

## APPENDIX A

# Supplemental Section 404(B)(1) Evaluation Report for the Mississippi Coastal Improvements Program Long Beach Canals Interim Project

## *Harrison County, Mississippi*

### I. Project Description

#### A. *Location*

The project is located at the terminus of the original Mississippi Coastal Improvements Program (MsCIP) Long Beach Canals drainage project, approximately one mile south of Menge Avenue extending southwest approximately 2.6 miles to the mouth of Bayou Portage, Long Beach, Mississippi.

#### B. *General Description*

Approximately 12,500 cubic yards of sediment and woody debris will be removed and disposed in an offsite approved upland disposal area to be obtained by the contractor. All work will be performed within the limits of the existing natural stream channel consisting of varying widths from 20 to 30 feet wide and varying depths from 1 to 2 feet deep depending upon existing conditions. Due to the work area constraints of the confined channel, it would be necessary in some places to relocate material within the channel to create a smooth bottom. Mechanical dredging will be accomplished by using a trackhoe mounted on a small shallow draft barge. A separate small shallow draft barge will be used to stockpile material removed from the channel. Small push boats will be used to transport barges to and from an offload site and dump trucks will haul sediment and woody debris to the approved upland disposal site.

The project is addressed in the Supplemental Environmental Assessment (EA) to the current MsCIP Near Term Improvements EA. The Corps will coordinate with Federal and State of Mississippi resource agencies during the required environmental compliance process. This report addresses potential water quality impacts that would potentially result from constructing the additional portion of the Long Beach Canals project in coastal Mississippi. Further details of the project are in the Supplemental EA to which this Supplemental Section 404(b)(1) Evaluation is appended.

#### D. *General Description of Dredged or Fill Material*

**(1) General Characteristics of Material.** Material dredged from the additional portion of the Long Beach Canal drainage channel contains soft, fine-grained, organic silts and clays with some fraction of sand. This material will be disposed in an offsite approved upland disposal area.

**(2) Quantity of Material.** Approximately 12,500 cubic yards of material will be mechanically dredged from the natural stream section of Long Beach Canal 2. Dredging will occur within the existing channel, approximately 20 to 30 feet wide for approximately 2.6 miles to a point approximately one mile south of Menge Avenue, the terminus of the original project limit. The depth of dredging varies between 1 and 2 feet depending upon conditions.

**(3) Source of Material.** The material is being dredged from the natural stream section of Long Beach Canal 2 which extends approximately one mile south of Menge Avenue to the mouth of Bayou Portage, approximately 2.6 miles.

***E. Description of the Proposed Discharge Site***

**(1) Location.** The dredged material will be placed in an approved offsite upland disposal area to be obtained by the contractor. The location is unknown at this time.

**(2) Size.** The proposed project work will be performed within the limits of the existing natural stream channel consisting of varying widths from 20 to 30 feet wide and varying depths from 1 to 2 feet deep depending upon existing conditions. Due to the work area constraints of the confined channel, it would be necessary in some places to relocate material within the channel to create a smooth bottom. The dredged material will be placed in an approved offsite upland disposal area to be obtained by the contractor. The size is unknown at this time.

**(3) Type of Site.** The site consists of a natural stream within tidal marsh fringe. The additional section of the project is immediately downstream of a man made canal. The dredged material will be placed in an approved offsite upland disposal area to be obtained by the contractor.

**(4) Type of Habitat.** The disposal area will consist of a contained upland disposal site. Habitats exhibited in the proposed project area include the natural stream channel.

**(5) Timing and Duration of Discharge.** This one-time dredging action will occur in early 2009.

***F. Description of Disposal Method***

Methods of placement and disposal for these projects will utilize barge mounted trackhoe, dump trucks, and backhoes.

**I. Factual Determinations (Section 230.11)**

***A. Physical Substrate Determinations.***

**(1) Substrate Elevation and Slope.** The project will result in removal of sedimentation and woody debris from within the natural stream channel. All dredged material will be placed in an approved upland disposal area; therefore, no changes to existing elevations are anticipated.

