Draft Supplemental Environmental Assessment

Lake Lery Marsh Creation and Rim Restoration Phase III

EMT-2020-FM-053-0007

Delacroix, St. Bernard Parish, Louisiana

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FEMA

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Acronyms

ac	acre(s)
APE	Area of Potential Effects
BMP	Best Management Practice
Boardwalk	Boardwalk Pipeline Partners
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
DHS	Department of Homeland Security
EA	Environmental Assessment
EFH	Essential Fish Habitat
ELOS	ELOS Environmental, LLC
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FMA	Flood Mitigation Assistance
FONSI	Finding of No Significant Impact
ft	foot, feet
IPaC	Information for Planning and Consultation
LA	Louisiana
LDNR	Louisiana Department of Natural Resources
LDWF	Louisiana Department of Wildlife and Fisheries
LLMCRR	Lake Lery Marsh Creation and Rim Restoration Phase III
MBTA	Migratory Bird Treaty Act
mi	mile(s)

µg/m^3	micrograms per cubic meter
MMPA	Marine Mammal Protection Act
msl	mean sea level
NATA	National Scale Air Toxics Assessment
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
PDARP/PEIS	Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement
ppb	parts per billion
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SBPG	St. Bernard Parish Government
SEA	Supplemental Environmental Assessment
SHPO	Louisiana State Historic Preservation Office
SWDA	Solid Waste Disposal Act
TIG	Louisiana Trustee Implementation Group
TSCA	Toxic Substances Control Act
USC	United States Code
USACE	U.S. Army Corps of Engineers
USDA-NRCS	U.S. Department of Agriculture National Resources Conservation Service
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

1. Introduction

The St. Bernard Parish Government (SBPG, Sub-grantee) submitted a Flood Mitigation Assistance (FMA) grant application to the Federal Emergency Management Agency (FEMA) through the Governor's Office of Homeland Security and Emergency Preparedness. The grant application requests funding for the Lake Lery Marsh Creation and Rim Restoration Phase III (LLMCRR) Project in St. Bernard Parish, Louisiana (LA). The FMA Grant Program is authorized by Section 1366 of the National Flood Insurance Act of 1968.

The proposed project would consist of flood and high wind disaster risk-reduction activities along the northwest shore of Lake Lery, and in adjacent marshlands and a dredge-borrow area in Lake Lery, in St. Bernard Parish, LA. Flood risk-reduction activities would include constructing a permanent armored earthen embankment between the marsh and the northwestern edge of Lake Lery and restoration of adjacent marsh by utilizing dredged material from the bottom of Lake Lery (**Figure 1-1**). This area has been significantly damaged over time from hurricanes and ensuing wind and wave action. The project area and nearby infrastructure to the north are at very high risk of flooding because of degradation of the lake rim and surrounding marsh.

1.1. Project Authority

The Louisiana Trustee Implementation Group (TIG), with the National Oceanic and Atmospheric Administration (NOAA) as the federal lead agency, prepared an environmental assessment (EA) for projects that would restore ecological systems injured or lost because of the Deepwater Horizon oil spill. Published in March 2022, the *Louisiana TIG Draft Restoration Plan and Environmental Assessment #8: Wetlands, Coastal, and Nearshore Habitats* (TIG 2022), which is tiered off the *Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement* (PDARP/PEIS; NOAA 2016), included the Lake Lery Marsh Creation and Rim Restoration Phase III Project as a dismissed alternative.

Any federal agency may adopt another federal agency's EA when such adoption would save time and money provided the original document meets the standards for an adequate assessment (40 Code of Federal Regulations [CFR] Section 1506.3) and satisfies the adopting agency's National Environmental Policy Act (NEPA) requirements. FEMA has adopted the TIG EA (NOAA 2016) because the actions covered by the original EA and the Proposed Action are substantially the same and is providing additional information through this Supplemental EA (SEA).

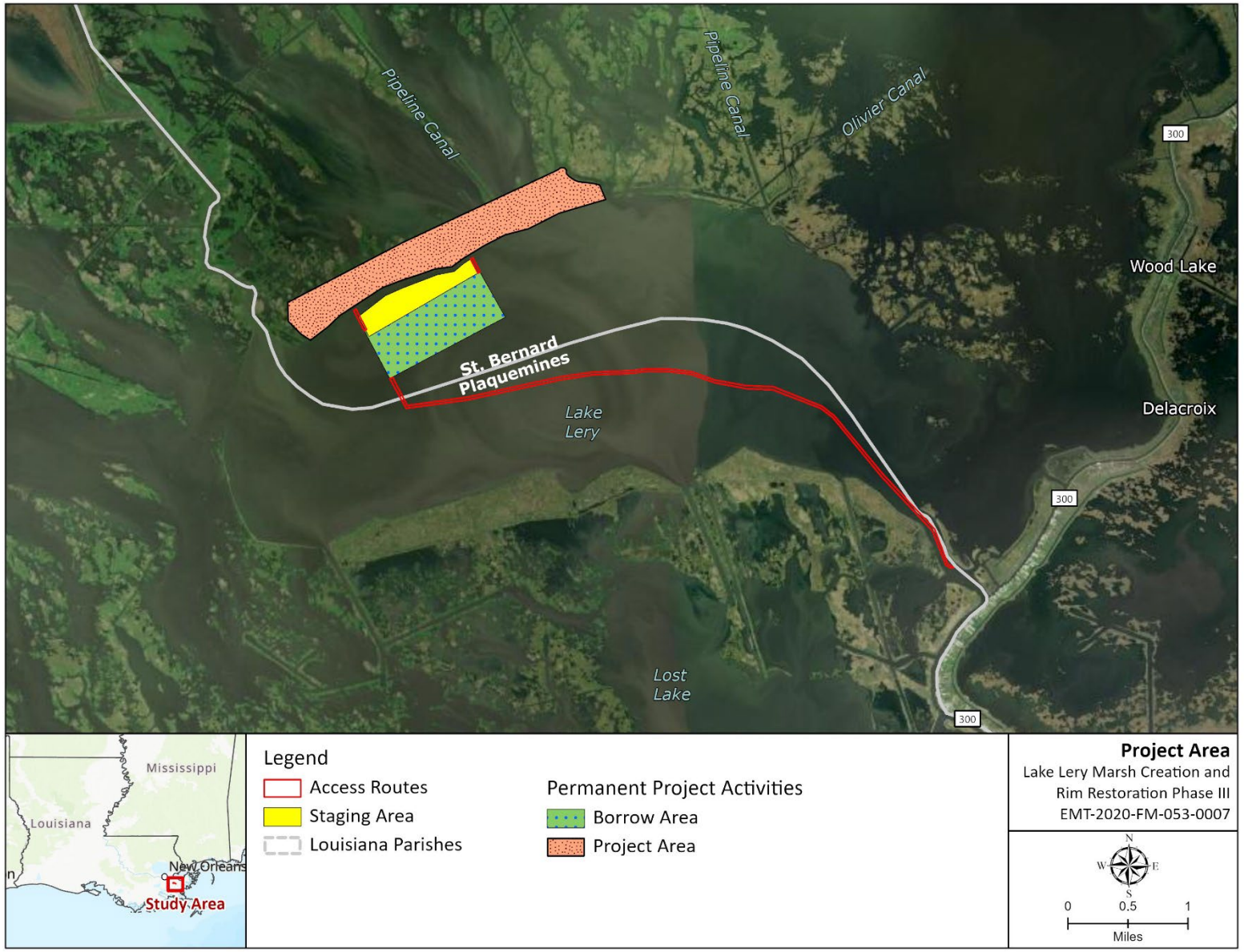

Figure 1-1. Project Vicinity

This SEA is being prepared by FEMA because the proposed LLMCRR project activities would be funded by FEMA's Flood Mitigation Assistance Program, which is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. FEMA has prepared this SEA in accordance with FEMA Instruction 108-01-1 and the U.S. Department of Homeland Security's (DHS) Instruction 023-01-001, Rev. 1, pursuant to Section 102 of NEPA, as implemented by 40 CFR 1500-1508, promulgated by the President's Council on Environmental Quality (CEQ). The purpose of this SEA is to evaluate the potential impacts of the Proposed Action on the physical and human environment that will be modified or were not considered or previously analyzed in the TIG EA. This SEA incorporates components from the TIG EA either as text or by reference and provides additional information and analysis as needed to address changes to baseline conditions or project details that were not analyzed in that EA. FEMA has prepared this SEA to evaluate and document compliance with federal laws, regulations, and Executive Orders (EO) applicable to the LLMCRR Project. FEMA will use the findings in this SEA to determine whether a finding of no significant impact (FONSI) is appropriate or preparation of an environmental impact statement is warranted.

1.2. Background

Lake Lery is in the southwestern corner of St. Bernard Parish, southeast of the city of New Orleans, LA, south of the hamlet of St. Bernard, LA, and west of the city of Delacroix, LA. An existing petroleum pipeline owned by Boardwalk Pipeline Partners (Boardwalk) runs southeast to northwest through Lake Lery and a canal in the adjacent marsh north of the lake. Lake Lery is a shallow, inland tidal bay that is part of the Breton Sound basin estuary connected to Bayou Mandeville in the northwest and Bayou Lery in the southeast. The lake is surrounded by fresh to intermediate coastal marsh that has been influenced by operation of the nearby Caernarvon Freshwater Diversion project since its construction in 1991.

The most prevalent hazard to St. Bernard parish was determined to be wave action and flooding from hurricanes; 18 of the 25 disaster declarations in St. Bernard Parish were from hurricanes since 1965. Hurricanes bring the potential for flooding, primarily from storm surge and high wind speeds that drive waves up onto the land (Stephenson Disaster Management Institute 2020). In 2005, Hurricane Katrina significantly altered the shoreline of Lake Lery and the surrounding coastal marsh by separating the contiguous marsh into multiple, broken, fragmented segments. The fragmented condition of the marsh has allowed wave action on the lake to penetrate deeper into the existing marsh, causing further damage and degradation, and a greater potential for flooding in the nearby communities (All South Consulting Engineers 2020). As the climate changes, sea levels are expected to continue to rise and oceans are expected to become warmer, which can intensify flooding from hurricanes and other offshore storms (First Street Foundation 2023). Larger storms and more intense flooding will cause additional damage to this now highly fragmented marsh, wetlands, and habitat, and increase the risk of flooding and damage to surrounding developed and undeveloped areas.

LLMCRR Phase III is part of a series of projects designed to stabilize and protect the lake rim and surrounding marshes. Other projects include the South Lake Lery Shoreline and Restoration Project and the Lake Lery East Shoreline and Marsh Restoration Project, both of which have already been constructed. The South Lake Lery Shoreline and Marsh Restoration Project hardened the shorelines and created marsh along the western and southern boundaries of the lake. The Lake Lery East Shoreline and Marsh Restoration Project restored existing marsh and created additional marsh along the southeastern portion of the shoreline.

2. Purpose and Need

The FMA Grant Program makes federal funds available to states, territories, federally recognized tribes, local communities, and certain types of not-for-profit organizations for projects and planning that reduces or eliminates long-term risk of flood damage to structures insured under the National Flood Insurance Program. The SBPG has applied for FEMA mitigation funding assistance to reduce flood hazards in the parish, specifically within the LLMCRR impact area and the St. Bernard hamlet. The Proposed Action is to construct a permanent armored earthen embankment, earthen spoil containment dikes, and restore adjacent marsh by utilizing dredged material from the bottom of Lake Lery, along the northwestern edge of Lake Lery. The purpose of the Proposed Action is to reduce flood hazards in St. Bernard Parish, specifically within the Lake Lery project impact area and the St. Bernard hamlet.

Heavy wind and wave action from past hurricanes and storms has severely degraded the shoreline and marsh surrounding Lake Lery. Marsh fragmentation allows waves and flooding to extend farther inland leading to greater risk of flooding of the surrounding properties and infrastructure. Prevention of further expansion of Lake Lery from wind- and wave-caused erosion and destruction and further de-stabilization of surrounding wetlands is needed to meet the purpose of reducing flood hazards in St. Bernard Parish. Further degradation or total loss of those wetlands would lead to the reduction of tropical cyclone-caused storm surge buffer capacity that those coastal marshes provide to St Bernard Parish communities. The Proposed Action is needed to protect life and reduce the likelihood of flood damage to property.

3. Alternatives

Per 40 CFR 1501.5l(2), NEPA requires federal agencies to consider the effects of a Proposed Action and any reasonable alternatives on the human and natural environment. The purpose is to identify reasonable alternatives to the Proposed Action to allow for a meaningful outcome of the alternatives' effects on the human and natural environment. This section describes the alternatives considered in addressing the purpose and need.

This section describes the No Action alternative, the Proposed Action, and alternatives that were considered but dismissed from further evaluation in this SEA. Alternatives are evaluated for their ability to address the purpose and need, hazard mitigation goals, engineering constraints, and environmental impacts. The TIG EA included three additional engineering and design projects and two additional construction projects (Table 3.1). These alternatives are not included in the considered alternatives because they are located in other parts of the state and are not considered a connected action to the Proposed Action.

Table 3.1. Alternatives within Louisiana Trustee Implementation Group EA

Proposed Alternative	Project Type
Bayou Pointe-aux-Chenes Ridge and Marsh Creation	Engineering and Design
East Orleans Landbridge Restoration	Engineering and Design
Raccoon Island Barrier Island Restoration	Engineering and Design
Bayou Dularge Ridge and Marsh Creation	Construction
Bayou La Loutre Ridge Restoration and Marsh Creation	Construction

Source: TIG 2022

3.1. No Action Alternative

Under the No Action alternative, no FEMA funding would be provided to SBPG for implementation of the restoration of the northwestern rim of Lake Lery and adjacent marsh to halt ongoing erosion and land loss. Wind-driven wave erosion would not be reduced in this area, and the shoreline of Lake Lery and adjacent marsh would continue to erode. Although the South Lake Lery Shoreline and Marsh Restoration Project and the Lake Lery East Shoreline and Marsh Restoration Project have already been constructed and provide some protection against shoreline erosion, the northwestern edge of Lake Lery would remain unprotected from natural wave action, storm surge, tidal currents, and weather events and would continue to experience shoreline retreat, threatening interior emergent marsh habitat. The No Action alternative would not provide any flood mitigation to the local communities, and residents of St. Bernard Parish would continue to be at risk from flooding that is worsening from the continued deterioration of the marsh and the natural floodplain. This alternative would not meet the overall purpose and need.

3.2. Proposed Action

SBPG proposes to restore approximately 401.2 acres (ac) of marsh by depositing spoil material dredged from nearby Lake Lery into areas surrounded by constructed earthen containment dikes and construct 2.38 miles (mi) of permanent armored earthen embankment between that marsh and Lake Lery along its former northwest shoreline (**Figure 3-1**). The new emergent marsh would be created and restored by adding sediments to raise the elevation to a level that would support marsh vegetation after containment dikes would be constructed along the edge to hold the new sediments in place. The marsh stabilization/creation area would be divided into three cells: Cell 1 would have an area of 117 ac, Cell 2 would have an area of 156 ac, and Cell 3 would have an area of 128.2 ac (**Figure 3-1**). Material for the marsh stabilization/creation would be obtained from a 230-ac designated, mid-lake, borrow area and hydraulically transported through a dredge pipeline into the three cells north of the northwestern lake rim. The existing lake bottom in the borrow area ranges from —4.0 to —5.0 ft below mean sea level (msl) and would have a maximum depth of —20.0 feet (ft) below msl following material removal. The marsh stabilization/creation area would be elevated from its current average elevation of 0.6 ft above msl to an elevation of 3 ft above msl. The newly created marsh would be expected to naturally revegetate (no planting would take place during or after construction). An existing pipeline canal that crosses the project area would be filled with hydraulic dredge material within the marsh creation area.

Earthen containment dikes would be constructed around the perimeter of each of the three cells using material graded from designated adjacent earthen containment dike borrow areas. The earthen containment dikes would be constructed to a crest elevation of 4.0 ft above msl, a top width of 5 ft, and a bottom width of 53 ft, creating a 4:1 slope. Gaps approximately 25 ft wide would be placed every 250 ft on the northern, eastern, and western containment dikes to promote hydraulic conductivity between the surrounding natural marsh and the created marsh. The earthen containment dike borrow area would run parallel to the earthen containment dikes and be set back 25 ft from the dikes within the marsh creation area. The dike borrow area would have a top width of 11 ft, a minimum bottom width of 5 ft, and a maximum depth of 10 ft. These borrow areas would be filled with sediments placed for marsh creation.

