	Other factors affecting rates and patterns of mixing (specify)	

Appropriate references: See Encl 2

	Yes	No[3]
b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable	x	

5. Actions to Minimize Adverse Effects (Subpart H)

Yes	No[3]
X	

All appropriate and practicable steps have been taken, through application of the recommendations of §230.70-230.77, to ensure minimal adverse effects of the proposed discharge

Actions taken:
The process to acquire a Water Quality Certificate (WQC) has been initiated with the Louisiana Department of Environmental Quality (LDEQ). A pre-filing meeting has been completed and an individual WQC application is being submitted. The final WQC would be obtained before a FONSI is signed. In addition to the WQC, guidelines within the Louisiana Pollution Discharge Elimination System permit will be followed as well as a permit submitted prior to construction to ensure discharge, if any is documented and addressed per LDEQ standards.

Factual Determination (§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 as related to:

	Yes	No[3]
a. Physical substrate at the disposal site (review sections 2a, 3, 4, and 5 above)	x	
b. Water circulation, fluctuation and salinity (review sections 2a, 3, 4, and 5)	x	
c. Suspended particulates/turbidity (review sections 2a, 3, 4, and 5)	x	
d. Contaminant availability (review sections 2a, 3, and 4)	x	
e. Aquatic ecosystem structure and function (review sections 2b and c, 3, and 5)	X	
f. Disposal site (review sections 2, 4, and 5)	X	
g. Cumulative impact on the aquatic ecosystem	X	
h. Secondary impacts on the aquatic ecosystem	X	

[1] Negative responses to three or more of the compliance criteria at this stage indicates that the proposed projects may not be evaluated using this "short form procedure". Care should be used in assessing pertinent portions of the technical information of items 2a-d, before completing the final review of compliance.

[2] Negative responses to one of the compliance criteria at this stage indicates that the proposed project does not comply with the guidelines. If the economics of navigation and anchorage of Section 404(b)(2) are to be evaluated in the decision-making process, the "short form" evaluation process is inappropriate.

[3] A negative, significant, or unknown response indicates that the project may not be in compliance with the Section 404(b)(1) Guidelines.

[4] For 1.b., review is for i. only (i.e., The activity does not appear to violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act)

[5] Where a check is placed under the significant category, the preparer has attached explanation.

[6] If the dredged or fill material cannot be excluded from individual testing, the "short form" evaluation process is inappropriate.

6. Evaluation Responsibility

a. Prepared by:

Ryan Horton
Civil Engineer
U.S. Army Corps of Engineers, Vicksburg District
August 14, 2025

b. Reviewed by: Taylor Piefke USACE Biologist

7. Findings

a.	The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines	X
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):	
	i. There is a less damaging practicable alternative	
	ii. The proposed discharge will result in significant degradation of the aquatic ecosystem	
	iii. The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystemA short form 404 (b)(1) evaluation of the Federal actions for the subject project was completed by CEMVK-EC-HH for water quality impacts. Existing data was used to make factual determinations for the subject actions. The proposed work activities include dike maintenance for existing dikes on the Red River along the J. Bennett Johnston Waterway. The maintenance includes a fill material in the form of riprap. The following summarizes the review process and comments noted:	

1. Review of Compliance

a. 230.10 (a): The locations identified for the Tentatively Selected Plan (TSP) Dike Maintenance are considered the optimal practicable locations that could reasonably be obtained to fulfill the basic design requirements of the construction features for each area.

b. 230.10 (b) (1): There are no expected violations of State water quality standards from the proposed Federal actions.