**(2) Sediment Type.** Materials dredged from the natural stream portion of Long Beach Canal drainage channel contains soft, fine-grained, organic silts and clays with some fraction of sand. This material will be disposed in an offsite approved upland disposal area.

**(3) Dredged/Fill Material Movement.** Mechanical dredging would result in incidental fallback with little sediment disturbance. It is believed that no adverse impacts and only short-term disturbances would occur from movement of materials.

**(4) Physical Effects on Benthos.** There would be temporary disruption of the aquatic community as a result of the proposed projects being constructed. Non-motile benthic fauna within the project area may be destroyed by the proposed dredging operations, but should repopulate within several months after dredging is complete and due to the size of the overall dredging projects, should be discountable.

**(5) Other effects.** No other effects are anticipated.

**(6) Actions Taken to Minimize Impacts (Subpart H).** Actions will be taken to minimize impacts to all project areas during the construction and maintenance activities. No other actions to minimize impacts to the physical substrate are deemed appropriate for these projects.

## ***B. Water Column Determinations***

**(1) Salinity.** Salinity would not be adversely impacted as a result of the identified projects.

**(2) Water Chemistry (pH, etc.).** No effect.

**(3) Clarity.** Minor increases in turbidity may be experienced in the immediate vicinity of the project areas during construction and disposal operations. However, these increases will be temporary and would return to pre-project conditions shortly after completion.

**(4) Color.** No effect.

**(5) Odor.** No effect.

**(6) Taste.** No effect

**(7) Dissolved Gas Levels.** Temporary decreases in dissolved oxygen will likely result from some of the construction operations, but this will only be of a short duration. No long-term effect to the water column is anticipated. The construction activities and the return water from the upland sites are not anticipated to adversely impact dissolved gas levels.

**(8) Nutrients.** Slight increases in nutrient concentrations may occur from the proposed operations; however, these concentrations would be rapidly dispersed. These described increases would have no significant effect to the water column.

**(9) Eutrophication.** The additional portion of the proposed project will result in enhanced water circulation, drainage, and tidal exchange which will act to prevent and/or minimize eutrophication effects.

## ***C. Water Circulation, Fluctuation, and Salinity Gradient Determinations***

### **(1) Current Patterns and Circulation.**

**(a) Current Patterns and Flow.** Dredging and placement of sedimentation and woody debris in association with the proposed project is not anticipated to impede flows. The project involving improved drainage and tidal exchange will restore water flow, thus preventing flooding and improving marsh habitat. No adverse impacts are anticipated to occur at any of the project sites.

**(b) Velocity.** Improved flow velocities are intended within the various outfalls and drainage channels. The improved flow will have beneficial effects and act to reduce flooding as well as increasing tidal exchange between the natural stream and adjacent marshes. No adverse impacts are anticipated due to velocity.

**(2) Stratification.** No effect.

**(3) Hydrologic Regime.** No effect.

**(4) Normal Water Level Fluctuations.** Improved drainage capability will prevent the build up and subsequent flooding caused by storms and extreme rain events. No negative effect.

**(5) Salinity Gradient.** No effect.

## ***D. Suspended Particulate/Turbidity Determination***

**(1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Placement Site.** No effect.

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

**(a) Light Penetration.** Light penetration through the water column at the dredging site may be temporarily affected but is anticipated to return to previous conditions upon completion of

activities. These increases are considered to be minor and no impact to light penetration is anticipated by the proposed project.

**(b) Dissolved Oxygen.** No effect.

**(c) Toxic Metals and Organics.** Site inspections have been conducted by the Corps, Mobile District, Environmental and Hazardous and Toxic Waste and Support Section, adjacent to the proposed project. This assessment was conducted per the requirements of Engineer Regulation (ER) 1165-2-132 entitled, Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects, and the American Society of Testing and Materials Standard E 1527.

Inspections were conducted to determine the presence or evidence of landfills, surface areas unable to support vegetation, visible sheens of petroleum product, nearby contaminated industrial facilities, or any type of visible indication that HTRW concerns exist that may impact the proposed project.