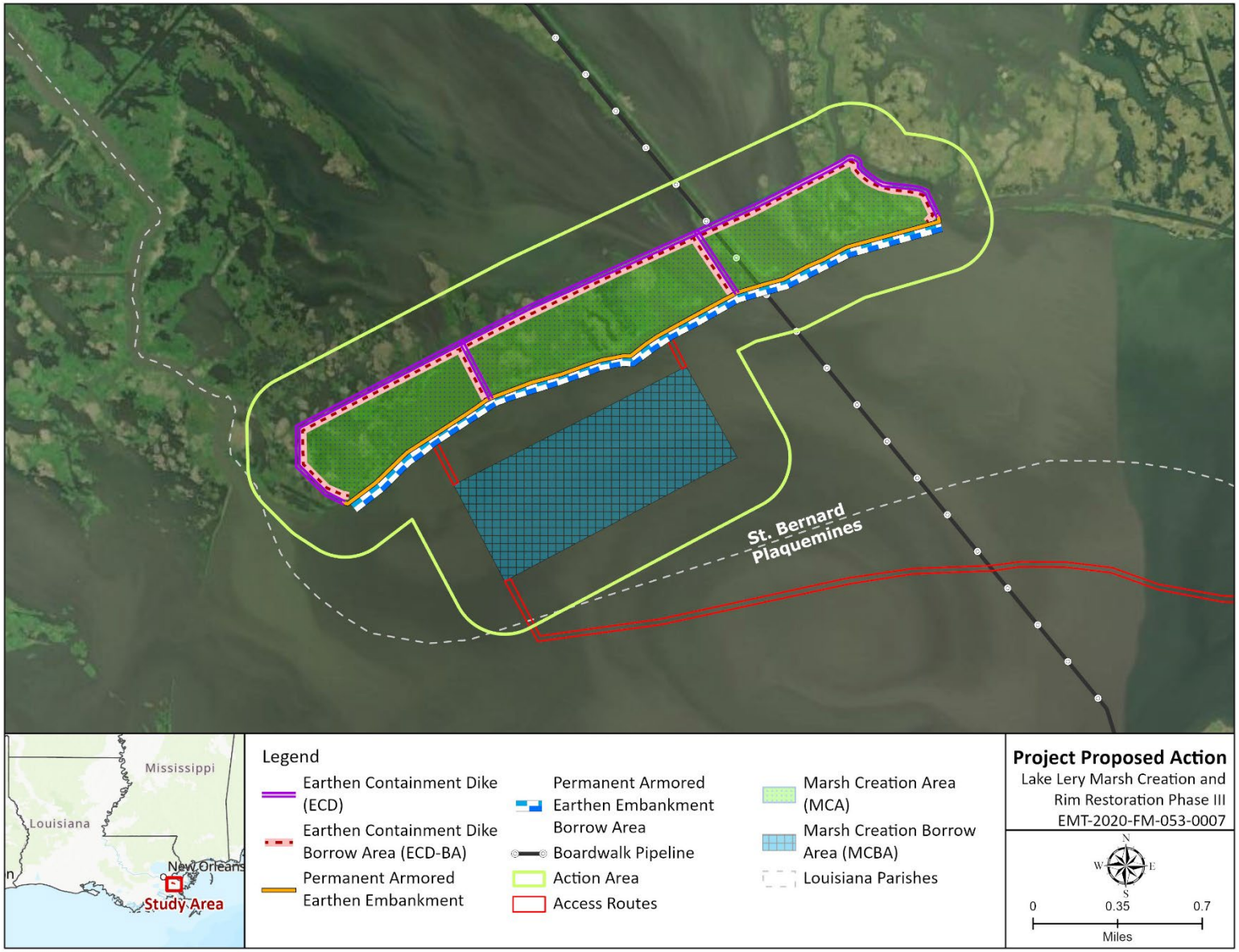

Figure 3-1. Proposed Action Elements

To protect the lake rim, an armored earthen embankment would be constructed between Lake Lery and the marsh stabilization/creation area. The embankment would be armored with an articulated mat to protect against wind-driven wave erosion. Geocomposites would be placed beneath the earthen embankment as it slopes towards the lake. The articulated mat would comprise a layer of geotextile fabric overlain with a 4-inch-thick concrete mattress. A 3-ft-wide concrete mattress would be placed at the toe of the armored embankment for additional protection. The permanent armored embankment would have a maximum elevation of 4.0 ft above msl with an average top width of 30.0 ft, an average bottom width of 78 ft, and the slopes of the embankment would be 4:1. The permanent armored embankment would extend along the lakeshore for the entire project length and then 100 ft landward at each end in front of the earthen containment dikes. Where the permanent armored embankment would cross the existing Boardwalk pipeline, a plug comprised of cement or sandbags would be placed across the pipeline canal opening to the level of the existing marsh. The permanent embankment borrow area would have a maximum depth of 10 ft and be at least 20 ft from the toe of the armored embankment. The embankment borrow area would be parallel to, and extend the length of the armored shoreline and have a top width ranging from 55 to 100 ft and a bottom width ranging from 15 to 60 ft.

Approximately 3,006,693 cubic yards of fill material would be excavated from the borrow areas and placed along with 4,621 cubic yards of concrete for the marsh stabilization/creation, earthen embankments, and embankment armoring.

3.2.1. CONSTRUCTION METHODS

Construction equipment would include road vehicles, such as work trucks and equipment delivery trucks, and non-road equipment, such as barges, barge-mounted excavators, marsh buggies, a barge-mounted hydraulic dredge, work boats, tugboats, bulldozers, and a barge-mounted crane. All in-water work would be conducted from barge-mounted equipment that would minimally disturb the lake bottom from anchoring. Equipment would access Lake Lery via Bayou Lery from Bayou Terre-aux-Boeufs off of Delacroix Highway (LA Highway 300) at the southeastern corner of the lake, and through a 100-ft-wide access corridor through Lake Lery that has adequate water depth for the entire access route. An 18- to 24-inch dredge would be used to obtain the marsh creation material from the lake bottom and would require 5 ft of draft depth. This depth is present in the access corridor, except in the shallower area near the lake rim. It is possible that transportation of the articulated concrete mattress for the permanent armored embankment would require using a deeper-draft barge or light-loading barges. A dredge pipeline would be constructed from the borrow area to the marsh creation area and would float when empty and rest on the lake bottom when full. No dredging would occur within 50 ft of the existing pipeline.

Materials (articulated concreted mats, etc) to construct the permanent armored embankment would be placed using a barge-mounted crane. Marsh buggies would be used to construct the northern side of the permanent armored embankment. Bulldozers would be used to construct the new marsh stabilization/creation cells by grading material from the earthen containment dike borrow areas to build up the earthen containment dikes.

3.2.2. PROJECT DURATION

Construction of the Proposed Action would take approximately 2 years, with most of the in-water work taking approximately 18 months.

4. Affected Environment, Potential Impacts, and Mitigation

The Project Area is situated in the U. S. Environmental Protection Agency (USEPA) Level IV Coastal Marshes ecoregion. This ecoregion consists of flat deltaic and coastal plains with freshwater and saline marshes. Average rainfall in the ecoregion is approximately 65 inches per year with temperatures ranging from a minimum of 44 degrees Fahrenheit in January to a maximum of 92 degrees Fahrenheit in July (Chapman et.al. 2004). Terrain within the Project Area is generally flat, with areas of estuarine marsh and open water. Hydrology, water and soil salinity, land change (accretion, erosion, subsidence), and vegetation communities of the Project Area are heavily influenced by both tropical cyclones and, since 1991, operation of the Caernarvon Freshwater Diversion structure located five mi north-northwest of Lake Lery. The Caernarvon Freshwater Diversion diverts freshwater from the Mississippi River into the Breton Sound Basin and the Project Area is influenced (and often when operating, inundated) by that freshwater as it proceeds south into Lake Lery towards the Gulf of Mexico.

This section describes the environment potentially affected by the alternatives, evaluates potential environmental impacts, and recommends measures to avoid or reduce those impacts. When possible, quantitative information is provided to establish potential impacts, and the significance of potential impacts is evaluated qualitatively based on the criteria listed in **Table 4.1**. The study area generally includes the project area and access and staging areas needed for the Proposed Action. If the study area for a particular resource category is different from the project area, the differences will be described in the appropriate subsection.

Table 4.1. Evaluation Criteria for Potential Impacts

Impact Scale	Criteria
None/Negligible	The resource area would not be affected, or changes or benefits would be either nondetectable or, if detected, would have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, although the changes would be small and localized. Impacts or benefits would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Changes to the resource would be measurable and have either localized or regional-scale impacts/benefits. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse effects.

Impact Scale	Criteria
Major	Changes would be readily measurable and would have substantial consequences on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resource would be expected.

4.1. Resources Not Considered Further

The following resources are either fully covered in the TIG EA or would not be affected by either the No Action alternative or the Proposed Action because they do not exist in the project area, or the alternatives would have no effect on the resource. These resources have been removed from further consideration in this SEA.

Table 4-2. Resources Eliminated from Further Consideration

Resource Topic	Reason for Elimination
Geology	Soil surveys performed by the Sub-grantee showed that the deepest extent of the proposed borrow area would not reach bedrock. The No Action alternative would not involve any construction or have any effects on geology. Therefore, there would be no impact on geological resources from either alternative.
Soils and Topography	Potential effects of both alternatives are adequately described in the TIG EA.
Farmland Protection Policy Act	According to the U.S. Department of Agriculture National Resources Conservation Service (USDA-NRCS), none of the soils within the project area are classified as farmland of statewide importance or prime farmland (U.S. Department of Agriculture 2023). Therefore, the Farmland Protection Policy Act would not apply.
Air Quality and Climate Change	Potential effects of both alternatives are adequately described in the TIG EA.
Surface Waters and Water Quality	Potential effects of both alternatives are adequately described in the TIG EA. SBPG received authorization from U.S. Army Corps of Engineers (USACE) under Category II of the Programmatic General Permit (MVN 2018-01345 ES) for the proposed project activities. SBPG will adhere to all conditions within the permit.
Wild and Scenic Rivers Act	According to the National and Wild and Scenic Rivers map (U.S. Forest Service 2023) the closest wild and scenic river, the Black Creek River, is approximately 93 mi northeast of the project area. Thus, the alternatives would have no effect on wild and scenic rivers.

Resource Topic	Reason for Elimination
Sole Source Aquifers	According to the USEPA) sole source aquifer map (EPA 2023), there are no sole source aquifers designated in St. Bernard Parish; therefore, the alternatives would have no effect on sole source aquifers.
Coastal Resources	Potential effects of both alternatives are adequately described in the TIG EA. SBPG submitted an application to the Louisiana Department of Natural Resources (LDNR) Office of Coastal Management for coastal work and obtained a Coastal Use Permit (CUP P20200531). SBPG will adhere to all conditions within the permit.
Coastal Barrier Resources Act	Project is not within or near a Coastal Barrier Resource System or otherwise protected area, therefore there would be no impact on any Coastal Barrier Resource System areas.
Noise	Potential effects of both alternatives are adequately described in the TIG EA.
Land Use and Zoning	The proposed action would not change existing land uses and is consistent with the current zoning. None of the alternatives would affect land use or zoning.
Transportation	Potential effects of both alternatives are adequately described in the TIG EA.
Utilities and Public Services	Potential effects of both alternatives are adequately described in the TIG EA.
Public Health and Safety	Potential effects of both alternatives are adequately described in the TIG EA.
Cumulative Impacts	Potential effects of both alternatives are adequately described in the TIG EA.

4.2. Wetlands

Executive Order (EO) 11990, Protection of Wetlands, requires federal agencies to consider alternatives to work in wetlands and requires avoidance of, to the extent possible, adverse impacts to wetlands if there are no practicable alternatives. EO 11990 also requires minimization of the destruction, loss or degradation of wetlands and encourages preservation and enhancement of their natural and beneficial values. FEMA regulation 44 CFR Part 9, Floodplain Management and Protection of Wetlands, sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990 and prohibits FEMA from funding activities in a wetland unless no practicable alternatives are available. Activities that disturb wetlands may also require a permit from USACE under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (RHA), and coordination with the USEPA and the applicable state water quality agency.

According to a review of the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory, there are approximately 359 ac of estuarine wetlands with intertidal habitats and emergent persistent vegetation with brackish water that are irregularly flooded within the project area where marsh nourishment would take place (USFWS 2023b). The proposed dredge area (approximately 241 ac) and portions of the marsh creation area (approximately 123 ac) are in open water and are not classified as wetlands (**Figure 4-1**). The National Wetlands Inventory data in the project area is based on imagery from 1988. Using aerial imaging from January 2024. shows the current marsh area is reduced from that shown on the National Wetlands Inventory maps from ongoing damage and degradation of the marsh. There is currently only approximately 236 ac of wetland habitat within the project area. Conversely, there is more open water (approximately 164 ac) within the marsh creation area. For the purpose of this SEA, current wetland conditions will be assessed.

The TIG EA described potential wetland impacts as part of the water quality analysis in Section 4.3.3.1.2 (Hydrology and Water Quality) (TIG 2022). However, the analysis only covered potential impacts on water quality within the wetlands; additional evaluation of potential impacts is provided in this SEA.

4.2.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no FEMA funding would be provided to SBPG, and construction activities related to shoreline and marsh protection would not occur; therefore, there would be no short-term construction-related impacts on wetlands. In the long term, the No Action alternative would not mitigate erosion and wind-driven wave action would continue to damage the Lake Lery shoreline and interior emergent wetlands leading to increased flooding and property damage. Therefore, there would be a moderate adverse impact on wetlands in the long term.

4.2.2. PROPOSED ACTION

The Proposed Action would result in temporary loss of approximately 236 ac of wetland habitat from marsh nourishment. Marsh nourishment involves covering existing wetlands with dredged materials to raise the surface elevation. Placement of dredge material would adversely impact the existing wetlands in the short term by burying wetland vegetation. Additionally, construction activities may increase turbidity and suspended sediments in the water column of Lake Lery, temporarily reducing water quality within the project area. Natural water movements could transfer the increased turbidity and suspended sediments from the project area to surrounding wetlands, which could adversely impact those surrounding wetland habitats. Therefore, in the short term, the Proposed Action would have a moderate adverse impact on wetlands.

Figure 4-1. National Wetlands Inventory: Wetlands

Approximately 9,114 ft of earthen containment dike would be constructed within existing wetlands. The lower edges of the earthen containment dike would be low enough in elevation that they would become inundated allowing wetlands to re-establish along the base of the dike. However, there would be an approximately 5-ft wide area on top of the dike that would be too high in elevation to become inundated and for emergent wetlands to become established. Therefore, there would be approximately 1.05 ac of existing emergent wetland habitat permanently impacted by the construction of the earthen containment dike along the north, east, and west edges of the marsh creation and nourishment area that would be converted to scrub/shrub habitat. The armored earthen embankment along the south edge of the marsh creation and nourishment area would be constructed in open water. Wetlands would not form on the embankment because the concrete mattress would prevent vegetation from becoming established. However, emergent wetlands would be created within approximately 164 ac of open water in the marsh creation area resulting in an increase in wetland area. Additionally, despite the short-term adverse impacts on the existing 236 ac of emergent wetlands, the existing project area wetlands would benefit in the long term from nourishment and shoreline protection (**Figure 4-2**). The marsh nourishment and shoreline protection would make the existing project area and adjacent wetlands more resilient against storm surge and sea level rise. Therefore, there would be a moderate beneficial impact on wetlands in the long term from the net gain of approximately 164 ac of new emergent wetland habitat and the protection of approximately 236 ac of existing wetland habitat.

FEMA completed an eight-step decision making process for the Proposed Action (**Appendix A.**), which indicated that implementation of this project would have more beneficial than detrimental impacts on wetlands and that there is no practicable alternative to conducting the project within wetlands.

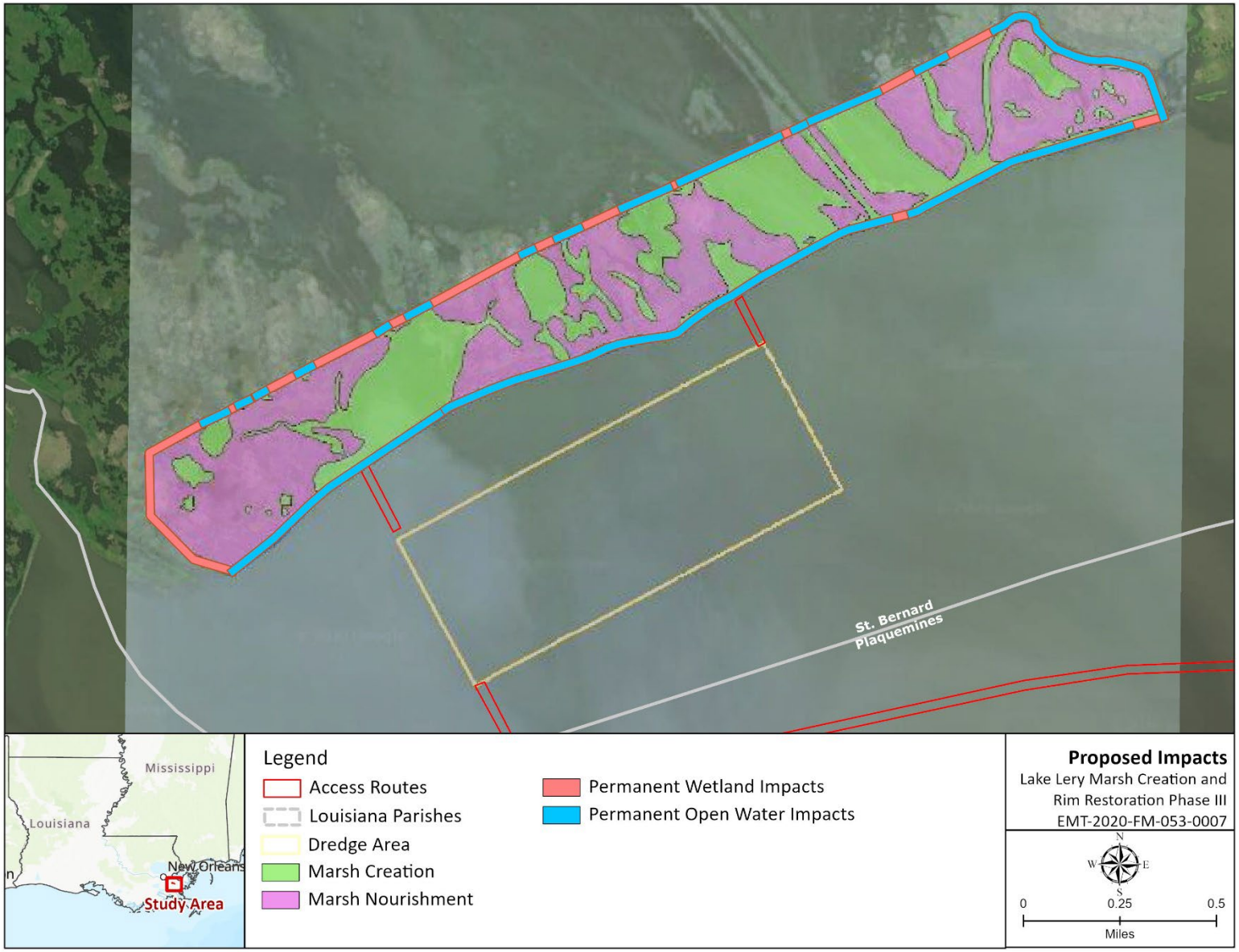

Figure 4-2. Wetland Impacts

4.3. Floodplains

EO 11988, Floodplain Management, requires federal agencies to avoid, to the extent possible, short- and long-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practical alternative. FEMA regulations (44 CFR Part 9.7) use the 1-percent-annual-chance flood as the minimum area for floodplain impact evaluation. FEMA uses an eight-step decision-making process to ensure compliance with EO 11988, which requires the evaluation of alternatives to use of the floodplain prior to funding the action.

Based on FEMA Flood Insurance Rate Map panels 22087C0755D and 22087C0765D, effective December 21, 2017, the project area is within Zone VE, which has a 1-percent or greater probability of flooding each year and an additional hazard associated with storm waves. Predicted floodwater elevations or base flood elevations for the project area are 20 ft above msl (FEMA 2023a). The flood zone was identified within the TIG EA; however, floodplain impacts were not analyzed and are therefore covered in this SEA.

4.3.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no FEMA funding would be provided to SBPG, and construction activities related to shoreline and marsh protection would not occur; therefore, there would be no short-term construction-related impacts on floodplains. In the long term, the No Action alternative would not mitigate flood hazards associated with loss of marsh cover within St. Bernard Parish and the Lake Lery shoreline would continue to degrade during storms, leading to greater risk of flooding of the surrounding properties and infrastructure. Therefore, the No Action alternative would have a minor to moderate adverse impact on floodplains in the long term.