The Dike Maintenance, identified as the TSP for the JBJ 12ft Navigation project, is located along the main channel of the Red River. The related segments of the Red River have the designation number LA010101 and LA100201. These subsegments together encompass the entire Red River within Louisiana. During the 2023 reporting year period, both subsegments were identified as fully supporting their designated uses of Primary Contact Recreation (PCR, swimming), Secondary Contact Recreation (SCR, boating) and Fish and Wildlife Propagation.

c. 230.10 (c): The TSP Dike Maintenance Activity does not cause or contribute to a potential degradation of waters of the USA.

d. 230.10 (d): The TSP Dike Maintenance Activity is not expected to have adverse impacts on aquatic ecosystems.

2. Technical Evaluation Factors (Subparts C – F)

a. Physical and Chemical Characteristics of the Aquatic Ecosystem Subpart C

i. *230.20 – Substrate Impacts*: The Red River regularly receives emergency maintenance activity to maintain its navigational uses. The purpose of this alternative (Dike maintenance activity) is to help reduce the frequency of emergency maintenance activity. The TSP Dike Maintenance Activity involves a direct discharge of fill material in the form of riprap.

The TSP and placement of riprap material are not expected to have a long-time impact on the physical, chemical, and biological characteristics of the existing dike structures. The TSP Dike Maintenance Activity and placement of riprap material is not anticipated to alter channel bottoms in a way that would appreciably adversely alter the chemical, physical, or biological characteristics of water bottoms. The TSP dike modifications are intended to increase navigable channel depth from 9 feet to 12 feet. This alteration is not intended to have a negative impact on the water bottoms in the identified reaches/areas nor affect the permeability of water bottom sediments.

ii. *230.21 – Suspended Particulates/Turbidity*: The TSP Dike Maintenance Activity involves a direct discharge of fill material in the form of riprap. The placement of this material is not expected to significantly impact channel and/or wetlands suspended particulate and turbidity levels. The TSP dike modifications are intended to increase navigable channel depth from 9 feet to 12 feet. This alteration will have a short-term impact on suspended particulates and turbidity in the water column of the identified reaches/areas. These short-term impacts are not believed to have a significant impact on the aquatic ecosystem.

iii. *230.22 – Water Column*: The TSP Dike Maintenance Activity involves a direct discharge of fill material in the form of riprap. The placement of this material is not expected to significantly impact water column in a negative way, which includes potential changes in chemistry, physical characteristics, changes in clarity, color, odor, or taster of water.

iv. *230.23 –Current Patterns and Water Circulation*: The TSP Dike Maintenance Activity will enhance the current water circulation patterns in the existing dike fields with the intended goal of increasing the navigable depth from 9 feet to 12 feet. This is not intended to have a significant impact on the overall current patterns and water circulation of the applicable reaches of the Red River.

v. *230.24 –Normal Water Fluctuations/Hydroperiod*: The TSP Dike Maintenance activity is not expected to have a direct effect on normal water fluctuations and hydroperiod.

vi. *230.25 –Salinity Gradients:* N/A

b. Biological Characteristics of the Aquatic Ecosystem and Special Aquatic Sites - Subpart D

Aquatic resources within the vicinity of the TSP Dike Maintenance Activity area consist of the current J. Bennett Johnston Waterway (JBJWW) channel and tributary channels. These aquatic habitats support diverse forms of phytoplankton, zooplankton, aquatic insects, crustaceans, amphibians, reptiles, fish, and mollusks.

The JBJWW is home to a diverse array of fish species native to Louisiana waters, including Largemouth Bass (*Micropterus nigricans*), Smallmouth Bass (*Micropterus dolomieu*), Spotted Bass (*Micropterus punctulatus*), Bluegill (*Lepomis macrochirus),* Green sunfish (*Lepomis cyanellus*), Alligator Gar (*Atractosteus spatula*), bream spp., catfish spp., and crappie spp. In addition to fish, a variety of aquatic and semi-aquatic reptile and amphibian species are expected to inhabit the areas in and around the river and wetlands. Many species of aquatic turtles, watersnakes, salamanders, and frogs use these areas for shelter, feeding, and reproduction. Turtle species that are may be present in the TSP Dike Maintenance Activity area include the Alligator Snapping Turtle (*Macrochelys temminckii*), Common Snapping Turtle (*Chelydra serpentina*), River Cooter (*Pseudemys concinna*), Southern Painted Turtle (*Chrysemys picta dorsalis*), Pond Slider (*Trachemys scripta*), and Spiny Softshell Turtle (*Apalone spinifera*). Semi-aquatic snake wildlife such as species of garter snake, ribbon snake, watersnake, and pit viper are also likely present, utilizing the river and its associated wetlands for reproduction and foraging. These aquatic