Site inspections of adjacent properties, reviews of historic aerial photographs, and on site interviews have been conducted to determine if HTRW concerns impact any of the proposed project area.

Additionally, environmental database record searches were conducted to determine if they reveal any evidence of HTRW concerns within or adjacent to the areas of the proposed project.

Based on the findings of the HTRW site assessment, no specific or unusual environmental concerns were identified that would affect the construction of the proposed project.

**(d) Pathogens.** No effect.

**(e) Esthetics.** No effect.

**(3) Effects on Biota.** The additional project segment will provide improvements in floodwater conveyance and circulation for improved drainage, water quality and fish.

**(a) Primary Production Photosynthesis.** No effect.

**(b) Suspension/Filter Feeders.** No effect.

**(c) Sight Feeders.** Other disposal sites and placement activities are attractive to many sight feeders due to the presence of food items in the dredged material. Impact of these operations at the upland disposal areas on sight feeders is expected to be a beneficial, short-term effect. No adverse impacts are anticipated to occur to sight feeders resulting from the proposed projects.

**(4) Actions Taken to Minimize Impacts (Subpart H).** No further actions are deemed appropriate.

#### ***E. Contaminant Determinations***

The project is located within the natural stream section of Canal 2, far removed from sources of contamination. The dredged material consists of naturally occurring materials, sand and sediments.

#### ***F. Aquatic Ecosystem and Organism Determinations***

No effect.

**(1) Effects on Plankton.** No effect.

**(2) Effects on Benthos.** Benthos within the immediate area may be destroyed. However, it is believed that affected areas are small and would rapidly recover within a couple of months back to pre-project conditions. No seagrasses or oyster beds would be disturbed. Turbidity levels would increase during some of the removal operations; however, the levels of turbidity would subside shortly after the operation is complete. No impacts are anticipated to occur to benthos during the disposal of sediment and debris as these will be located in approved upland disposal sites. No long-term adverse impacts are anticipated.

**(3) Effects on Nekton.** Nekton will be able to avoid the construction and disposal activities; therefore, no adverse impacts are anticipated.

**(4) Effects on Aquatic Food Web.** No effect.

**(5) Effects on Special Aquatic Sites.** Not applicable.

**(a) Sanctuaries and Refuges.** Not applicable.

**(b) Wetlands.** The adjacent marsh will be avoided by the project.

**(c) Mud Flats.** Not applicable.

**(d) Vegetated Shallows.** Not applicable.

**(e) Coral Reefs.** Not applicable.

**(f) Riffle and Pool Complexes.** Not applicable.

**(6) Effects on Threatened and Endangered Species.** The Mobile District does not anticipate any adverse impacts to federally protected species. Of the species listed, most are not likely to be found within the project area; however, the potential exists for the occurrence of the Alabama red-bellied turtle. The Alabama red-bellied turtle is known to occur in the lower Pascagoula River and its tributaries: Bluff Creek and the Escatawpa River. It is also known to occur in Old Fort Bayou, the Tchoutacabouffa River, the Biloxi River, and the Back Bay of Biloxi. Destruction of nesting areas along river banks and feeding areas of submerged aquatic vegetation, and reduced water quality have impacted the species.

**(7) Effects on Other Wildlife.** Hurricane Katrina and the associated storm surge resulted in numerous adverse impacts to existing wildlife and wildlife habitat. The proposed project should enhance overall fishery habitats. Dredging activities may result in temporary impacts to water quality in the immediate areas; however it is expected all impacts would be short term and minor, and in some cases discountable. No adverse impacts are anticipated to occur as a result of the proposed projects.

**(8) Actions to Minimize Impacts.** No further action anticipated.

#### ***G. Proposed Disposal Site Determinations***

**(1) Mixing Zone Determination.** The State of Mississippi will specify a mixing zone not to exceed ambient turbidity by more than 50 nephelometric turbidity units at the outer limits of 750 feet for turbidity compliance. Turbidity from dredging material placed from the water is anticipated to quickly settle out of the water column; thus, not exceeding the proposed water quality criteria issued. No adverse impacts are anticipated from disposing of material at upland sites. Thus, no mixing violations are expected.