4.3.2. PROPOSED ACTION

The Proposed Action would have a short-term minor adverse impact on floodplains as construction activities within the floodplain would cause a temporary loss of vegetation, which could lead to erosion and sedimentation. The placement of the containment dikes and compliance with permit-related BMPs would minimize potential impacts. In the long term, the improved marsh area would reduce wave action and flooding from strong winds and decrease the frequency and magnitude of floods in the Lake Lery project impact area and St. Bernard hamlet. Marsh creation and restoration would decrease the frequency and magnitude of floods over the long term, reducing the loss of life and property, and public service disruptions (i.e., electrical repair, roadway repair). The Proposed Action would have a long-term moderate beneficial effect related to floodplains by reducing the erosion that threatens floodplain habitat and improving the functions and values of the floodplain.

FEMA completed an eight-step decision making process for the Proposed Action (**Appendix A)**, which indicated that implementation of this project would have more beneficial than detrimental impacts on floodplains and that there is no practicable alternative to conducting the project within the

floodplain. The SBPG would be required to coordinate with the local floodplain manager prior to construction.

4.4. Vegetation

Vegetation data were collected near the project area as part of the Louisiana Coastwide Reference Monitoring System (U.S. Geological Survey 2023). These data indicate that the project area supports a mix of freshwater and intermediate marsh plant species (**Table 4.3**). The habitat designation for the project area is intermediate marsh. Intermediate marsh habitats share characteristics of both freshwater and saline marshes and are found between freshwater and brackish marshes. The intermediate marsh habitat type can be identified by the presence of wire grass (*Spartina patens*), a common dominant species in brackish marshes, and a mixture of species that typically occur in freshwater habitats such as bulrush (*Schoenoplectus* spp.), cattail (*Typha* spp.), and water lily (*Nymphea* spp.) (Thomas 2008).

Table 4.3. Vegetation at Coastwide Reference Monitoring System Sites near Lake Lery

Scientific Name	Common Name
Aeschynomene indica	Indian Jointvetch
Alternanthera philoxeroides	Alligator weed
Ameranthus australis	Southern Amaranth
Bacopa monnieri	Waterhyssop
Cyperus odoratus	Fragrant Flatsedge
Echinochola walteri	Coast Cockspur Grass
Ipomoea sagittata	Saltmarsh Morning Glory
Pluchea camphorate	Camphor Pluchea
Saccharium giganteum	Sugarcane Plumegrass
Salix nigra	Black Willow
Schoenoplectus americanus	Chairmaker's Bulrush
Schoenoplectus tabernaemontoni	Softstem Bulrush
Sesbania drummondii	Poisonbean
Spartina patens	Saltmeadow Cordgrass
Typha spp.	Cattail
Vigna luteola	Hairypod Cowpea

EO 13112, Invasive Species, requires federal agencies, to the extent practicable, to prevent the introduction of invasive species and provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause. Invasive species, such as alligator weed, prefer disturbed habitats and generally possess high dispersal abilities, enabling them to out-compete native species.

4.4.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no FEMA funding would be provided to SBPG, and construction activities related to shoreline and marsh protection would not occur; therefore, there would be no short-term construction-related impacts on vegetation. In the long term, the No Action alternative would not mitigate erosion and wind-driven wave action would continue to damage the Lake Lery shoreline and emergent wetland vegetation, resulting in a moderate adverse effect on vegetation.

4.4.2. PROPOSED ACTION

Impacts on vegetation under the Proposed Action would be generally consistent with those described in Section 4.3.3.2.1 (Habitats) of the TIG EA. However, the following further describes the spatial and temporal scope of expected impacts from the Proposed Action with respect to vegetation. The Proposed Action would result in the temporary loss of approximately 236 ac of emergent wetland vegetation during construction (**Figure 4-2**). The nourishment of approximately 236 ac of existing emergent wetlands would have moderate short-term adverse impacts on vegetation where extant plants are buried beneath dredged material. Additionally, there would be some short-term adverse impacts on vegetation from construction in and around the restoration area during fill placement and from the use of heavy machinery, such as bulldozers and marsh buggies to construct the containment dikes.

In the long term, the Proposed Action would result in permanent loss of approximately 11 ac of emergent wetland vegetation from construction of the earthen armored embankment. However, approximately 164 ac of open water would be converted to emergent wetlands and allowed to self-vegetate. Therefore, once the created marsh areas have had time to naturally revegetate, there would be a net gain of approximately 153 ac of emergent wetland habitat. The 236 ac of existing emergent wetland vegetation would benefit from nourishment and shoreline protection. Although invasive species (e.g., alligator weed) may become established in some newly created habitats initially, the net gain of emergent wetland habitats combined with the restoration and increased resilience of existing marsh habitat would have a moderate beneficial effect on vegetation in the long term as vegetation composition is expected to generally reflect the diversity of species shown in **Table 4.3** at later successional stages.

4.5. Fish and Wildlife

Fish and wildlife include the species that occupy, breed, forage, rear, rest, hibernate, or migrate through the project area. Regulations relevant to fish and wildlife include the Migratory Bird Treaty

Act (MBTA) of 1918, as amended, the Bald and Golden Eagle Protection Act of 1940, the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and wildlife and fisheries management laws and regulations of the State of Louisiana. Threatened and endangered fish and wildlife species are evaluated separately in Section 4.6.

There are no fish or wildlife species found exclusively in intermediate marshes; however, intermediate marsh habitats generally support a greater diversity and abundance of fauna than either brackish or freshwater marshes. For example, American alligator (*Alligator mississippiensis*) nesting densities are highest in intermediate marsh habitat compared to other marsh habitats and the preferred diet of mammals such as the nutria (*Myocastor coypus*) and muskrat (*Ondatra zibethicus*) includes bulrush found in intermediate marsh. Fish species that tolerate a range of salinities, such as black crappie (*Pomoxis nigromaculatus*), bluegill (*Lepomis macrochirus*), and largemouth bass (*Micropeterus salmoides*), can be found in intermediate marsh habitats. Several larval marine organisms, such as brown shrimp (*Crangon crangon*), white shrimp (*Litopenaeus setiferus*), and blue crabs (*Callinectes sapidus*), spawn in the Gulf of Mexico and use the salinity gradients provided by intermediate marsh habitats throughout their various life stages (Thomas 2008, Louisiana Coastal Wetlands Conservation and Restoration Task Force 2017).

The MBTA (16 United States Code [USC] 703–711), provides protection for migratory birds and their nests, eggs, and body parts from take, harm, sale, possession, or other injurious actions except under the terms of a valid permit issued pursuant to federal regulations. USFWS is the lead federal agency for implementing the MBTA, which protects most native birds. Existing habitat in the project area has the potential to support a variety of native bird species, including the gull-billed tern (*Gelochelidon nilotica*), king rail (*Rallus elegans*), swallow-tailed kite (*Elanoides forficatus*), and prothonotary warbler (*Protonotaria citrea*) (USFWS 2020b). The nesting season for migratory birds is generally March through July, depending on the species. However, Louisiana has a relatively long breeding season that allows some species to raise more than one brood per year (Loyola University Center for Environmental Communication n.d.).

The Bald and Golden Eagle Protection Act prohibits the take, (such as disturbance or injury), possession, sale, or other harmful action of any golden (*Aquila chrysaetos*) or bald eagle (*Haliaeetus leucocephalus*), alive or dead, including any part, nest, or egg unless allowed by permit (16 USC 668[a]). This act requires coordination with USFWS to ensure that proposed federal actions do not cause take of bald or golden eagles. Bald eagles have been observed on numerous occasions around Lake Lery (eBird 2023). Golden eagles typically inhabit sparsely populated areas of the western U.S., and although they may migrate through the project area, there is no suitable golden eagle habitat for resting or foraging within or near the project area. Therefore, golden eagles are not considered further.

The MSA (16 USC 1802) fosters the long-term biological and economic sustainability of our nation's marine fisheries. Under the act, the National Marine Fisheries Service (NMFS) designates essential fish habitat (EFH), which is defined as "those waters and substrate necessary for federally managed

species to spawn, breed, feed, and/or grow to maturity." Those waters include aquatic areas and their associated physical, chemical, and biological habitat features necessary to support the entire life cycle of the species in question and may include areas historically used by these species. Section 305(b)(2) of the MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to assess the potential effects of Proposed Actions and alternatives on EFH and to consult with NMFS on any actions that may adversely affect EFH for species that are managed under federal fisheries management plans (FMP) for U.S. waters. According to the NMFS EFH Mapper, the Gulf of Mexico Fishery Management Council has designated the portion of Lake Lery within the project area as EFH under the Shrimp, Red Drum, Reef Fish, and Coastal Migratory Pelagic FMPs (NOAA 2023). The species for which EFH has been designated that have the potential to occur within the project area are shown in **Table 4.4**, organized by their corresponding FMP.

Table 4.4. Federally Managed EFH Species with Potential to Occur Within the Project Area

Fisheries Management Plan	Common Name	Scientific Name
Shrimp Fishery Management Plan	Brown Shrimp	*Farfantepenaeus aztecus*
Shrimp Fishery Management Plan	White Shrimp	*Litopenaeus setiferus*
Shrimp Fishery Management Plan	Northern Pink Shrimp	*Farfantepenaeus duorarum*
Red Drum Fishery Management Plan	Red Drum	*Sciaenops ocellatus*
Reef Fish Resources Management Plan	Mutton Snapper	*Lutjanus analis*
Reef Fish Resources Management Plan	Schoolmaster Snapper	*Lutjanus apodus*
Reef Fish Resources Management Plan	Cubera Snapper	*Lutjanus cyanopterus*
Reef Fish Resources Management Plan	Gray Snapper	*Lutjanus griseus*
Reef Fish Resources Management Plan	Yellowtail Snapper	*Ocyurus chrysurus*
Reef Fish Resources Management Plan	Black Grouper	*Mycteroperca bonaci*
Coastal Migratory Pelagics Fishery Management Plan	Spanish Mackerel	*Scomberomorus maculatus*

Sources: Gulf of Mexico Fishery Management Council 1981a, 1981b; NMFS 1986; Gulf of Mexico and South Atlantic Fishery Management Councils 1983

4.5.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no FEMA funding would be provided to SBPG, and construction activities related to shoreline and marsh protection would not occur; therefore, there would be no short-term construction-related impacts on wetlands. In the long term, the No Action alternative would not mitigate erosion, and wind-driven wave action would continue to deteriorate existing emergent wetland habitats, which could increase competition and may cause individuals to relocate to healthier wetlands. Therefore, the No Action alternative would have a minor to moderate adverse impact on fish and wildlife species including eagles and migratory birds, as well as EFH.

4.5.2. PROPOSED ACTION

As discussed in Section 4.3.3.2.2 (Wildlife) of the TIG EA, the Proposed Action would have minor, short-term adverse impacts on terrestrial fauna owing to temporary displacement and habitat loss during construction. However, displaced fauna would likely relocate to similarly suitable habitat in the vicinity and return to the newly created marsh habitats upon completion of the Proposed Action. The Proposed Action would restore and stabilize 236.62 ac of emergent wetland habitat and create an additional 153.7 ac. In the long term, that increase of the quantity and quality of habitat would have a moderate, beneficial impact on terrestrial fauna within the project area.

The primary categories of EFH affected by project implementation are estuarine intermediate emergent marsh, estuarine mud bottoms, and estuarine water column. The primary anticipated impacts on EFH and managed fisheries resulting from the Proposed Action are outlined below:

- Increased sediment loads and turbidity in the water column;
- Temporary disturbance and displacement of fish species;
- Temporary loss of food items to fisheries;
- Disruption or destruction of bottom habitats; and
- Temporary noise disturbance of fish species.

Dredging activities, marsh creation activities, and construction of the permanent armored embankment would suspend sediment in the water column resulting in elevated turbidity and increased sediment deposition. Increased turbidity and temporary noise disturbance of fish species associated with dredging and marsh creation would likely cause many species and life stages of fish described in Table 4.4 to avoid the area resulting in temporary displacement and disruption of normal foraging behavior. Increased sediment deposition has the potential to smother and kill benthic organisms such as juvenile shrimp and other invertebrates, upon which fish species within the red drum, reef fish, and coastal migratory pelagic fishery management units prey. However, because the life stages of fishes that would be affected are highly mobile, it is anticipated that they would readily move to comparable foraging habitat outside the Project Area and return to areas within the Project Area once dredging and/or construction activities are complete. Juvenile shrimp are benthic and, as such, are frequently exposed to high turbidity. However, the continual exposure of juvenile shrimp to high turbidity could cause reduced feeding activity or impaired gill functions resulting in stress or mortality (Lin et al. 1992).

Through development and adherence to BMPs such as a turbidity control plan, impacts on aquatic fauna and EFH from turbidity and sediment deposition would be minimized to the extent practicable through the use of floating turbidity curtains and conducting turbidity monitoring, which would inform dredging operations ensuring that turbidity levels remain below defined thresholds. Furthermore, benthic organisms, including shrimp, are expected to quickly recolonize areas that have been subject

to sediment deposition following project completion. Therefore, the effects of increased turbidity on EFH for species included in the shrimp, red drum, reef fish, and coastal migratory pelagic fishery management units would be temporary, short-term, and localized.

The Proposed Action would convert approximately 164 ac of open water habitat to intertidal wetland habitat. Dredging of the bottom of Lake Lery and construction of the permanent earthen embankment along the perimeter of the newly created wetlands would cause disruption or destruction of bottom habitats and initially restrict shrimp and fish access, temporarily reducing EFH within the Project Area. However, once the marsh creation fill material has settled to intertidal elevations and drainage gaps have been installed in the armored embankment, shrimp and fish would gain access to the newly created marshes and the improved resources that they would provide (e.g., food, cover). This would have a long-term beneficial impact on species included in the shrimp, red drum, reef fish, and coastal migratory pelagic fishery management units by increasing the availability of high-quality nursery habitat within the Project Area.

As discussed above and in Section 4.3.3.2.3 (Marine and Estuarine Fauna) of the TIG EA, implementation of the Proposed Action would have minor to moderate short-term adverse impacts on aquatic fauna and associated EFH. Direct loss to shrimp and fish populations, if any, are likely to be undetectable. Recovery of temporarily impacted water bottoms and benthic habitat within the dredge borrow portion of the Project Area is expected to occur quickly. The conversion of open-water habitat through marsh creation and construction of the permanent armored embankment to intertidal wetland habitat would result in the short-term loss of open-water habitat in the Project Area for federally managed shrimp and fish species. However, that loss would be offset because the newly created and stabilized intertidal marshes would provide new additional high-quality spawning and nursery habitat for aquatic species. The stabilized estuarine marsh habitat and reduction of land-loss caused by erosion of the Lake Lery shoreline prevented by construction of the permanent earthen embankment would serve to offset impacts from the loss of open-water habitat. The Proposed Action would also assist in increasing the longevity of EFH adjacent to the AA. Construction of the permanent earthen embankment would initially restrict fish access and reduce EFH within the project area. However, once the fill material has settled to intertidal elevations and drainage gaps have been installed in the armored embankment, fish would gain access to the newly created marshes and the resources they would provide (e.g., food, cover), which would have a moderate, long-term beneficial impact on aquatic wildlife and would increase EFH in the long term. FEMA prepared a Biological Assessment (BA) evaluating the effects of the Proposed Action on EFH. The BA was submitted to NMFS for informal consultation on March 21, 2024. On March 21, 2024, NMFS concurred with a finding that the Proposed Action may adversely affect EFH, but that such effects would be temporary, short-term, and less than substantial.

Additionally, in compliance with the MSA, USACE initiated, and completed as required, consultation with NMFS during their deliberation whether to authorize this project under Section 404 of the CWA (**Appendix C**). Due to the motility of the species considered present (Shrimp, Red Drum, Coastal Migratory Pelagics, and Reef Fish). and the relatively small area of disturbance compared to similar

available habitat, the proposed work should result in no more than minimal adverse effects to EFH, either individually or cumulatively. In an email to USACE dated July 27, 2020, NMFS stated "The NMFS Habitat Conservation Division has reviewed the project, and does not object to the issuance of the following (USACE) permit."

Birds are highly mobile and typically able to fly away from construction noise and disturbance thereby avoiding direct impacts from project implementation. However, if construction occurs during the migratory bird breeding season (i.e., February through July), related activities could result in nest destruction and/or the loss of eggs and young. To minimize or avoid impacts on species protected under the MBTA, the Proposed Action would be conducted in accordance with the best management practices (BMP) prescribed in Section 6A.1.1.2 of the PDARP/PEIS (NOAA 2016). With the implementation of these BMPs, the Proposed Action would have negligible to minor short-term adverse impacts on species protected under the MBTA. In the long term, the Proposed Action would have a moderate beneficial impact on species protected under the MBTA by creating marsh habitats that would provide increased nesting and foraging resources.

Bald eagles are known to occur regionally, and open-water portions of the project area provide suitable foraging habitat for the species. Neither the project area nor its vicinity are expected to support bald eagle nesting sites because of the lack of large trees. Therefore, the Proposed Action is not expected to result in disturbance to nesting bald eagles. However, if bald eagle breeding or nesting behaviors are observed within or near the project area, the BMPs described in Section 6A.1.1.1 of the PDARP/PEIS would be implemented to avoid or minimize effects on bald eagles. Therefore, the Proposed Action would have a negligible short-term impact on bald eagles and would have no long-term impact on the species.

4.6. Threatened and Endangered Species and Critical Habitat

The Endangered Species Act (ESA) of 1973 establishes protections for fish, wildlife, and plants that are listed as threatened or endangered. The ESA also provides the authority to USFWS and NMFS for adding or removing species from the list of threatened and endangered species, for preparing and implementing plans for those species' recovery, for interagency cooperation to avoid direct take (e.g., injuring, killing, or harassing) and indirect take (e.g., destruction of habitat) of listed species, for issuing permits for otherwise prohibited activities, and for cooperation with States, including authorization of financial assistance. All federal agencies are required to consult with the USFWS and NMFS, in accordance with Section 7(a)(2) of the ESA, regarding the potential effects of federally funded, authorized, permitted, or initiated actions on federally listed or proposed species. The federal agency (FEMA) that is initiating or funding the action in question must ensure any action authorized, funded, or carried out will not (1) jeopardize the continued existence of any federally listed species or a species proposed to be listed, or (2) result in the adverse modification of designated or proposed critical habitat.