habitats are also used by the American Toad (*Anaxyrus americanus)*, Spring Peeper (*Pseudacris crucifer),* Green Frog (*Lithobates clamitans*), Bullfrog (*Lithobates catesbeianus*), and the Marbled Salamander (*Ambystoma opacum*).

i. The TSP Dike Maintenance Activity would not have a significant impact on threatened or endangered species or their habitats. Since only currently existing dikes would be modified and improved, Alternative 3a would have minimal impacts on aquatic resources and fisheries. Mobile aquatic species such as fish and turtles that utilize the rocks in these dikes for habitat and feeding would avoid the site during construction but would return to normal utilization of the area after construction concludes.

ii. The TSP Dike Maintenance Activity would not have a significant impact on the aquatic food web. Since only currently existing dikes would be modified and improved, Alternative 3a would have minimal impacts on aquatic resources and fisheries. Mobile aquatic species such as fish and turtles that utilize the rocks in these dikes for habitat and feeding would avoid the site during construction but would return to normal utilization of the area after construction concludes.

iii. The TSP Dike Maintenance Activity would not have a significant impact on other wildlife (mammals, birds, reptiles, and amphibians). Since only currently existing dikes would be modified and improved, Alternative 3a would have minimal impacts on aquatic resources and fisheries. Mobile aquatic species such as fish and turtles that utilize the rocks in these dikes for habitat and feeding would avoid the site during construction but would return to normal utilization of the area after construction concludes.

c. Special Aquatic Sites - Subpart E

i. Since only currently existing dikes would be modified and improved, Alternative 3a would have minimal impacts on aquatic resources and fisheries. Mobile aquatic species such as fish and turtles that utilize the rocks in these dikes for habitat and feeding would avoid the site during construction but would return to normal utilization of the area after construction concludes. Immobile benthic species in the area may experience minor disturbances in habitat as rocks are rearranged and added to the improve the dikes.

d. Human Use Characteristics – Subpart F

i. *230.50 –Municipal and Private Water Supplies*: The impairments reported in the Louisiana Department of Environmental Quality (LDEQ) 2024 Louisiana Water Quality Integrated Report outline potential risks of adverse effects to humans due to substances in the water. According to this report, the JBJWW fully supports designated uses for primary contact recreation (swimming), secondary contact recreation (boating), and fish and wildlife propagation (fishing). There are no areas within the planned work area with a drinking water supply designated use, therefore the actions evaluated herein are not expected to negatively impact water supplies.

ii. *230.51 –Recreational and commercial fisheries*: Several of the proposed areas are located within segments with a Fish and Wildlife Propagation designated use, however, the TSP (Dike Maintenance) is not expected to interfere with reproductive success of aquatic species, nor introduce pollutants that may directly reduce population of important aquatic organisms.

iii. *230.52 –Water-related recreation*: Several of the proposed areas are located within segments with a PCR and SCR designated use. The 3a TSP (Dike Maintenance) is not expected to permanently change turbidity, suspended particulates, temperature, dissolved oxygen, dissolved materials, pathogenic organisms, aesthetics qualities of sight, taste, odor, or color, of water used for recreation.

