Mississippi Valley Division,
Regional Planning and Environment Division South

St. Tammany Parish, Louisiana Feasibility Study

Appendix I: Attachment 1 – Project Description Constructed Marsh Project

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CONTENTS

Section 1–Fresh and Intermediate Marsh Restoration Site M2_East Fountainbleu Project Description ..... Error! Bookmark not defined.

1.1 Project Location 1

1.2 Project Description 2

1.2.1 Borrow Requirements 3

1.2.2 Relocations 3

LIST OF FIGURES

Figure I1:1-1. Project Location 1

Figure I1:1-2. Marsh Mitigation Site 2

SECTION 1

Fresh and Intermediate Marsh Mitigation Site

1.1 PROJECT LOCATION

The proposed marsh mitigation site (M-2) is located on the north shore of Lake Pontchartrain, east of the Causeway Bridge near Lacombe (Figures I1:1-1 and I1:1-2). The site is within the acquisition boundary of the Big Branch Marsh National Wildlife Refuge, but is currently under private ownership. The site would provide 200 acres (47 AAHUs) of fresh and intermediate marsh habitat to compensate for unavoidable wetland impacts from the construction of the South and West Slidell levee and floodwall system under the St. Tammany Parish, Louisiana Feasibility study. Estimated footprint is 200 acres with a dike perimeter of 16,067 feet. During PED, an open water site visit is recommended to conduct WVA evaluation, collect preliminary site data, and visually observe site conditions.

Figure I1:1-1. Project Location

1.2 PROJECT DESCRIPTION

This project alternative (Figure I1:1-2) currently consists of 200 acres of marsh creation. The assumed existing elevation is -1.65 feet NAVD88. Initial target elevation for dredge fill will be to approximate elevation +2.5 NAVD88, to ultimately hit a target marsh elevation of +1.0 NAVD88. At this 35 percent design level, total perimeter retention will be required to retain dredge material and allow for vertical accretion. Approximately 16,067 linear ft of new retention dike will be required along the limit of the project footprint. The dike will be built with borrow from within the footprint. The dike will be built with a 5 feet crown width to elevation +4.8 feet NAVD88, to provide 1 foot of freeboard during pumping operation and allow for settlement. This dike will be degraded in year 1, upon settlement and dewatering of the created marsh platform. The degraded material can be disposed of in the original borrow canal if settlement allows or cast into the open water immediately outside of the project footprint. Spill boxes or weirs will be constructed at pre-determined locations within the retention dike to allow for effluent water release from within the marsh creation area. If deemed necessary by the construction contractor, low level interior weir or baffle dikes can be constructed to assist in vertical stacking of dredged material.

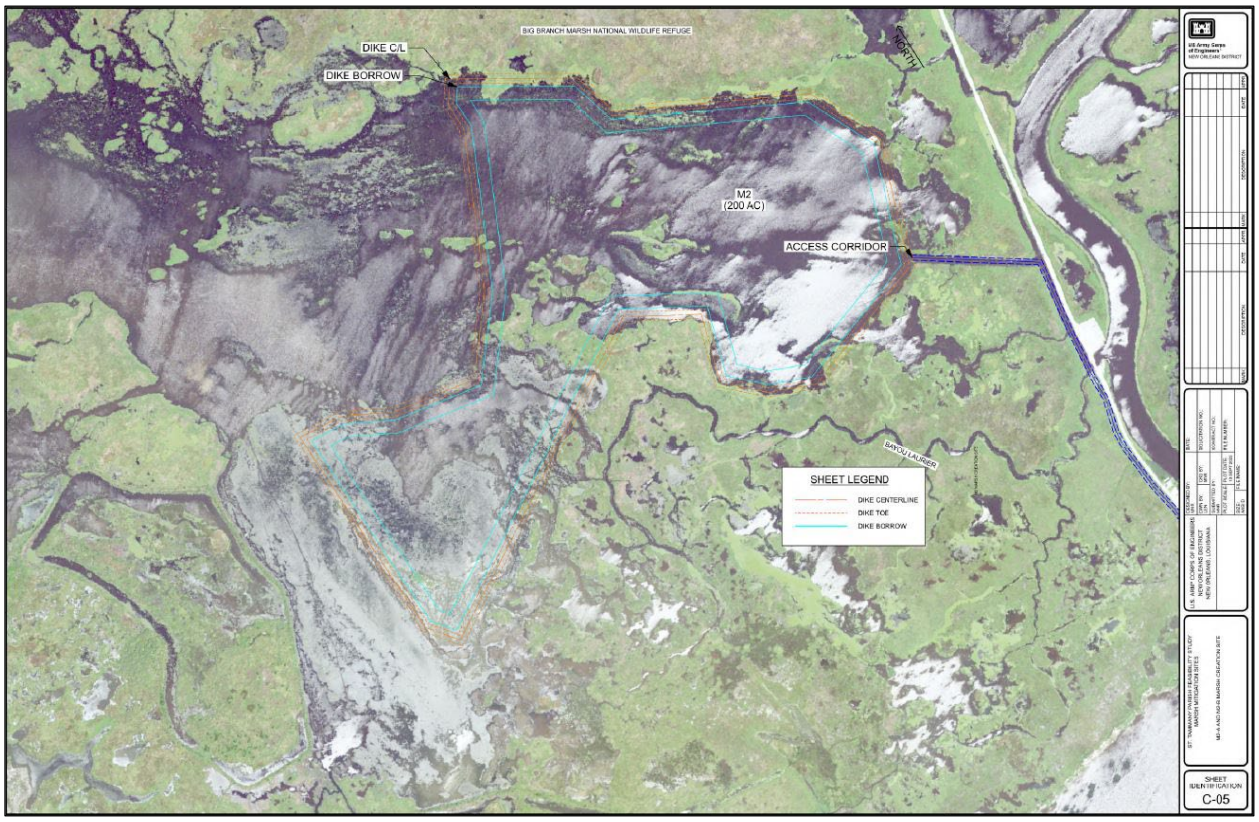

Figure I1:1-2. Marsh Mitigation Site

1.2.1 Borrow Requirements

Marsh creation would require borrow of approximately 2,200,000 cubic yards of material. A borrow site of 134 acres would accommodate this requirement. The borrow plan is to obtain material from Lake Pontchartrain, requiring a buffer of 2000 ft between the existing shoreline and the borrow area limit. Borrow would not be allowed greater than 10 feet below the existing lake bottom, except that a tolerance of 1-foot below this target elevation will be provided the contractor to account for inaccuracies in the dredging process. To assure adequate borrow, the fill quantity was doubled account for unsuitable materials, unknown utilities, unidentified anomalies, and/or unsighted cultural finds. An access corridor of approximately 7,340 linear feet will be allowed from the lake to the proposed marsh creation site. The access corridor can be used to establish a pipeline corridor, offload equipment as necessary, and transport personnel to and from the worksite. The contractor will be instructed to minimize usage and damage within the access corridor, by using existing waterways for daily transportation of supplies and personnel where possible.

1.2.2 Relocations

Based on a review by the CEMVN ED of pipeline and utility information available to the Corps through existing GIS pipeline and utility databases, there appears to be no pipeline crossings through the M2 site. The NOAA chart 11369 “Lake Pontchartrain and Maurepas” shows an unknown pipeline at the access channel. No impacts to pipelines or utilities are anticipated, however, the actual disposition of pipelines and utilities within the project area will have to be coordinated and verified with the owners by the ED Relocations Team.