The ESA defines the action area as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action" (50 CFR 402.02). Therefore, the action area where effects on listed species must be evaluated may be larger than the project area where project activities would occur. Increased total suspended sediment within aquatic habitats from dredging activities and dewatering of dredged sediment is expected to be the farthest-reaching effect of the Proposed Action and thus an appropriate determinant of the action area's extent. Hence, the action area is defined to extend to the point where total suspended sediment concentrations would be comparable to existing background levels. This is estimated to be approximately 1,000 ft from where dredging and marsh creation and nourishment would occur.

Based on the USFWS Information for Planning and Consultation tool and the NMFS Threatened and Endangered Species List for Louisiana, both accessed June 29, 2023, two listed species and one proposed species have the potential to occur in the action area, all of which are managed by USFWS (NMFS 2022, USFWS 2023a) (**Table 4.5**). The likelihood of these species to occur within the action area is evaluated below.

Section 4.3.3.2.4 (Protected Species) of the TIG EA analyzed potential environmental consequences for six ESA listed or proposed species (West Indian manatee, eastern black rail, monarch butterfly, Kemp's Ridley sea turtle, loggerhead sea turtle, and green sea turtle). This SEA further analyzes potential effects on the eastern black rail and West Indian manatee because they have some potential to occur in the action area. Additionally, this SEA analyzes potential effects on the alligator snapping turtle, which was proposed to be listed as threatened under the ESA on November 9, 2021 (USFWS 2021b). Other than eastern black rail, West Indian manatee, and alligator snapping turtle, FEMA excluded all other listed or proposed species from further analysis because no other listed or proposed species' known range, designated critical habitat, or potentially suitable habitat is located within the action area, nor would the Proposed Action potentially impact proposed or listed species occurring elsewhere.

Table 4.5. Federally Listed Species Potentially in the Project Area

Common Name	Scientific Name	Status
Birds		
Eastern Black Rail	*Laterallus jamaicensis* ssp. *jamaicensis*	Threatened
Mammals		
West Indian Manatee	*Trichechus manatus*	Threatened
Reptiles		
Alligator Snapping Turtle	*Macrochelys temminckii*	Proposed Threatened

Sources: USFWS 2023a

No designated critical habitat for any listed species occurs within 5 mi of the project area. The nearest designated critical habitat is approximately 7.8 mi northeast of the project area and is designated for Gulf sturgeon in the Mississippi River (*Acipenser oxyrinchus desotoi*) (USFWS 2003).

Eastern Black Rail: The Eastern black rail is a wetland-dependent bird that requires dense vegetative cover and moist (occasionally dry) to saturated soils that are interspersed with or adjacent to very shallow water. This species occurs across an elevational gradient that offers elevated refugia (i.e., a wetland-upland transition zone) with dense vegetative cover to escape high water events that is between lower, wetter portions of the marsh and contiguous uplands. Eastern black rails can be found in a variety of salt, brackish, and freshwater wetland habitats that can be tidally or non-tidally influenced (USFWS 2019b). An analysis of point count data by Johnson and Lehman (2021) from 1,239 eastern black rail surveys in Cameron, Vermilion and Jefferson Parishes, LA, across multiple seasons indicated that Gulf cordgrass (*Spartina spartinae*) was an important predictor of occupancy, consistent with findings by Tolliver et al. (2018) in coastal Texas. Gulf cordgrass is often considered a "high marsh" or "terrestrial border" obligate because of its tolerance of high salinity soils that are irregularly inundated by storm surge, and not daily tidal fluctuations. Despite Gulf cordgrass-dominated wetlands being the best current predictor of eastern black rail occupancy, several detections occurred in saltgrass (*Distichlis spicata*) or turtleweed (*Batis maritima*) dominated coastal wetlands and one bird was found in saltmeadow cordgrass (*Spartina patens*) dominated habitat. However, the only locality where the single eastern black rail was observed in saltmeadow cordgrass dominated habitat was also a "high marsh." The action area contains areas of estuarine marsh habitat with dense vegetative cover that could possibly be used by the species for nesting and/or foraging. Therefore, the Eastern black rail has the potential to occur within the action area. However, because the action area is a highly fragmented, intermediate marsh influenced by the Caernarvon Freshwater Diversion, is not dominated by Gulf cordgrass, saltgrass, or turtleweed, does not contain elevated upland habitats required by the species for refugia, and given that population estimates of the species in Louisiana are extremely low (USFWS 2019b, Johnson and Lehman 2021), the likelihood that Eastern black rail occurs in the action area is extremely low.

West Indian Manatee: The West Indian manatee is a large, docile, barrel-shaped aquatic mammal that typically inhabits marine open water, bays, and rivers and is most common in Florida, but occasionally found in Louisiana, Mississippi, Georgia, North Carolina, and South Carolina (Louisiana Department of Wildlife and Fisheries n.d.). Manatees are generally restricted to rivers and estuaries, although they may use brackish and marine habitats to move between preferred sites. Manatees are herbivorous and eat a variety of aquatic plants. They are often found in waters with submerged aquatic beds or floating vegetation and in coastal areas, particularly those with flourishing seagrass beds. Manatees generally avoid areas with strong currents and prefer waters at least 4 to 7 ft deep. Most manatee sightings in Louisiana are east of the Mississippi River, which may serve as a barrier for them (Wilson 2003, Louisiana Wildlife and Fisheries n.d.). According to data obtained from the Dauphin Island Sea Lab's Manatee Sighting Network, manatees have not been observed within or near (i.e., within 5 mi) the action area (Dauphin Island Sea Lab 2023). The marsh nourishment/creation area does not support water deep enough for manatee passage, and the

borrow pit area does not support submerged aquatic beds or floating vegetation that manatees typically rely on for food. Additionally, the indirect route required to access Lake Lery from the Gulf of Mexico greatly reduces the likelihood of manatees occurring within the action area. Therefore, while manatees have the potential to occur within the action area, this potential is extremely low and any occurrence of the species would likely be transitory.

Alligator Snapping Turtle: Because the alligator snapping turtle is a proposed species, it is not yet protected by the take provisions of Section 9 of the ESA until the rule to list is finalized. This species is generally found in deeper freshwater rivers and their major tributaries. However, it is also found in a wide variety of aquatic habitats, including small streams, bayous, canals, swamps, lakes, reservoirs, ponds, and oxbows (a lake that forms when a meander of a river is cut off), and can spend prolonged periods of time in brackish water. Alligator snapping turtles are most often found in areas with in-stream structure such as submerged logs, root wads, and debris, overhanging banks, and adjacent riparian forest. Sandy soils or other dry substrate within 8 to 656 ft of the edge of freshwater sources are required for nesting (USFWS 2021a). The action area consists of intermediate to brackish salinity open water of Lake Lery and adjacent intermediate fragmented marsh with no presence of tree canopy, steep-sloped riverbanks, sandy soils, or underwater or bank structures consisting of tree root masses, stumps, or submerged trees. Lake Lery, Bayou Lery, and nearby oilfield canals do provide open water habitat within the action area that could provide one parameter of suitable foraging habitat for the alligator snapping turtle. However, the shallow (5 ft or less) water depths and salinity with a lack of overstory canopy and underwater or bank structures within the action area are not ideal for alligator snapping turtles, which generally prefer deeper freshwater habitat with a higher percentage of canopy cover, No suitable nesting or juvenile rearing habitat is present at, or within miles of, the action area. Additionally, alligator snapping turtles prefer freshwater habitats and only occasionally enter brackish waters. Therefore, while alligator snapping turtles have the potential to occur within the action area, this potential is extremely low and likely to be limited to transient occurrences of adult individuals potentially moving through the action area enroute to suitable freshwater habitats closer to the Mississippi River.

The Marine Mammal Protection Act (MMPA) of 1972 (16 USC 31) establishes a federal responsibility to conserve marine mammals, with management authority partitioned to NMFS for cetaceans (whales, dolphins, and porpoises) and pinnipeds (seals and sea lions, with the exception of walrus) and USFWS for all other marine mammals (e.g., manatees, sea otters). The MMPA prohibits the "take" of any marine mammal within U.S. waters and/or by U.S. citizens on the high seas, as well as the importation of marine mammals and marine mammal products into the U.S. Pursuant to the MMPA, "take" is defined as the act of hunting, killing, capture, and/or harassment of any marine mammal, or the attempt at such. Protections afforded by the MMPA extend to species without listing under the ESA. Exceptions are established for incidental take of small numbers of marine mammals where the take would be limited to harassment. An authorization for incidental take of marine mammals is called an Incidental Harassment Authorization. A single marine mammal species, the West Indian manatee, has the potential to occur within the project area. As discussed, this species

has an extremely low potential to occur within the project area. No other marine mammals are expected to occur within the project area.

4.6.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no FEMA funding would be provided to SBPG, and construction activities related to shoreline and marsh protection would not occur; therefore, there would be no short-term construction-related impacts on federally listed or proposed species or species protected under the MMPA. In the long term, the No Action alternative would not mitigate erosion, and wind-driven wave action would continue to deteriorate the emergent wetland habitats, having a minor to moderate adverse impact on any potential habitat for the Eastern black rail. Under the No Action alternative, there would be no impacts on open-water habitats; therefore, there would be no effect on the West Indian manatee or alligator snapping turtle.

4.6.2. PROPOSED ACTION

As discussed above, the action area consists of low, intermediate marsh that is occasionally inundated by operation of the Caernarvon Freshwater Diversion and does not contain high salinity wetlands and associated vegetation with elevation gradients and adjacent “high marsh” or “terrestrial border” habitats. The nearest accepted record of Eastern black rail was observed near the Gulf of Mexico coast of Jefferson Parish at Grand Isle, LA, which contains high salinity wetlands and “high marsh/terrestrial border” habitat, 40 miles southwest of the action area (Johnson and Lehman 2021) Therefore, Eastern black rail is extremely unlikely to occur within the action area. If the species were to occur within the action area during project implementation, construction activities could result in individuals being struck or crushed by construction equipment. However, because of the extremely low likelihood of Eastern black rails occurring within the action area and the species’ capacity to detect and avoid slow-moving construction equipment, the potential for an eastern black rail to be injured or killed by construction equipment is extremely unlikely. Construction-related disturbance (i.e., noise) could cause individuals to move away from the action area, resulting in nutritional and energetic stress. However, there is an abundance of emergent marsh habitat surrounding the action area, and there are likely very few, if any, other Eastern black rails in the vicinity. Therefore, nutritional and energetic stress associated with relocating to habitat outside of the action area or potential competition with other Eastern black rails for resources would be minimal and unlikely. For the above reasons, the Proposed Action would have a negligible to minor short-term adverse impact on the Eastern black rail if individuals were to occur in the action area. In the long term, marsh creation and nourishment would greatly increase the availability of suitable Eastern black rail foraging and nesting habitat within the action area by reducing inundation, providing an elevation gradient of higher lands than the surrounding marsh and increasing vegetative cover in the action area. The construction of 2.38 mi of earthen embankments around the marsh could create suitable elevated habitat for the species. Additionally, reduction of erosion caused by wave action on the currently exposed shore of Lake Lery and new marsh nourishment would improve the stability and longevity of the currently highly fragmented marsh

north of the action area. Therefore, the Proposed Action would have a minor to moderate long-term beneficial effect on the Eastern black rail.

The West Indian manatee is protected under both the ESA and MMPA and is the only marine mammal with the potential to occur in the action area, but as discussed, is extremely unlikely to occur within the action area. If manatees were to occur within the action area during project implementation, they could be injured or killed from vessel or equipment strikes or entanglement with construction-related materials such as suction booms or turbidity curtains. Additionally, construction-related noise and increased turbidity from construction activities could cause manatees to avoid or reduce foraging within the action area. This could lead to nutritional and energetic stress if manatees had to relocate to foraging habitats outside of the action area. To comply with the Special Conditions of the USACE authorization under MVN 2018-01345 ES, dated May 20, 2021 (**Appendix C**), and minimize the potential for manatees to be harmed or killed as result of the Proposed Action, construction-related activities would be conducted in accordance with the Standard Manatee Conditions for In-Water Activities (USFWS 2023c) and all measures identified during informal consultation with USFWS. Additionally, potential impacts on manatees from temporarily decreased water quality would be minimized through the use of a turbidity curtain and the implementation of all permit-related BMPs and conditions required pursuant to Section 404 of the CWA. With the implementation of these measures, the Proposed Action would have a negligible to minor short-term adverse impact on marine mammals (i.e., West Indian manatee) if individuals were to occur in the action area. In the long term, the Proposed Action would have a negligible impact on marine mammals (i.e., West Indian manatee) because the Proposed Action would not appreciably change the quantity or quality of potential habitat for the species within the action area.

As discussed above, no suitable nesting or juvenile habitat for the alligator snapping turtle occurs within the AA, and the potential for this species to be present within the action area is extremely unlikely. If alligator snapping turtles were to occur within the action area during project implementation, they could be injured or killed from vessel or equipment strikes or entanglement with construction-related materials such as turbidity curtains or dredge booms. Additionally, construction-related underwater noise and increased turbidity could disrupt alligator snapping turtle foraging within the action area. Underwater noise could cause any potential alligator snapping turtles within the action area to relocate, resulting in energetic stress. Further, underwater noise and increased turbidity could cause prey species to leave the action area, which in turn would force alligator snapping turtles to follow them, leading to nutritional and energetic stress. To minimize the potential for alligator snapping turtles to be harmed or killed as result of the Proposed Action, construction-related activities would be conducted in accordance with all measures identified during informal consultation with USFWS. Additionally, potential impacts on alligator snapping turtles from temporarily decreased water quality would be minimized through the use of a turbidity curtain and the implementation of all permit-related BMPs and conditions required pursuant to Section 404 of the CWA. With the implementation of those measures, the Proposed Action would have a negligible to minor short-term impact on the alligator snapping turtle, if individuals were to occur in the action area. In the long term, the Proposed Action would have a negligible impact on the alligator snapping

turtle because the Proposed Action would not appreciably change the quantity or quality of potential habitat for the species within the action area.

FEMA prepared a Biological Assessment to evaluate the effects of the Proposed Action on listed and proposed species under Section 7 of the ESA. The BA was submitted to NMFS for informal consultation on March 21, 2024, and USFWS on April 16, 2024. No response was required from NMFS as the alligator snapping turtle, eastern black rail, and West Indian manatee are species that are not under their purview at this project site. Informal consultation with USFWS was completed on June 17, 2024. USFWS concurred with "may affect, but not likely to adversely affect" determinations for the Eastern black rail and the West Indian manatee, and a "would not jeopardize the continued existence" determination for the alligator snapping turtle (**Appendix B**).

Additionally, in compliance with Section 7 of the ESA and Louisiana Revised Statutes pertaining to wildlife protected by the State of Louisiana, USACE coordinated with the Louisiana Department of Wildlife and Fisheries (LDWF) and conducted informal consultation with the USFWS and NMFS during their deliberation whether to authorize this project under Section 404 of the CWA (**Appendix C**). In an email to USACE dated July 23, 2020, LDWF stated, "At this time, due to staffing constraints, Habitat Section biologists are unable to provide specific comments on this (USACE permit) application." During FEMA's Solicitation of Views comment period (see Section 5.1), LDFW responded in an email dated August 3, 2023 that No impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state wildlife refuges or wildlife management areas are known to occur at the specified site within Louisiana's boundaries (Appendix D). In an email to USACE dated July 27, 2020, NMFS stated "The NMFS Habitat Conservation Division has reviewed the project and does not object to the issuance of the following (USACE) permit." Through the assistance of USFWS' Information for Planning and Consultation (IPaC) System and USFWS' Louisiana DKey, USACE's determination and USFWS' verification of concurrence that this proposed project "may affect, but is not likely to adversely affect" the West Indian manatee was the outcome.

4.7. Cultural Resources

This section provides an overview of potential environmental effects on cultural resources. Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended [16 USC 470(f)], requires that activities using federal funds undergo a review process to consider potential effects on historic properties that are listed in or may be eligible for listing in the National Register of Historic Places (NRHP). A historic property (or historic resource) is defined in the NHPA (54 USC 300308) as any "prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on, the NRHP, including artifacts, records, and material remains related to such a property or resource," collectively referred to as cultural resources. Under NHPA (54 USC 302706), properties of traditional religious or cultural importance to an Indian tribe may be determined to be eligible for inclusion on the NRHP and federal agencies will consult with any Indian tribe that attaches religious and cultural significance to a property.

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the undertaking may directly or indirectly affect cultural resources. Within the APE, impacts on cultural resources are evaluated for both historic structures (above-ground cultural resources) and archaeology (below-ground cultural resources).

The APE for LLMCRR Phase III includes the limits of proposed construction defined in the Proposed Action (Figure 4-3). All proposed construction of the marsh and associated dredging, embankment construction, and borrow area has potential to impact underground archaeological resources. There are no above-ground cultural resources located within the APE.