3. Evaluation of Dredged or Fill Material - Subpart G

a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material.

i. *230.60 (a) – General evaluation of dredged or fill material:* Riprap refers to a layer of large stones, rocks, or other durable materials placed along shorelines, riverbanks, bridge abutments, channel dikes, or

other structures to prevent erosion caused by water currents, waves, or weather conditions. It is commonly used in civil engineering and environmental projects to stabilize areas prone to erosion and protect infrastructure. Riprap is typically made of natural rock, concrete rubble, or specially manufactured materials. The size and type of riprap used depend on the specific application and the forces it needs to withstand. It is often arranged in a way that allows water to flow through while reducing its velocity, thereby minimizing erosion. Riprap is placed manually or mechanically, depending on the scale of the project. It is arranged in a way that ensures interlocking and stability. The placement of constructed dike fields is usually orientated to influence downstream flow patterns in the river to maintain desired scour profiles in the authorized navigable channel. No potential impacts to pH levels are expected.

ii. No known or anticipated sources of contaminants were identified in the HTRW assessment associated with this JBJ 12-foot channel feasibility study. The TSP Dike Maintenance Activity is not believed to have a negative impact on the Red River from contaminant sources.

Contractors are required to provide riprap source material information from approved suppliers. These approved source suppliers are vetted to ensure that material is free from contaminants prior to construction.

b. An evaluation of the appropriate information in 3a, above indicates that there is reason to believe the planned fill material is not a carrier of contaminants, or the material meets the testing exclusion criteria: Yes

4. Disposal Site Delineation

a. *230.11 (f) – Considerations in Evaluating the Disposal Site:* The placement of riprap fill material as described in the TSP (Dike Maintenance) shall be within the footprint of existing dike field situated within the open waters of the Red River. Engineering design and placement of these dike structures considered many factors: Depth of water (i), Current velocity, direction, and variability at disposal site (ii), Degree of turbulence (iii), Water column stratification (iv), Discharge vessel speed and direction (v), Rate of discharge (vi), Dredged or fill material characteristics (vii), Number of discharges per unit of time (viii). The materials being placed for fill are not expected to include contaminants that would adversely affect aquatic life.

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

5. Actions to Minimize Adverse Effects - Subpart H

All appropriate and practicable steps have been taken, through application of the recommendations of *230.70 – 230.77* to ensure minimal adverse effects of the proposed discharge: Yes

6. Factual Determinations

A review of appropriate information as identified in items I - VI above indicates that there is minimal potential for short- or long-term environmental effects of the proposed discharge:

a. Physical substrate at the disposal site (review sections 2a, 3, 4, and 5 above): Yes

b. Water circulation, fluctuation and salinity (review sections 2a, 3, 4, and 5): Yes

c. Suspended particulates (review sections 2a, 3, 4, and 5): Yes

d. Contaminant availability (review sections 2a, 3, and 4): Yes

e. Aquatic ecosystem structure and function (review sections 2b and c, 3 and 5): Yes

f. Disposal site (review sections 2, 4, and 5): Yes

g. Cumulative impact on the aquatic ecosystem: Yes

h. Secondary impacts on the aquatic ecosystem: Yes

i. References

a. Louisiana Department of Environmental Quality (LDEQ). 2023. Fishing Consumption and Swimming Advisories. https://deq.louisiana.gov/page/fishing-consumption-and-swimming-advisories

b. Louisiana Department of Environmental Quality (LDEQ). 2022. Louisiana Water Quality Inventory: Integrated Report (Clean Water Act Sections 305(b)/303(d)). https://www.deq.louisiana.gov/assets/docs/Water/Integrated_Report/2022_Inte

c. Louisiana Department of Environmental Quality (LDEQ). 2024 Water Quality Inventory: Integrated Report (303(b)/303(d)). https://deq.louisiana.gov/page/2024-Water-Quality-Integrated-Report

d. Louisiana Watershed Initiative (LWI). 2023. Watershed Regions. https://watershed.la.gov/watershed-regions

e. United States Coast Guard (USCG). 2023. National Response Center. https://nrc.uscg.mil/