**(a) Depth of water at the disposal site.** No effect.

**(b) Current velocity, direction, and variability at disposal sites.** No effect.

**(c) Degree of turbulence.** No effect.

**(d) Stratification attributable to causes such as obstructions, salinity or density profiles at the disposal site.** No effect.

**(e) Discharge vessel speed and direction, if appropriate.** No effect.

**(f) Rate of discharge.** No effect.

**(g) Ambient concentrations of constituents of interest.** Not applicable.

**(h) Dredged material characteristics, particularly concentrations of constituents, amount of material, type of material (sand, silt, clay, etc.) and settling velocities.**

Materials dredged from the drainage channel will likely contain soft, fine-grained, organic silts and clays with some fraction of sand. This material will be disposed in offsite approved upland disposal areas.

**(i) Number of discharge actions per unit of time.** This is a barge mounted mechanical trackhoe that will be using a bucket to remove sediment and woody debris.

**(2) Determination of Compliance with Applicable Water Quality Standards.** The proposed activities are anticipated to be in compliance with water quality standards.

**(3) Potential Effects on Human Use Characteristics.**

**(a) Municipal and Private Water Supply.** Not applicable.

**(b) Recreational and Commercial Fisheries.** Recreational and commercial fishing would be temporarily impacted primarily as a result of the physical presence of heavy equipment during operation activities. Limited navigation would occur within the channel during dredging operations. However, navigation in this area is limited to primarily recreational boaters and when comparing this small limitation to all other accessible areas within Bayou Portage and adjacent Mississippi Sound, the impacts are insignificant.

**(c) Water Related Recreation.** No effect.

**(d) Esthetics.** Esthetics will be temporarily reduced in the immediate vicinity of the proposed project site. Recreational vessels utilize Bayou Portage and the natural portion of the Long Beach Canals. There is potential that the few residents within the area may be disturbed by the presence of the heavy equipment during dredging. However, these activities are temporary in nature so the disturbance is anticipated to be minimal. The sediment and woody debris removal from the natural stream section should provide improved interior drainage. From an environmental viewpoint, the proposed project is anticipated to enhance Coastal Mississippi and its diverse aquatic habitats while providing a reduction in flooding.

**(e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves.** No effect.

**Other Effects.** No effect.

#### ***H. Determination of Cumulative Effects on the Aquatic Ecosystem***

The proposed actions are not expected to have significant cumulative adverse impacts

#### ***I. Determination of Secondary Effects of the Aquatic Ecosystem.***

The proposed actions are not expected to have any significant secondary adverse effects on the aquatic ecosystem

**III. Finding of Compliance with the Restrictions on Discharge**

- A. No significant adaptations of the Section 404(b)(1) guidelines were made relative to this evaluation.
- B. The proposed project represents the least environmentally damaging practicable alternative.
- C. The planned construction activities and placement of dredged materials would not violate any applicable State water quality standards; nor will it violate the Toxic Effluent Standard of Section 307 of the Clean Water Act (CWA). Appropriate evaluation of analytical and ecotoxicological testing of sediments, site water, and elutriates results revealed that no adverse impacts would result from the proposed disposal actions.
- D. Use of the proposed disposal sites will not jeopardize the continued existence of any Federally-listed endangered or threatened species or their critical habitat.
- E. The proposed placement of dredged material will not contribute to significant degradation of waters of the United States. Nor will it result in significant adverse effects on human health and welfare, including municipal and private water supplies; recreation and commercial fishing; life stages of organisms dependent upon the aquatic ecosystem; ecosystem diversity, productivity and stability; or recreational, aesthetic or economic values.
- F. Appropriate and practicable steps will be taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

**DATE:** \_\_\_\_\_

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**Byron G. Jorns**  
**Colonel, Corps of Engineers**  
**District Commander**