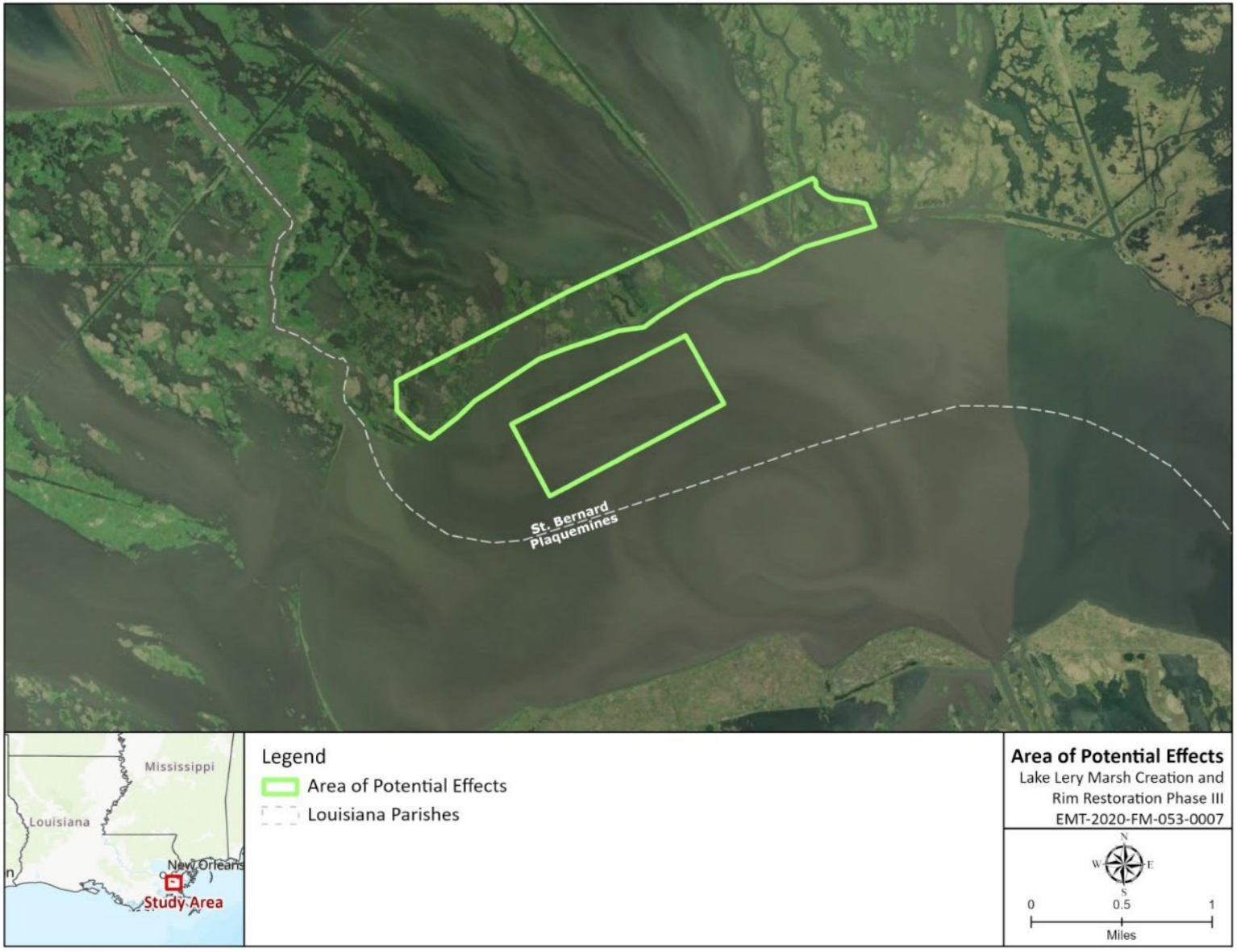

Figure 4-3. Aerial Image Showing the Area of Potential Effects

Section 4.3.3.3.2 of the TIG EA summarizes the previous cultural resources studies that have been completed for the Proposed Action. Two prior cultural resources surveys were conducted within the APE specifically for the Proposed Action. In 2020, ELOS conducted an initial desktop cultural resources study. No archaeological field testing was conducted as part of the initial study. The ELOS study concluded that one archaeological site was previously identified in the APE and was reported as "dredged." Based on aerial imagery of the area, the mapped location of the site has eroded away. The archaeological site was determined not eligible for listing in the NRHP (ELOS 2020 and 2021). The report was submitted to the SHPO on November 2, 2020, presenting these findings. In a letter dated November 30, 2020, the SHPO responded that the proposed project may impact unrecorded archaeological sites given the location of the project in a culturally sensitive area. SHPO recommended a Phase I cultural resources survey but noted that they had no concerns about the borrow area or the portions of the project already surveyed for cultural resources (Appendix D).

On February 1, 2021, ELOS conducted a Phase I cultural resource survey of the 401.2 ac project area (ELOS 2021). Shovel test pit locations were determined by the field archaeologist based on desktop research, predictive modeling of culturally sensitive areas that typically yield intact archaeological sites, avoidance of areas that have been disturbed, and topographic evaluations. In addition to the shovel testing, a pedestrian walk-over and airboat survey of the APE was also conducted to ensure the APE was thoroughly investigated. The testing and surveys identified no archaeological resources or cultural resources within the APE.

ELOS also identified no standing structures in or adjacent to the APE. The Phase I survey determined that there are no above-ground cultural resources within the APE and as such, no historic viewsheds would be affected by the proposed project (ELOS 2021). In summary, the Phase I cultural resources survey report concluded that restoration activities proposed at the site would have no effect on archaeological or historic resources within or near the APE. No further cultural resources work was recommended. In a letter dated February 25, 2021 (LA Division of Archaeology Report No. 22-6701), the SHPO concurred with the assessment that no properties listed in or eligible for listing in the NRHP would be affected by the project. SHPO noted that their office had no further concerns about the project.

In accordance with Section 106 of the NHPA and with the Statewide Programmatic Agreement among FEMA, the Louisiana SHPO, the Governor's Office of Homeland Security and Emergency Preparedness, and Participating Tribes, executed on December 21, 2016, as amended, FEMA consulted with the SHPO on July 12, 2023, on the Proposed Action. FEMA reviewed the findings presented in the previous cultural resources studies, confirmed the scope of work, and concurred with the findings. In consultation with the SHPO, as lead federal agency, FEMA determined that the proposed project would result in a determination of no historic properties affected. The SHPO concurred with FEMA's determination on July 18, 2023.

FEMA also contacted the Alabama-Coushatta Tribe of Texas, Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, Kialegee Tribal Town, Mississippi Band of Choctaw Indians, Muscogee (Creek)

Nation, Seminole Nation of Oklahoma, and Tunica-Biloxi Tribe of Louisiana to seek comment on the project on June 12, 2023. The Choctaw Nation of Oklahoma concurred with FEMA in a response dated August 17, 2023 (Appendix D). The remaining tribes did not provide comments within 30 days or declined to comment. Additionally, USACE provided Federally recognized Tribes a 30-day comment period beginning April 19, 2021, during their deliberation whether to authorize this project and no comments were received. FEMA has determined that the proposed project will not adversely affect traditional, religious, or culturally significant sites.

4.7.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no FEMA funding would be provided to SBPG, and construction activities related to shoreline and marsh protection would not occur; therefore, the marsh area would continue to be exposed to flood risk and wind-driven wave action, resulting in increased degradation of the Lake Lery shoreline and marsh. No intact archaeological sites or cultural resources were identified in the APE. However, increased degradation of the marsh area and shoreline could result in future adverse effects to nearby archaeological sites or unknown sites that may be exposed, eroded, or destroyed because of repetitive flooding from seasonal severe storms, large scale natural disasters, and sea level rise. These events can be damaging as both single events and multiple events that can cause cumulative damage. Therefore, the No Action alternative may result in a long-term minor adverse impact.

4.7.2. PROPOSED ACTION

The Proposed Action would have no impact on any archaeological sites or historic structures because no properties listed in or eligible for listing in the NRHP were identified in the APE. The Proposed Action would decrease the risk of severe marsh and shoreline erosion and degradation, which would provide protection for any unknown archaeological resources. The Proposed Action would have no impact on any archaeological sites or historic structures.

Per FEMA standard project conditions and consistent with the TIG EA and SHPO standards, should human skeletal remains or historic or archaeological resources be discovered during construction, all ground-disturbing activities on the project site shall cease. Archaeological materials consist of any items, 50 years old or older, which were made or used by humans. These items include stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal, and glass objects. Upon encounter, the Sub-Grantee will notify FEMA who will notify the SHPO and the Tribal Nations as applicable, and consultation should be reinitiated. If human remains are encountered, the Sub-Grantee will notify the St. Bernard Parish Sherriff's office and follow the provisions of the Louisiana Unmarked Human Burial Sites Preservation Act (LA Revised Statute 8:671-681).

4.8. Environmental Justice

Environmental justice (EJ) is defined by EO 12898 (59 Federal Register 7629) and CEQ guidance (CEQ 1997). Under EO 12898, demographic information is used to determine whether minority, low-income, or tribal populations are present in the areas potentially affected by the range of project alternatives. If so, a determination must be made whether implementation of the program alternatives may cause disproportionately high and adverse human health or environmental impacts on those populations.

This EJ analysis is focused at the local (i.e., census block group) level. For the purposes of this analysis, EJ populations are identified using demographic indicators and Environmental Justice Indices. Demographic indicators are the percent of minority or low-income populations which are compared to the next larger geographic unit.

In accordance with the *FEMA EO 12898 Environmental Justice: Interim Guidance for FEMA EHP Reviewers*, EJ populations are defined as meeting either or both of the following criteria:

- The minority and/or low-income population of the affected environment equals or exceeds the 50th percentile in the state in which the affected environment is located.
- One or more of the Environmental Justice Indexes in the affected environment equals or exceeds the 80th percentile in the state in which the affected environment is located.

CEQ (1997) defines the term "minority" as persons from any of the following groups: Black, Asian or Pacific Islander, American Indian or Alaskan Native, and Hispanic. Residents of areas with a high percentage of people living below the federal poverty level may be considered low-income populations. The EJ Indices combine environmental indicators with socioeconomic indicators to identify areas where there may be a disproportionate exposure to environmental pollution.

The study area includes the project area and a benefit area to the north of the project area. The benefit area is approximately 20 square mi and includes portions of the communities of Poydras and St. Bernard. **Table 4.6** depicts the percentile of minority and low-income populations for the benefit area as compared to the state and the percentile of St. Bernard Parish for comparison. **Table 4.7** depicts the Environmental Justice Indices for the benefit area and the State of Louisiana.

Table 4.6. Environmental Justice Populations

EJ Indicator/Index	Project Benefit Area	St. Bernard Parish	Environmental Justice Population Present
Percentile Minority Population	52	47	No
Percentile Low-Income Population	56	60	Yes

Source: USEPA 2023b, U.S. Census Bureau 2021, U.S. Census Bureau 2020

Table 4.7. Environmental Justice Indices

EJ Indicator/Index	Percentile of Project Benefit Area Compared to State	Environmental Justice Population Present
National Scale Air Toxics Assessment (NATA) Air Toxics Cancer Risk	34	No
NATA Respiratory Hazard Index	62	No
NATA Diesel Particulate Matter	72	No
Particulate Matter 2.5 Micrometers and Smaller (PM 2.5)	24	No
Ozone	42	Yes
Lead Paint Indicator	54	No
Traffic Proximity and Volume	60	No
Proximity to Risk Management Plan (RMP) Sites	71	No
Proximity to Treatment Storage and Disposal Facilities	66	No
Proximity to National Priorities List Sites	77	No
Underground Storage Tanks	57	No
Wastewater Discharge Indicator	73	No

Source: USEPA 2023b

Within the project benefit area, the minority population is at the 52nd percentile of the state, while low-income persons are at the 56th percentile. Environmental indices for the population within the project benefit area are all below the 80th percentile for the Environmental Justice Indices. Therefore, the project benefit area is considered to contain an EJ population (U.S. Census Bureau 2020).

4.8.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no FEMA funding would be provided to SBPG for project implementation, so no short-term construction related impacts and no activities would occur that could result in impacts on EJ populations, including noise and temporary reductions of air quality. Therefore, there would be no short-term impact on EJ populations.

In the long term, the risk of flooding would not be reduced. All populations within the project benefit area would continue to be at risk of flooding. Periodic flooding could result in damage or loss of homes and property, resulting in repair costs, which could disproportionately impact minority or low-

income populations present in the project benefit area who may have limited resources to recover. Flood damage would result in air pollutant emission and noise associated with repair activities. Therefore, there could be a minor long-term impact on minority or low-income populations from the continued risk of flooding. However, there would be no disproportionately high and adverse effects on EJ populations.

4.8.2. PROPOSED ACTION

Under the Proposed Action alternative, no residential or commercial displacement would occur. Construction activities would result in temporary impacts including increased air pollutant emissions and noise. However, this activity would occur outside any populated areas and would therefore have no impact and no short-term disproportionately high and adverse impact on any EJ populations.

In the long term, the risk of flooding and associated impacts, such as damage to homes and property, increased air pollutant emissions from repair activities, road detours, and potential increased exposure to hazardous materials would be reduced. The reduced risk of flooding and associated impacts would benefit all populations in the project benefit area. Therefore, there would be minor long-term beneficial impacts on all populations. However, there would not be any long-term disproportionately high and adverse impacts on EJ populations.

4.9. Hazardous Materials

Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 103), as amended by the Superfund Amendments and Reauthorization Act (SARA) (42 USC 9601), and the Toxic Substances Control Act (TSCA) (15 USC 53). The Solid Waste Disposal Act (SWDA) (42 USC 82), as amended by the Resource Conservation and Recovery Act (RCRA) (40 CFR 239-259), which was further amended by the Hazardous and Solid Waste amendments, defines hazardous wastes. In general, both hazardous materials and waste include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or to the environment when released or otherwise improperly managed.

Hazardous materials may be encountered in the course of a project or they may be generated by the project activities. To determine whether any hazardous waste facilities exist near or upgradient of the proposed project area, or whether there is a known and documented environmental issue or concern that could affect the proposed project area, a search for Superfund sites, toxic release inventory sites, industrial water dischargers, hazardous facilities or sites, and multiactivity sites was conducted using USEPA's NEPAssist website (USEPA 2023b). According to the database, no hazardous materials are present within 1 mi of the project area. Several petroleum pipelines are in the project vicinity; however, only one petroleum pipeline (owned by Boardwalk) intersects the project area, running north–south through the marsh creation area. The other pipelines cross the project area through proposed access corridors only. Hazardous materials were not addressed in the TIG EA.

4.9.1. NO ACTION ALTERNATIVE

Under the No Action alternative, there would be no FEMA funding provided to SBPG for construction of flood reduction measures that could generate construction-related hazardous materials, such as equipment fuel, oils, and lubricants, or expose contaminated materials through ground-disturbing activities. Therefore, there would be no short-term construction-related impacts from hazardous materials.

In the long term, flood risks would not be reduced. Equipment used for flood-related repairs could result in accidental leaks of fuels and oils. Floodwaters could inundate or damage hazardous material sites in the project benefit area, thus increasing the potential for exposure to toxic substances. Receding floodwaters could carry pollutants into nearby surface waters. Therefore, there would be a minor long-term adverse impact from hazardous materials because of the continued risk of flooding.

4.9.2. PROPOSED ACTION

Construction of the Proposed Action would require the use of mechanical equipment such as barges, boats, heavy equipment, and trucks that could release fuels, oils, and lubricants through inadvertent leaks and spills. On site generated solid and sanitary waste would be released into the water systems if not properly contained. SBPG would ensure all equipment and project activities adhere to state and local regulations to reduce the potential for release of hazardous, solid, and sanitary leaks and spills. The Boardwalk pipeline intersects the marsh creation area and could potentially release hazardous materials if it were damaged during construction. Markers would be placed along the pipeline prior to construction and maintained throughout construction to indicate its location. All dredging activity would occur a minimum of 50 ft from the pipeline. At the two locations where the earthen containment dike and the permanent armored dike would cross the existing Boardwalk pipeline, a plug comprised of cement or sandbags would be placed across the pipeline canal opening to the level of the existing marsh. The pipeline canal within the marsh creation area would be filled with hydraulic dredge material. Adherence to these measures would avoid impacts on the Boardwalk pipeline and associated leaks or spills of hazardous material.

The Proposed Action would not include construction in or near any hazardous materials sites. Although subsurface hazardous materials are not anticipated to be present, excavation activities could expose or otherwise affect previously undetected subsurface hazardous wastes or materials. Any hazardous materials discovered, generated, or used during implementation of the Proposed Action, including generated solid and sanitary waste, would be disposed of and handled by the Sub-grantee in accordance with applicable local, state, and federal regulations. Therefore, there would be a negligible short-term adverse impact only from the use of vehicles and equipment and the associated risk of hazardous leaks, spills, and exposure.

In the long term, the Proposed Action alternative would reduce the risk of flooding and associated risk that pollutants and hazardous materials could be transported by floodwaters or generated from flood-related repairs. Therefore, there would be a minor long-term beneficial effect from the reduced risk of flooding and associated risk of exposure to hazardous materials.

4.10. Summary of Effects and Mitigation

Table 4.8 provides a summary of the potential environmental effects from implementation of the proposed action, any required agency coordination efforts or permits, and any applicable proposed mitigation or best management practices (BMPs).

Table 4.8. Summary of Impacts and Mitigation

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
Wetlands	Moderate short-term adverse impact from destruction of extant wetlands and reduced water quality; moderate long-term beneficial impact from marsh nourishment and a net gain of wetland area through creation.	USACE, CWA Section 404 Permit	N/A
Floodplains	Minor short-term adverse impact from loss of floodplain habitat; moderate long-term beneficial impact from reduced erosion and increase in floodplain functions and values.	Coordination with the local floodplain manager	N/A
Vegetation	Moderate short-term adverse impact from destruction of extant vegetation during construction; moderate long-term beneficial impact from creation of emergent wetland habitats that support vegetation.	N/A	N/A

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
Fish and Wildlife	Minor short-term adverse impact on terrestrial fauna from temporary displacement and habitat loss; moderate long-term beneficial impact on terrestrial fauna from creation of emergent wetland habitat. Minor to moderate short-term adverse impact on aquatic fauna and EFH from the reduction of open-water habitats, temporary increase in turbidity and sedimentation, temporary decrease of prey resources, and degradation of potential spawning and foraging habitat; moderate long-term beneficial impact on aquatic fauna and EFH from creation of new marsh habitats. Negligible to minor short-term adverse impacts on birds protected under the MBTA if construction activities were to occur during the breeding season; moderate beneficial impact on species protected under the MBTA from creation of marsh habitats. Negligible short-term impact on foraging Bald eagles from construction-related disturbance; no long-term impact on Bald eagles.	NMFS, Consultation on EFH. LDWF and USFWS coordination if conflicts with migratory birds or eagles.	▪ Use of turbidity curtains and turbidity monitoring. ▪ Avoid working in migratory bird nesting habitats and removing vegetation during breeding, nesting, and fledging (approximately mid-February through late August). If project activities must occur during this timeframe and breeding, nesting, or fledging birds are present, contact USFWS and LDWF to obtain the most recent guidance to protect nesting birds or rookeries, and their recommendations will be implemented. ▪ If bald eagle breeding or nesting behaviors are observed or a nest is discovered, all activities will avoid the nest by a minimum of 660 ft while eagles are present (typically Sept 15-June 30).

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
Threatened and Endangered Species	The Proposed Action may affect, but is not likely to adversely affect the Eastern black rail and would have negligible to minor short-term adverse impacts on the Eastern black rail from temporary reduction of habitat; minor to moderate long-term beneficial impacts on the Eastern black rail from increased marsh habitat and nesting areas. The Proposed Action may affect, but is not likely to adversely affect the West Indian manatee and would have negligible to minor short-term adverse impacts on the West Indian manatee and species protected under the MMPA from construction-related disturbance; negligible long-term impact on the West Indian manatee and species protected under the MMPA. The Proposed Action would not jeopardize the continued existence of the alligator snapping turtle and would have negligible to minor short-term adverse impacts on the alligator snapping turtle from construction-related disturbance; negligible long-term impact.	USFWS Informal Consultation	▪ Use of turbidity curtains and turbidity monitoring. ▪ Construction-related activities would be conducted in accordance with the Standard Manatee Conditions for In-Water Activities (USFWS 2023c).

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
Cultural Resources	No Historic Properties Affected	SHPO, Tribal Government	▪ If any archaeological resources are discovered during project implementation, all ground-disturbing activities on the project site would cease. The Sub-Grantee will notify the SBPG and FEMA. FEMA will notify the SHPO and the Tribal Nations, as applicable.
Environmental Justice	No disproportionately high and adverse impacts on minority or low-income populations.	N/A	N/A
Hazardous Materials	Negligible short-term adverse impact from vehicle and equipment use. Minor long-term beneficial effect from reduced risk of flooding	N/A	▪ All equipment and project activities would adhere to local and state regulations to reduce the risk of hazardous, solid, and sanitary leaks and spills. ▪ The oil pipeline location is be flagged and dredging activity would not occur within 50 ft of the pipeline.

5. Agency Coordination, Public Involvement, and Permits

This section provides a summary of the agency coordination efforts and public involvement process for the proposed Lake Lery Marsh Creation and Rim Restoration Phase III project. In addition, an overview of the permits that would be required under the Proposed Action is included.

5.1. Agency Coordination

- Informal consultation with USFWS was completed on June 17, 2024; USFWS concurred with "may affect, but is not likely to adversely affect" determinations for the Eastern black rail and the West Indian manatee, respectively, and a "would not jeopardize the continued existence of the species" determination for the proposed alligator snapping turtle.

- A Joint Permit Application for Work within the Louisiana Coastal Zone (P20200531) was submitted on July 6, 2020. LDNR provided CZMA consistency concurrence under CUP# P20200531 on April 8, 2021. On May 20, 2021, USACE authorized the project under Category II of the Programmatic General Permit provided that all conditions of the permit are met. To evaluate that permit authorization, USACE conducted their own coordination with USEPA, NMFS Habitat Conservation Division, LDWF, SHPO, and Federally recognized Tribes. USACE also consulted with USFWS and made their own effects determinations under Section 7 of the ESA, which this SEA has adopted.

- In accordance with Section 106 of the NHPA and with the 2016 Statewide programmatic agreement, FEMA consulted with the SHPO on July 12, 2023, on the Proposed Action. FEMA reviewed the findings presented in the previous cultural resources studies, confirmed the scope of work, and concurred with the findings. As the lead federal agency, FEMA determined that the proposed project would result in No Historic Properties Affected. SHPO concurred with FEMA's determination on July 18, 2023.

- FEMA contacted the Tribal Nations to seek comments on the project on July 12, 2023. The Choctaw Nation of Oklahoma concurred with FEMA in a response dated August 17, 2023. The remaining tribes did not provide comments within 30 days or declined to comment.

5.2. Public Participation

A combination scoping notice and solicitation of views was sent to the following state and federal agencies for comment: USEPA, Louisiana Department of Environmental Quality, LDNR, LDWF, NOAA, USACE, and USDA-NRCS. The public comment period on the public notice closed on August 28, 2023. The following comments were received (Appendix D):

- USDA-NRCS: The proposed construction areas related to this project will not impact prime farmland and therefore are exempt from the rules and regulations of the Farmland Protection Policy Act - Subtitle I of Title XV, Section 1539-1549. Furthermore, they did not predict impacts to USDA-NRCS work in the vicinity.

- LDNR: The Office of Coastal Management requires SBPG to obtain a Coastal Use Permit. SBPG has obtained the permit (CUP P20200531) (Appendix C).

- LDWF: No impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state wildlife refuges or wildlife management areas are known to occur at the specified site within Louisiana's boundaries.

In accordance with NEPA, this draft SEA will be released to the public and resource agencies for a 30-day public review and comment period. Comments on this draft SEA will be incorporated into the final SEA, as appropriate. This draft SEA reflects the evaluation and assessment of the federal government, the decision-maker for the federal action; however, FEMA will take into consideration any substantive comments received during the public review period to inform the final decision regarding grant approval and project implementation. If no substantive comments are received from the public or agency reviewers, this draft SEA will be assumed to be final and a FONSI will be issued by FEMA.

The draft SEA will be available on FEMA's website at https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository. The comment period for the draft SEA will start when the public notice of SEA availability is published and will extend for 30 days. Comments on the draft SEA may be submitted to fema-liro-ndg-bric-fema-ehp@fema.dhs.gov (include "Lake Lery Marsh Creation" in the subject line). Comments also may be submitted via mail to:

Louisiana Integration and Recovery Office
1500 Main Street
Baton Rouge, LA 70802

5.3. Permits and Project Conditions

The SBPG will be responsible for obtaining any necessary local, state, or federal permits needed to conduct the proposed work and must comply with conditions set forth in this SEA.

- Comply with all project-related conditions within the TIG EA and PDARP/PEIS (Appendix C).

- Comply with all conditions within USACE CWA permit MVN 2018-01345 ES.

- Comply with all conditions within the LDNR Office of Coastal Management coastal permit (CUP P20200531).

- Coordinate with the local floodplain manager prior to commencing work.

- Comply with all USFWS Standard Manatee Conditions for In-Water Activities (USFWS 2023c, Appendix D).

- Implement all General Avoidance and Minimization Measures listed in this project's BA.

- Upon discovery of the presence of previously unknown historic and/or prehistoric cultural resources or archeological remains, all work must cease and Sub-grantee must notify USACE and their contacts at FEMA, who will in turn contact FEMA Environmental and Historic Preservation (EHP). State Historic Preservation Office and the Corps of Engineers. Work will be suspended and FEMA and USACE will initiate the Federal, Tribal, and state (SHPO) coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places. Sub-grantee will not proceed with work until the SHPO completes review and all consultation as appropriate (Inadvertent Discovery Clause). Work may be reactivated or modified through specific conditions if necessary, or if it is determined that the activity will have no adverse effect on cultural resources. The USACE authorization will be revoked if it is determined that cultural resources would be adversely affected, and an individual permit may be necessary.

- If human remains or unmarked graves are discovered, the parish will immediately cease work, secure the area, and contact law enforcement, FEMA, and the Louisiana Division of Archaeology.

- There shall be no unreasonable interference with navigation by the existence or use of the activity that USACE authorized. The Sub-grantee will, at its expense, install and maintain any safety lights, signals, and signs prescribed by the United States Coast Guard, through regulations or otherwise, on equipment used in performing work under USACE authorization.

- No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species which normally migrate through the area, unless the activity's primary purpose is to block or impound water.

- If the authorized activity involves the installation of submerged pipelines across navigable waters of the United States the following is applicable: The National Ocean Service (NOS) has been notified of this USACE authorization. Grantee must notify NOS and USACE in writing, at least two weeks before beginning work and upon completion of the activity authorized by USACE. Notification of completion must include a drawing which certifies the location and configuration of the completed activity (a certified permit drawing may be used). Notification to NOS will be sent to the following address: National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910-3282.

- Because the project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.,) in a waterway, Grantee is advised to notify the Eighth Coast Guard District so that a Notice to Mariners, if required, may be prepared. Notification with a copy of USACE authorization and drawings should be mailed to the

Commander (dpw), Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, about 1 month before planning to start work. Telephone inquiries can be directed to the Eighth Coast Guard District, Waterways Management at (504) 671-2107.

- All activities shall, if they involve, during their construction or operation, any discharge of pollutants into waters if the United States, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, retreatment standards and management practices established pursuant to the Clean Water Act (PL 92-500:86 Stat 816), or pursuant to applicable state and local laws.

- Substantive changes to the Louisiana Coastal Resources Program may require immediate suspension and revocation of the USACE authorization in accordance with 33 CFR 325.7.

- Irrespective of whether this project meets the other conditions of its authorization, USACE retains discretionary authority to require an individual Department of the Army permit when circumstances of the proposal warrant this requirement.

- Any individual authorization granted under the USACE permit may be modified, suspended, or revoked in whole or in part if the Secretary of the Army or his authorized representative determines that there has been a violation of any of the terms or conditions of the USACE permit or that such action would otherwise be in the public interest. Further, USACE may suspend, modify, or revoke this general permit if it is found in the public interest to do so.

- Activities authorized by USACE under their permit must comply with all other necessary federal, state, and/or local permits, licenses, or approvals. Failure to do so would result in a violation of the terms and conditions of the USACE authorization.

- The Grantee shall permit the USACE District Commander or his authorized representative(s) or designee(s) to make periodic inspections of the project site(s) and disposal site(s) if different from the project site(s) at any time deemed necessary in order to assure that the activity being performed under authority of the USACE permit is in accordance with the terms and conditions prescribed.

- The USACE authorization/permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and it does not authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations nor does it obviate the requirements to obtain state or local assent required by law for the activity authorized.

- If, subsequent to the issuance of the USACE authorization, information and data provided by the Grantee prove to be false, incomplete, or inaccurate, the authorization may be modified, suspended, or revoked, in whole or in part.

- For activities resulting in sewage generation at the project site, because tie-in to a municipal system is not possible, any on-site sewerage system must be approved by the local parish sanitarian before construction.

- Any modification, suspension, or revocation of the CWA 404 Programmatic General Permit (PGP), or any individual authorization granted under that permit, will not be the basis for any claim for damages against the United States.

- Additional conditions deemed necessary to protect the public interest may be added to the USACE PGP by the District Commander at any time. If additional conditions are added, the public will be advised by public notice. Individual authorizations under the PGP may include special conditions deemed necessary to ensure minimal impact and compliance with the PGP.

- USACE retains discretion to review the PGP, its terms, conditions, and processing procedures, and decide whether to modify, reissue, or revoke the permit. If the PGP is not modified or reissued within 5 years of its effective date, it automatically expires and becomes null and void.

- Grantee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work that USACE authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the Grantee will be required, upon due notice from USACE, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

- Grantee must maintain the activity authorized by USACE in good condition and in conformance with the terms and conditions of this permit. Grantee is not relieved of this requirement if the USACE permitted activity is abandoned, although a good faith transfer to a third party as described below may be made. Should Grantee wish to cease to maintain the USACE authorized activity or desires to abandon it without a good faith transfer, Grantee must obtain a modification of the USACE permit from USACE, which may require restoration of the area.

- If Grantee sells the property associated with the USACE permit, USACE must be provided with a copy of the permit and a letter noting the agreement to transfer the permit to the new owner and the new owner's agreement to accept the permit and abide by all conditions of the permit. This letter must be signed by both parties.

- Many local governing bodies have instituted laws and/or ordinances in order to regulate dredge and/or fill activities in floodplains to assure maintenance of floodwater storage capacity and avoid disruption of drainage patterns that may affect surrounding properties. Because this project involves dredging and/or placement of fill, Grantee must contact the local municipal and/or parish governing body regarding potential impacts to floodplains and compliance of your proposed activities with local floodplain ordinances, regulations or permits.

- In issuing authorizations under the CWA 404 PGP, the federal government does not assume any liability for: damages to the USACE permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest; damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit, and; design or construction deficiencies associated with the permitted work.

6. List of Preparers

The following is a list of preparers who contributed to the development of the LLMCRR Phase III draft EA for FEMA. The individuals listed below had principal roles in the preparation of this document. Many others, including senior managers, administrative support personnel, and technical staff, contributed, and their efforts were no less important to the development of this EA.

FEMA

Reviewers	Role in Preparation
Spann, Tiffany	Technical Review
Carroll, Annette	Technical Review
Schexnayder, Jamie	Environmental Review
Sealy, Michael	Environmental Review

CDM Smith

Preparers	Experience and Expertise	Role in Preparation
McLaughlin, Aislinn	Environmental Planner	NEPA Documentation
Roberts, Jessica	Environmental Planner	NEPA Documentation
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Jadhav, Ajay	GIS Specialist	GIS
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Stenberg, Kate	PhD, Senior Biologist, Senior Planner	Project Manager, Quality Assurance/Quality Control Review

This document was prepared by CDM Smith under Contract No.: 70FA6020D00000002, Task Order: 70FA6023F00000093.

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Appendix A

FEMA Eight-Step Checklist

EXECUTIVE ORDER 11988/11990

FLOODPLAIN MANAGEMENT/WETLANDS – CHECKLIST (44 CFR Part 9)

APPLICANT:	St. Bernard Parish Government Transit Department
COUNTY/STATE:	St. Bernard Parish, Louisiana
COORDINATES:	29.809233, -89.853516
PROPOSED ACTION:	The Saint Bernard Parish Government Transit Department proposes creating approximately 401 acres of marsh along approximately 12,000 feet of the northern shore of Lake Lery. The new marsh would be divided into three cells each measuring approximately 4,000 feet across. The area would be bounded on three sides by earthen containment dikes and protected from Lake Lery by a permanent, armored earthen embankment. The 5,000 foot by 2,000 foot marsh creation borrow area would be located offshore of the permanent armored embankment within Lake Lery by a minimum of 750 feet and is proposed to be dug to a maximum depth of elevation 20 feet. The permanent armored embankment required for the lake rim restoration would be 12,665 feet in length, and the southern slope would be armored against erosion from wave action. An additional 100 feet of armored embankment would be added to each end of the project area to protect the newly created marsh area from wave action. The permanent armored embankment borrow area would be located offshore of the armored embankment face and would double as a staging area for floating equipment during construction as required. The Proposed Action would reduce flood hazards within the floodplain and would create or nourish approximately 401.2 acres of emergent wetlands.

APPLICABILITY: Actions which have the potential to affect floodplains/wetlands or their occupants, or which are subject to potential harm by location in floodplains/wetlands.

☒**YES** ☐**NO** The proposed action could potentially adversely affect the floodplain/wetlands.

Remarks:

☒**YES** ☐**NO** The proposed action could potentially be adversely affected by the floodplain/wetlands.

Remarks:

ACTION:

☐ **Review against 500 Year floodplain (for Critical Action)**

☒ **Review against 100 Year floodplain**

☐ **Not Applicable (for actions located in wetland only)**

STEP NO. 1 Determine whether the proposed action is located in the 100-year floodplain (500-year floodplain for critical actions) and/or wetland; (44 CFR §9.7).

The project is located within an "VE" zone, area of 100-yr flooding, per Flood Insurance Rate Map (FIRM) Panels 22087C0755D and 22087C0765D dated December, 21, 2017.

According to the U.S. Fish and Wildlife Service's National Wetlands Inventory mapper, there are approximately 359 acres of estuarine wetlands within the project area.

STEP NO. 2 Notify the public at the earliest possible time of the intent to carry out an action in a floodplain/wetland, and involve the affected and interested public in the decision-making process; (44 CFR §9.8)

☐ Notice was provided as part of a disaster cumulative notice:

Newspaper: _____

Date: _____

☒ Project Specific Notice (e.g. EA, newspaper, public meeting, etc):

Type of Public Notice: The Parish addressed this information in a series of steering committee meetings. The public involvement meeting on September 30, 202, as well as the review of the public plan and online surveys/questionnaires allowed the

	public and community stakeholders to participate and provide input into the hazard mitigation planning process.
Date:	September 20, 2020

STEP NO. 3 **Identify and evaluate practicable alternatives to locating the proposed action in a floodplain/wetland (including alternatives sites, actions and the "no action" option). (44 CFR §9.9)**

Alternative Options

☐**YES** ☒**NO**	Is there a practicable alternative site location outside of the floodplain/wetland?
	If yes, provide the site location:
☐**YES** ☒**NO**	Is there a practicable alternative action outside of the floodplain/wetland that will not affect the floodplain/wetland?
	If yes, describe the alternative action:
☐**YES** ☒**NO**	Is the NO Action alternative the most practicable alternative?

If a practicable alternative exists outside the floodplain/wetland, FEMA must locate the action at the alternative site.

REMARKS: In deciding on this course of action, St. Bernard Parish examined several alternative project types. To main alternatives to mitigate these properties were considered, No Action and the Proposed Action. If no action is taken to mitigate at-risk properties, the area would continue to flood and there would be no benefit realized by the property owners, the Parish, or the National Flood Insurance Program, making this a non-viable option. The marsh would also continue to degrade further reducing wetlands in the area. The Proposed Action is considered to be the most practicable alternative because it would mitigate flood risk and increase wetland health around Lake Lery. There was no opportunity to relocate the project outside of the floodplain as the marsh restoration was location dependent.

STEP NO. 4 **Identify the potential direct and indirect impacts associated with the occupancy or modification of floodplains/wetlands and the potential direct and indirect support of floodplain/wetlands development that could result from the proposed action; (44 CFR §9.10)**

☒**YES** ☐**NO**	Is the proposed action in compliance with the NFIP (see 44 CFR Part 59 seq.)?

☐**N/A** Remarks:

☐**YES** ☒**NO** Does the proposed action increase the risk of flood loss?

☐**YES** ☒**NO** Will the proposed action result in an increased base discharge or increase the flood hazard potential to other properties or structures?

☒**YES** ☐**NO** Does the proposed action minimize the impact of floods on human health, safety and welfare?

☐**YES** ☒**NO** Will the proposed action induce future growth and development, which will potentially adversely affect the floodplain/wetland?

☒**YES** ☐**NO** Does the proposed action involve dredging and/or filling of a floodplain/wetlands?

☐**YES** ☒**NO** Will the proposed action result in the discharge of pollutants into the floodplain/wetlands?

☒**YES** ☐**NO** Does the proposed action avoid long and short-term adverse impacts associated with the occupancy and modification of floodplains/wetlands?

☐**N/A** Remarks:

☐**YES** ☒**NO** Will the proposed action result in any indirect impacts that will affect the natural values and functions of floodplains/wetlands?

☐**YES** ☒**NO** Will the proposed action forego an opportunity to restore the natural and beneficial values served by floodplains/wetlands?

☐**N/A** Remarks:

☒**YES** ☐**NO** Does the proposed action restore and/or preserve the natural and beneficial values served by floodplains/wetlands?

☐**N/A** Remarks:

☐**YES** ☒**NO** Will the proposed action result in an increase to the useful life of a structure or facility?

REMARKS: The Proposed Action would occur within and adjacent to Lake Lery that help manage floodwaters in the floodplain and is within wetlands. Mitigation measures stipulated in Clean Water Act permits would minimize impacts on the floodplain and wetlands. Once complete, the Proposed Action reduce flood hazards in St. Bernard Parish, specifically within the Lake Lery project impact area and the St. Bernard hamlet.

The St. Bernard Parish Government Transit District must coordinate with the local floodplain administrator, obtain required permits prior to initiating work, and comply with any conditions of the permit to ensure harm to and from the floodplain is minimized. All coordination pertaining

to these activities should be retained as part of the project file in accordance with the respective grant program instructions.

STEP NO. 5 **Minimize the potential adverse impacts and support to or within floodplains/wetlands to be identified under Step 4, restore and preserve the natural and beneficial values served by floodplains/wetlands; (44 CFR §9.11)**

☒**YES** ☐**NO** Were flood hazard reduction techniques applied to the proposed action to minimize the flood impacts if site location is in the 100- or 500-Year floodplain/wetlands?

☐**N/A** Remarks:

☒**YES** ☐**NO** Were avoidance and minimization measures applied to the proposed action to minimize the short and long term impacts on the 100-Year floodplain/wetlands?

If no, identify measures required as a condition of the grant:

☐**N/A** Remarks:

☒**YES** ☐**NO** Were measures implemented to restore and preserve the natural and beneficial values of the floodplain/wetlands.

If no, identify measures required as a condition of the grant:

☐**N/A** Remarks:

☒**YES** ☐**NO** Is new construction or substantial improvement in a floodway, and new construction in a coastal high hazard area proposed?

If YES: Is the activity considered as functionally dependent use or a structure or facility which facilitates an open space use?

☒**YES** ☐**NO**

STEP NO. 6 **Reevaluate the proposed action to determine first, if it is still practicable in light of its exposure to flood hazards, the extent to which it will aggravate the hazards to others, and its potential to disrupt floodplain/wetlands values and second, if alternatives preliminarily rejected at Step 3 are practicable in light of the information gained in Steps 4 and 5. (44 CFR §9.9)**

☒**YES** ☐**NO** The action is still practicable at a floodplain/wetland site in light of the exposure to flood risk and ensuing disruption of natural values;

☒**YES** ☐**NO** The floodplain/wetlands site is the only practicable alternative.

☒**YES** ☐**NO** There is no potential for limiting the action to increase the practicability of previously rejected non-floodplain/wetlands sites and alternative actions.

☒**YES** ☐**NO** Minimization of harm to or within the floodplain/wetlands can be achieved using all practicable means.

☒**YES** ☐**NO** The action in a floodplain/wetland clearly outweighs the requirement of E.O. 11988/11990.

FEMA shall not act in a floodplain/wetland unless it is the only practicable location.

STEP NO. 7 **Prepare and provide the public with a finding and public explanation of any final decision that the floodplain/wetland is the only practicable alternative; and (44 CFR §9.12)**

☒ Check if the Initial Public Notice serves as the Final Public Notice or a Cumulative Public Notice was published. No condition required.

☐ Check if the condition was added to the REC indicating that "For actions located in the floodplain and/or wetlands, the applicant must issue a final public notice per 44 CFR Part 9.12(e) at least 15 days prior to the start of work. The final notice shall include the following: (1) A statement of why the proposed action must be located in an area affecting or affected by a floodplain or a wetland; (2) A description of all significant facts considered in making this determination; (3) A list of the alternatives considered; (4) A statement indicating whether the action conforms to applicable state and local floodplain protection standards; (5) A statement indicating how the action affects or is affected by the floodplain and/or wetland, and how mitigation is to be achieved; (6) Identification of the responsible official or organization for implementation and monitoring of the proposed action, and from whom further information can be obtained; and (7) A map of the area or a statement that such map is available for public inspection, including the location at which such map may be inspected and a telephone number to call for information."

STEP NO. 8 **Review the implementation and post - implementation phases of the proposed action to ensure that the requirements stated in Section 9.11 are fully implemented. Oversight responsibility shall be integrated into existing processes. (44 CFR §9.11)**

☒**YES** ☐**NO** Was Grant conditioned on review of implementation and post-implementation phases to insure compliance of EO 11988?

Failure to comply with conditions enumerated in the Record of Environmental Consideration may jeopardize federal funding.

Appendix B

Biological Assessment

Biological Assessment

Lake Lery Marsh Creation and Rim Restoration Phase III

EMT-2020-FM-053-0007

Delacroix, St. Bernard Parish, Louisiana

Prepared for the U.S. Fish and Wildlife Service and National Marine Fisheries Service

April 2024

FEMA

Federal Emergency Management Agency
Region 6
Department of Homeland Security
1500 Main Street
Baton Rouge, LA 70802

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Table of Contents

Appendices

Tables

Acronyms and Abbreviations

AA	Action Area
AMM	avoidance and minimization measure
AST	alligator snapping turtle
BA	biological assessment
BMP	best management practice
CFD	Caernarvon Freshwater Diversion project
CFR	Code of Federal Regulations
CRMS	Coastal Reference Monitoring System
cy	cubic yards
EBR	eastern black rail
EFH	essential fish habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973
FEMA	Federal Emergency Management Agency
FMA	Flood Mitigation Assistance
FMP	Fishery Management Plan
GEN	General
GOM	Gulf of Mexico
IPaC	Information for Planning and Consultation
LDWF	Louisiana Department of Wildlife and Fisheries
MMPA	Marine Mammal Protection Act of 1972
Mph	miles per hour
MSA	Magnuson-Stevens Fishery Conservation and Management Act
msl	mean sea level
NMFS	National Marine Fisheries Service

NOAA	National Oceanic and Atmospheric Administration
TCB	tricolored bat
TPWD	Texas Parks and Wildlife Department
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WCC	Wetland Classification Code
WIM	west Indian manatee

Executive Summary

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to provide federal financial assistance to the St. Bernard Parish Government Transit Department (Subapplicant) to construct a permanent armored earthen embankment, earthen spoil containment dikes, and restore adjacent marsh by utilizing dredged material from the bottom of Lake Lery, along the northwestern edge of Lake Lery (Proposed Action). The purpose of the Proposed Action is to reduce flood hazards within the Lake Lery Project impact area and the St. Bernard hamlet. Project activities would be funded by FEMA's Flood Mitigation Assistance (FMA) Grant Program, which is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

FEMA has prepared this biological assessment (BA) to evaluate the potential effects of the Proposed Action on species that are listed or proposed for listing under the Endangered Species Act of 1973 (ESA). Potential effects on federally listed and proposed species have been evaluated in accordance with Section 7 of the ESA. Measures to avoid or minimize take to potentially affected species are included in this BA. Section 6 of this BA also presents an analysis of potential effects on marine mammals protected under the Marine Mammal Protection Act of 1972 (MMPA), and Section 7 provides an assessment of potential effects to Essential Fish Habitat (EFH) protected by the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

Summary of Proposed Action

The Proposed Action would consist of flood and high-wind disaster risk reduction activities along the north shore of Lake Lery, southeast of New Orleans in St. Bernard Parish, Louisiana (**Appendix A**, **Figure 1**). Flood risk reduction activities would include restoring 401.2 acres of marsh with dredged fill material from Lake Lery and constructing containment dikes and a permanent armored earthen embankment between that marsh and the northwestern edge of Lake Lery. The project area has been significantly damaged over time due to inundation from tropical cyclones and ensuing erosion from wind and wave action. The project area and nearby wetlands and infrastructure to the north of the project area are at very high risk of flooding due to degradation of the lake rim and surrounding marsh.

Potentially Affected Federally Listed Species, Proposed Species, and Critical Habitat

Based on a search of federal and state databases, two proposed species and two listed (sub)species may occur within the Action Area (AA): the alligator snapping turtle (AST, *Macrochelys temminckii*), the tricolored bat (TCB, *Perimyotis subflavus*), the eastern black rail (EBR, *Laterallus jamaicensis jamaicensis*), and the west Indian manatee (WIM, *Trichechus manatus*). The AA does not overlap, nor is it near any designated critical habitat. The potential impacts of the Proposed Action on listed and proposed species and their habitats are evaluated as part of this BA.

Summary of Effects on Federally Listed Species, Proposed Species, and Critical Habitat

The potential effects of the Proposed Action on listed and proposed species and their critical habitats are summarized in **Table ES-1**.

Table ES-1. Effects Determinations for Proposed and Listed Species and Critical Habitat

Species Name	Status	Potential Effects on Species	Potential Effects on Designated Habitat
Amphibians			
Alligator Snapping Turtle *Macrochelys temminckii*	Proposed Threatened	Not likely to jeopardize the continued existence of the species May affect, but is not likely to adversely affect[1]	Not applicable[2]
Tricolored Bat *Perimyotis subflavus*	Proposed Endangered	Not likely to jeopardize the continued existence of the species May affect, but is not likely to adversely affect[1]	Not applicable[2]
Eastern Black Rail *Laterallus jamaicensis jamaicensis*	Threatened	May affect, but is not likely to adversely affect	Not applicable[2]
West Indian Manatee *Trichechus manatus*	Threatened	May affect, but is not likely to adversely affect	No effect. No designated critical habitat overlaps the AA.

Notes:

1 A determination of *may affect, but is not likely to adversely affect* would be applicable if a Final Rule for the proposed listing of this species goes into effect prior to completion of the Proposed Action.

2 No critical habitat has been designated for this species.

SECTION 1. Introduction

1.1. Purpose and Need

The St. Bernard Parish Government Transit Department (Subapplicant) has applied for FEMA's mitigation funding assistance to reduce flood hazards in the parish, specifically within the Lake Lery Project impact area and the St. Bernard hamlet. The Proposed Action is to construct a permanent armored earthen embankment, earthen spoil containment dikes, and restore adjacent marsh by utilizing dredged material from the bottom of Lake Lery, along the northwestern edge of Lake Lery. The purpose of the Proposed Action is to reduce overall flood hazards in St. Bernard Parish, LA.

The need for this action is to prevent further expansion of Lake Lery and destruction and further destabilization of surrounding wetlands due to wind- and wave-caused erosion. The most prevalent hazard to the parish has been identified as damages from tropical cyclones; in fact, 18 of the 25 disaster declarations that have occurred in St. Bernard Parish were a result of tropical cyclones. Hurricanes (i.e., tropical cyclones with maximum sustained wind speeds of 74 miles per hour [mph] or higher) present risks from the potential for flooding, primarily resulting from storm surge and high winds (Stephenson Disaster Management Institute 2020). In 2005, Hurricane Katrina devastated St. Bernard Parish and significantly altered the shoreline of Lake Lery and the surrounding marsh by separating the contiguous marsh into multiple, broken, fragmented segments. That fragmented marsh has allowed interior wave action on an unprotected lake rim to penetrate deeper into the existing marsh, causing further damage and degradation as well as a greater potential for flooding (All South Consulting Engineers 2020). As the climate changes, sea levels will rise and oceans will become warmer, which can intensify flooding from hurricanes and other offshore storms (First Street Foundation May 2023). Larger storms and more intense flooding will cause further damage to this now highly fragmented marsh, wetlands, and habitat, and increase the risk of flooding and damage to the surrounding area. Further degradation or total loss of those wetlands would lead to the reduction of "tropical-cyclone-caused storm surge buffer capacity" that those marshes provide to St. Bernard Parish communities.

1.2. Federal Nexus

FEMA's financial assistance to the Subrecipient would be provided through the FMA Grant Program. This grant program provides funding to states, local communities, tribes, and territories to mitigate flood-damaged properties with the goal of reducing or eliminating claims under the National Flood Insurance Program.

All federal agencies are required to consult with the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS), in accordance with Section 7(a)(2) of the ESA, regarding the potential effects of federally funded, authorized, permitted, or initiated actions on federally listed or proposed species. The federal agency (FEMA) that is initiating or funding the action in question must ensure any action funded, authorized, permitted, or carried out will not (1) jeopardize the continued existence of any federally listed species or a species proposed to be listed, or (2) adversely modify designated or proposed critical habitat. The purpose of this BA is to review the Proposed Action (i.e.,

the federal action) in sufficient detail to determine whether the action may affect any federally listed species, species proposed for listing, or designated critical habitat and describe measures to avoid or minimize potential take to any affected species. This BA also evaluates impacts from this project on marine mammals protected under the MMPA and EFH protected under the MSA.

1.3. Project Location

The Proposed Action is along the northwestern shore of Lake Lery, adjacent marshlands, and a dredge-borrow area in Lake Lery within St. Bernard Parish, LA (**Appendix A, Figure 1**). Lake Lery is in the southwestern corner of the parish, south of the hamlet of St. Bernard and west of Delacroix.

SECTION 2. Proposed Action

2.1. Project Description

The Proposed Action would restore approximately 401.2 acres of marsh by depositing spoil material dredged from nearby Lake Lery into areas surrounded by constructed earthen containment dikes and by constructing 2.38 miles of permanent armored earthen embankment between that marsh and Lake Lery along its former northwest shoreline (**Appendix A, Figure 1**). The marsh stabilization/creation area would be divided into three cells. Cell 1 would have an area of 117 acres, Cell 2 would have an area of 156 acres, and Cell 3 would have an area of 128.2 acres (**Appendix A, Figure 2**). Material for the marsh stabilization/creation would be obtained from a 230 acre designated, mid-lake, borrow area and hydraulically transported using a dredge pipeline into the three cells north of the northwestern lake rim. The existing water bottom at the location of the borrow area ranges from −4 to −5 feet below mean sea level (msl) and would have a maximum depth of −20 feet below msl following material removal. The marsh stabilization/creation area would be elevated from the current average elevation of 0.6 feet above msl to an elevation of 3 feet above msl. The newly created marsh would be expected to naturally revegetate; therefore, no planting would take place during or after construction. A pipeline canal would be filled with hydraulic dredge material where the existing Boardwalk Pipeline runs under the marsh stabilization/creation area.

Earthen containment dikes would be constructed around the perimeter of each cell using material graded from adjacent earthen containment borrow areas (**Appendix A, Figure 2**). The earthen containment dikes would have a crest elevation of 4 feet above msl, a top width of 5 feet, and a bottom width of 53 feet, creating a 4:1 slope. Gaps with a width of 25 feet would be placed every 250 feet on the northern, eastern, and western containment dikes to promote hydraulic conductivity between the surrounding marsh and the created marsh. The earthen containment dike borrow area would run parallel to the earthen containment dikes and be set back 25 feet from the dikes within the marsh creation area. A plug composed of cement or sandbags would be placed over the pipeline where it and the earthen containment dike would cross.

To protect the lake rim, an earthen embankment would be constructed between Lake Lery and the marsh stabilization/creation area. The embankment would be armored with an articulated mat to protect against wind-driven wave erosion. A layer of geocomposite would be placed beneath the earthen embankment as it slopes toward the lake. The articulated mat would comprise a layer of geotextile fabric overlain with a 4-inch-thick concrete mattress. A 3-foot-wide concrete mattress would be placed at the toe of the armored embankment for additional protection. The permanent armored embankment would have a maximum elevation of 4 feet above msl with an average top width of 30 feet and an average bottom width of 78 feet. The slopes of the embankment would be 4:1. The permanent embankment borrow area would have a maximum depth of 10 feet and be at least 20 feet from the toe of the armored embankment. The embankment borrow area would be parallel to, and extend the length of, the armored shoreline.

In total, approximately 3,006,693 cubic yards (cy) of on-site fill material would be excavated from the borrow areas, and 4,621 cy of concrete would be transported to construct the earthen embankments, embankment armoring, and marsh stabilization/creation areas.

2.2. Project Duration

Construction of the Proposed Action would take approximately 2 years, with most of the work occurring during the winter months.

2.3. Equipment

Construction equipment would include road vehicles such as work trucks and equipment delivery trucks, and non-road equipment such as barges, barge-mounted excavators, a barge-mounted crane, a barge-mounted hydraulic dredge, work boats, tugboats, bulldozers, and marsh buggies.

2.4. Methods

All in-water work would be conducted from barge-mounted equipment. Equipment would access the southeastern corner of Lake Lery via Bayou Lery from Bayou Terre-aux-Boeufs and the Delacroix Highway (LA Highway 300). Equipment would cross Lake Lery to the AA through a 100-foot-wide access corridor with adequate water depth for the entire access route. An 18 to 24 inch hydraulic dredge would be used to obtain the marsh creation material from the lake bottom. The dredge would require 5 feet of draft depth. This depth would be accommodated by the access corridor, except in the shallower area near the lake rim. A dredge pipeline would be constructed from the borrow area to the marsh creation area and would float when empty and rest on the lake bottom when full. No dredging would occur within 50 feet of the existing Boardwalk pipeline. Transport of the articulated concrete mattresses for the permanent armored embankment would possibly require the use of deeper draft or light-loading barges.

Materials to construct the permanent armored embankment along the shore of Lake Lery would be placed using a barge-mounted crane. Marsh buggies would be used to construct the northern side of the permanent armored embankment. Bulldozers would be used to construct the new marsh stabilization/creation cells by grading material from the earthen containment dike borrow areas to build up the earthen containment dikes.

2.5. Best Management Practices

The St. Bernard Parish Government Transit Department will develop and adhere to a turbidity control plan that will include best management practice (BMP) measures, such as adjusting the rate of dredging and using floating turbidity curtains to control turbidity and minimize impacts on water quality.

2.6. Avoidance and Minimization Measures

The Proposed Action would incorporate general avoidance and minimization measures (AMM) and species-specific AMMs, as described in the following subsections.

2.6.1. GENERAL AVOIDANCE AND MINIMIZATION MEASURES

The following general (GEN) AMMs adapted from NMFS's Protected Species Construction Conditions (NMFS 2021) and *Vessel Strike Avoidance Measures* (National Oceanic and Atmospheric Administration [NOAA] 2021) would be implemented, as applicable.

GEN AMM 1. Protected Species Sightings: All vessel operators and crews will be informed of the potential presence of species protected under the ESA and the MMPA, and any critical habitat in a vessel transit area. All vessels will have personnel onboard responsible for observing for the presence of protected species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing listed species and all marine mammals.

GEN AMM 2. Equipment: Turbidity curtains, if used, will be made of material in which protected species cannot become entangled and be regularly monitored to avoid protected species entrapment. All turbidity curtains and other in-water equipment will be properly secured with materials that reduce the risk of protected species entanglement and entrapment.

- In-water lines (rope, chain, and cable, including the lines to secure turbidity curtains) will be stiff, taut, and non-looping. Examples of such lines are heavy metal chains or heavy cables that do not readily loop and tangle. Flexible in-water lines, such as nylon rope or any lines that could loop or tangle, will be enclosed in a plastic or rubber sleeve/tube to add rigidity and prevent the line from looping and tangling. In all instances, no excess line will be allowed in the water. All anchoring will be in areas free from hardbottom and seagrass.
- Turbidity curtains and other in-water equipment will be placed in a manner that does not entrap protected species within the project area and minimizes the extent and duration of their exclusion from the project area.
- Turbidity barriers will be positioned in a way that minimizes the extent and duration of protected species exclusion from important habitat (e.g., critical habitat, hardbottom, seagrass) in the project area.

GEN AMM 3. Operations: For construction work that is generally stationary (e.g., barge-mounted equipment dredging, or shore-based equipment extending into the water):

- Operations of moving equipment must cease if a protected species is observed within 150 feet of operations.
- Activities will not resume until the protected species has departed the project area of its own volition (e.g., the species was observed departing or 20 minutes have passed since the animal was last seen in the area).

GEN AMM 4. Vessel Strike Avoidance: The following measures will be taken when they are consistent with safe navigation to avoid causing injury or death of a protected species:

- Operate at the minimum safe speed when transiting and maintain a vigilant watch for protected species to avoid striking them. Even with a vigilant watch, most marine protected species are extremely difficult to see from a boat or ship, and you cannot rely on detecting them visually and then taking evasive action. The most effective way to avoid vessel strikes is to travel at a slow, safe speed. Whenever possible, assign a designated individual to observe for protected species and limit vessel operation to only daylight hours.
- Follow deep-water routes (e.g., marked channels) whenever possible.
- Operate at idle/no-wake speeds in the following circumstances:
    - While in any project construction areas
    - While in-water depths where the draft of the vessel provides less than 4 feet of clearance from the bottom
    - In all depths after a protected species has been observed in and has recently departed the area
- When a protected species is sighted, attempt to maintain a distance of 150 feet or greater between the animal(s) and the vessel. Reduce speed and avoid abrupt changes in direction until the animal(s) has left the area.

2.6.2. SPECIES-SPECIFIC AVOIDANCE AND MINIMIZATION MEASURES

In addition to the GEN AMMs described above, the following species-specific AMMs from the USFWS's *Standard Manatee Conditions for In-Water Activities* (USFWS 2023a) will be implemented.

Prior to conducting in-water work in areas that may support manatees, all project personnel will be informed of the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All project personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the ESA and MMPA. Additionally, project personnel will be instructed not to attempt to feed or otherwise interact with the animal.

All on-site personnel will be responsible for observing water-related activities for the presence of manatee(s). The following measures will be implemented to minimize potential impacts on manatees:

- All work, equipment, and vessel operation will cease if a manatee(s) is spotted within a 50 foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone of its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have

passed without additional sightings of manatees in the buffer zone, in-water work can resume under careful observation for manatees.

- If a manatee(s) is sighted in or near the project area, all vessels associated with the project will operate at no-wake/idle speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a 4 foot clearance from the bottom. Vessels will follow routes of deep water whenever possible.

- If used, siltation or turbidity barriers will be properly secured, made of material in which manatees cannot become entangled, and monitored to avoid entrapping manatees or impeding their movement.

- Temporary signs concerning manatees will be posted prior to and during all in-water project activities and removed upon project completion. Each vessel involved in construction activities will display at the vessel control station or in a prominent location visible to all employees operating the vessel, a temporary sign at least 8.5 inches by 11 inches with language similar to the following: "CAUTION BOATERS: MANATEE AREA. NO-WAKE/IDLE SPEED IS REQUIRED IN THE CONSTRUCTION AREA AND WHERE THERE IS LESS THAN 4-FOOT BOTTOM CLEARANCE WHEN A MANATEE IS PRESENT." A second temporary sign at least 8.5 inches by 11 inches will be posted at a location prominently visible to all personnel engaged in water-related activities with language similar to the following: "CAUTION: MANATEE AREA. EQUIPMENT MUST BE SHUT DOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION."

- Collisions with, injury to, or sightings of manatees will be immediately reported to the USFWS' Louisiana Ecological Services Office (337-291-3100) and the Louisiana Department of Wildlife and Fisheries (LDWF) Natural Heritage Program (225-765-2821). Those responsible for reporting collisions with, injury to, or sightings of manatees will provide the nature of the call (i.e., report of an incident, manatee sighting), time of incident/sighting, and the approximate location (including the latitude and longitude coordinates, if possible).

2.7. Action Area

A project AA is identified for the evaluation of potential effects of the Proposed Action on federally listed and proposed species. The AA is defined as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action" (50 Code of Federal Regulations [CFR] 402.02) and this assessment includes all areas where project activities could result in effects on federally listed or proposed species. "Effects of the action" is defined in 50 CFR 402.02 as all consequences to listed species or critical habitat that are caused by the Proposed Action, including the consequences of other activities that are caused by the Proposed Action. A consequence is caused by the Proposed Action if it would not occur but for the Proposed Action and it is reasonably certain to occur (50 CFR 402.02). Effects of the action may occur later and may include consequences occurring outside of the immediate area involved in the action (50 CFR 402.02). Thus, consequences may include direct harm to species within work areas, staging areas, and access routes, as well as disturbance from project-related noise, vibration, and human

presence. Observable or measurable effects of this project are not expected beyond the boundaries of the AA.

Noise generated during construction activities from the use of heavy equipment is expected to be the farthest-reaching effect of the Proposed Action and thus an appropriate determinant of the AA's extent. Underwater noise from dredging has been documented in open water to create a zone of auditory masking at up to 2.5 miles from the dredge. Manatees within the zone of masking may have an increase in the probability of a vessel strike for boats approaching at speeds of 5 to 24 mph (U.S. Army Corps of Engineers [USACE] 2019). Further, in-air noise from construction-related equipment could disrupt terrestrial species. It is estimated that noise from construction activities would attenuate to those of ambient levels at approximately 1,000 feet from the source. Therefore, the underwater AA encompasses the full extent of Lake Lery where underwater noise could propagate (**Appendix A, Figure 3**) and disturb manatees, and 1,000 feet throughout terrestrial areas where terrestrial species may be found (**Appendix A, Figure 3**).

SECTION 3. Environmental Setting

3.1. Environmental Setting

The AA is situated in the U.S. Environmental Protection Agency (EPA) Level IV Coastal Marshes ecoregion. This ecoregion consists of flat deltaic and coastal plains with freshwater and saline marshes. Average rainfall in the ecoregion is approximately 65 inches per year with temperatures ranging from a minimum of 44 degrees Fahrenheit (°F) in January to a maximum of 92°F in July (Chapman et al. 2004). Terrain within the AA is generally flat, with areas of estuarine marsh and open water. Hydrology, water and soil salinity, land change (accretion, erosion, subsidence), and vegetation communities of the AA are heavily influenced by both tropical cyclones and, since 1991, the operation of the Caernarvon Freshwater Diversion (CFD) structure located 5 miles north–northwest of the AA. The CFD diverts freshwater from the Mississippi River into the Breton Sound Basin and the AA is influenced (and often when operating, inundated) by that freshwater as it proceeds south into Lake Lery toward the Gulf of Mexico.

3.2. Vegetation Communities and Aquatic Features

According to the National Wetlands Inventory (USFWS 2023b), the AA comprises the following acreage:

- 711 acres of estuarine wetlands with intertidal habitats and emergent persistent vegetation with brackish waters that are irregularly flooded (wetland classification code [WCC] E2EM1P5)
- 868 acres of estuarine subtidal habitats with unconsolidated bottoms that have tidal water continuously covering the substrate (797 acres of WCC E1UBL and 60 acres of WCC E1UBL5)
- 11 acres of estuarine subtidal habitats with an aquatic bed (WCC E1ABL5)
- 0.08 acres of riverine habitat (WCCs R5UBH and R5UBFx)

Bathymetric surveys conducted within the AA show water depths between 0 and 5 feet below msl.

Vegetation data were collected near the project area as part of the Louisiana Coastal Protection and Restoration Authority's Coastwide Reference Monitoring System (CRMS). These data are summarized in **Table 3-1** and show a mix of freshwater and intermediate marsh species. The habitat designation for the project area is intermediate marsh. Intermediate marsh habitat occurs at an elevation between freshwater and saline marshes and demonstrates characteristics of both types of marsh. The intermediate marsh habitat type can be identified by the presence of saltmeadow cordgrass (*Spartina patens*), a dominant species in brackish marsh, and a mixture of typically freshwater species such as bulrush (*Schoenoplectus* sp.), cattail (*Typha* sp.), and water lily (*Nymphea* sp.) (Thomas 2008).

Table 3-1. Vegetation Occurring at Coastwide Reference Monitoring System Sites near Lake Lery

Scientific Name	Common Name
Aeschynomene indica	Indian Jointvetch
Alternanthera philoxeroides	Alligatorweed
Ameranthus australis	Southern Amaranth
Bacopa monnieri	Waterhyssop
Cyperus odoratus	Fragrant Flatsedge
Echinochola walteri	Coast Cockspur Grass
Ipomoea sagittata	Saltmarsh Morning-glory
Pluchea camphorata	Camphor Pluchea
Saccharium giganteum	Sugarcane Plumegrass
Salix nigra	Black Willow
Schoenoplectus americanus	Chairmaker's Bulrush
Schoenoplectus tabernaemontoni	Softstem Bulrush
Sesbania drummondii	Poisonbean
Spartina patens	Saltmeadow Cordgrass
Typha sp.	Cattail
Vigna luteola	Hairypod Cowpea

Source: CRMS 2023

3.3. Essential Fish Habitat

Section 3 of the MSA defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 United States Code [U.S.C.] Section 1802). These waters include aquatic areas and their associated physical, chemical, and biological habitat features necessary to support the entire life cycle of the species in question and may include areas historically used by these species. According to the NMFS Essential Fish Habitat Mapper (NMFS 2023a), the Gulf of Mexico Fishery Management Council has designated the portion of Lake Lery within the AA as EFH for the shrimp, red drum, reef fish, and coastal migratory pelagic fishery management units.

The species for which EFH has been designated that have the potential to occur within the AA are shown in Table 3-2, organized by their corresponding fisheries management plan (FMP).

Table 3-2. Federally Managed Species with Potential to Occur within the Action Area

Fisheries Management Plan	Common Name	Scientific Name
Shrimp Fishery Management Plan	Brown Shrimp	*Farfantepenaeus aztecus*
Shrimp Fishery Management Plan	White Shrimp	*Litopenaeus setiferus*
Shrimp Fishery Management Plan	Northern Pink Shrimp	*Farfantepenaeus duorarum*
Red Drum Fishery Management Plan	Red Drum	*Sciaenops ocellatus*
Reef Fish Resources Management Plan	Mutton Snapper	*Lutjanus analis*
Reef Fish Resources Management Plan	Schoolmaster Snapper	*Lutjanus apodus*
Reef Fish Resources Management Plan	Cubera Snapper	*Lutjanus cyanopterus*
Reef Fish Resources Management Plan	Gray Snapper	*Lutjanus griseus*
Reef Fish Resources Management Plan	Yellowtail Snapper	*Ocyurus chrysurus*
Reef Fish Resources Management Plan	Black Grouper	*Mycteroperca bonaci*
Coastal Migratory Pelagic Fishery Management Plan	Spanish Mackerel	*Scomberomorus maculatus*

Sources: Gulf of Mexico Fishery Management Council 1981a, 1981b; NMFS 1986; Gulf of Mexico and South Atlantic Fishery Management Councils 1983

Three shrimp species (brown, white, and northern pink) included in the Gulf of Mexico Shrimp Fishery Management Unit could potentially occur within the AA (Table 3-2), because these species migrate to estuarine habitats as pelagic post-larvae. Once they reach the estuarine environment, post-larvae become established in benthic habitats where they grow and metamorphose into juveniles. Of the three species, brown and white shrimp are expected to be the most likely to occur within the AA, because juveniles of both species have been found to demonstrate a strong preference for marsh edge habitats such as those present along the marsh stabilization/creation area (Gulf of Mexico Fishery Management Council 2004). Northern pink shrimp are expected to have low potential to occur within the AA because the species is typically found in seagrass beds, which are not known to occur within the AA. As juveniles, brown, white, and northern pink shrimp feed on organic matter, small invertebrates, small fishes, and plants until they approach maturity, at which point they emigrate to offshore habitats.

Red drum commonly occur in estuarine habitats throughout the Gulf region. The types of estuarine habitats used by the species varies by life stage. Red drum larvae are transported from Gulf waters into estuarine environments where they grow and mature into juveniles and subadults. Juveniles have been found to prefer the perimeter of marshes in estuaries while subadults have been found to show a preference for shallow bay bottoms (Gulf of Mexico Fishery Management Council 2004). Therefore, juveniles would be most likely to occur along the marsh stabilization/creation area and subadults would be most likely to occur in the open-water portions of the AA. Although adult red

drum also use estuaries, they tend to spend most of their time offshore. Therefore, adults are considered to have low potential to occur within the AA.

Six species included in the Reef Fish Resources Management Plan—mutton snapper, schoolmaster snapper, cubera snapper, gray snapper, yellowtail snapper, and black grouper—could potentially occur within the AA (**Table 3-2**). The juvenile life stages of each of these species occupy estuarine environments where they primarily feed on estuarine-dependent prey such as shrimp, smaller fish, and crabs. As juvenile snappers and groupers mature, they tend to move to offshore habitats. However, estuarine-dependent species may still constitute a substantial portion of their diet. These fish species are generally opportunistic feeders and are not expected to show a strong preference for any particular estuarine habitat type. Therefore, they are expected to potentially occur throughout the AA.

Two life stages of one species (Spanish mackerel) included in the Coastal Migratory Pelagic Fisheries Management Unit could potentially occur within the AA (**Table 3-2**). Juveniles may enter and use estuarine waters as nursery habitat. While in estuarine habitats, these juveniles feed primarily on small fish in addition to gastropods and squid. Adults generally occupy inshore coastal waters but may enter estuarine habitats in pursuit of prey such as baitfish, crustaceans, and mollusks. Therefore, juvenile Spanish mackerel are the most likely life stage to occur within the AA.

3.4. Federally Listed and Proposed Species with the Potential to Occur in the Action Area

A desktop review was conducted to identify federally listed or proposed species with potential to occur within or near the AA. The following sources were reviewed to obtain information regarding potential occurrences of federally listed and proposed species and critical habitat within and near the AA:

- USFWS Information for Planning and Consultation (IPaC) System (USFWS 2024)
- Louisiana Department of Wildlife and Fisheries Rare Species and Natural Communities (LDWF 2024)
- USFWS Critical Habitat Mapper (USFWS 2023c)
- NMFS Essential Fish Habitat Mapper (NMFS 2023a)
- NMFS Threatened and Endangered Species List for Louisiana (NMFS 2022)
- NMFS Critical Habitat Mapper (NMFS 2023b)

FEMA reviewed species recovery plans, the most recent species status assessments, and other available documentation for further details concerning federally listed and proposed species' status in the region, historical and current ranges, habitat preferences, and life histories. **Appendix B** provides the USFWS IPaC Official Species List.

3.4.1. LISTED AND PROPOSED SPECIES

Based on the desktop review, FEMA identified four listed and proposed (sub)species that could potentially occur within the AA: AST, the TCB, eastern black rail (EBR), and WIM. FEMA excluded all other listed or proposed species from further analysis in this BA because no other listed or proposed species' known range, designated critical habitat, or potentially suitable habitat is located within the AA, nor would the Proposed Action potentially impact proposed or listed species occurring elsewhere.

Alligator Snapping Turtle

Status

The AST was proposed for listing as a threatened species with a rule issued under Section 4(d) of the ESA (4[d] rule) on November 9, 2021 (USFWS 2021a). The proposed rule does not include any designated critical habitat for the AST (USFWS 2021a). As of March 2024, USFWS has not published a Final Rule listing the AST as threatened or endangered or determining that listing is not warranted.

Range

The AST is a widely distributed reptile in the Mississippi Alluvial Valley, from the Gulf of Mexico to as far north as Illinois, Indiana, southeastern Kansas, and eastern Oklahoma (USFWS 2021b). In Louisiana, the AST can be located statewide, but less commonly in marshes (LDWF 2007).

Habitat

Adults are primarily found in deeper fresh waters of large rivers and their major tributaries; however, they have been found in a wide variety of habitats including small streams, bayous, canals, swamps, lakes, reservoirs, ponds, and oxbows, and occasionally, brackish water (Behler and King 1979). ASTs are generally bottom-dwelling, surfacing only periodically to breath. Habitats that offer aquatic structures (e.g., tree root masses, stumps, submerged trees) and riparian canopy cover are preferred over open-water habitats (USFWS 2021b).

Research suggests that ASTs prefer nesting sites in areas with relatively steep slopes along the water's edge (36 to 39 degrees), deep water within 6 feet of the bank, and a low percentage of ground cover (16 to 28 percent) (Miller et al. 2014). Distances from nest sites to the nearest water in Louisiana have been documented from 4 to 285 feet. ASTs do not appear to be particularly selective regarding nest–site conditions. However, one study noted that low forested areas with leaf litter, root mats, and open sand bars were avoided by nesting females (Ewert 1976). Areas that may be seasonally flooded, where nests could be inundated, are also likely avoided.

Although nests may be along both rivers and streams, juveniles generally require small streams with mud and gravel bottoms that have submerged structures, such as tree root masses, stumps, and submerged live and dead trees that allow for foraging and protection from predators (USFWS 2021b).

Life History

ASTs spend most of their lives in aquatic habitats with overland movement generally being limited to nesting females and hatchlings. Adult movement in aquatic habitats occurs largely at night, whereas juveniles are most active during the day. The AST rarely demonstrates basking behavior and is

generally considered a bottom-dwelling species. ASTs cannot remain submerged for long periods of time relative to other aquatic turtles and must surface approximately every 40 to 50 minutes to breathe. ASTs are generally less active during the winter (November to March) and summer (July and August), and most active during reproduction in the spring (USFWS 2021b).

Most AST nesting occurs from May to July within areas in the southern part of their habitat range (e.g., Georgia, Florida, Louisiana). Nesting females typically represent the only adult life stage to venture out of aquatic habitats onto land. Females generally excavate nests in sandy soils or other dry substrate near freshwater sources. The incubation period for AST nests in Louisiana has been documented to be between 98 to 121 days (USFWS 2021b).

ASTs are considered hatchlings during their first year of life. Hatchlings have been documented emerging from the nest approximately 0.5 to 22 days after hatching. After emergence, hatchlings travel overland to water and need shallow water with riparian vegetative structure that provides canopy cover. After 1 year of life, ASTs are considered juveniles until they reach sexual maturity at 11 to 21 years of age (USFWS 2021b).

Potential to Occur in the Action Area

The AA consists of intermediate to brackish salinity open water of Lake Lery and adjacent intermediate fragmented marsh with no presence of tree canopy, steep-sloped riverbanks, sandy soils, or underwater or bank structures consisting of tree root masses, stumps or submerged trees. The AA does not contain deep freshwater rivers or their tributaries, or other freshwater habitats (such as freshwater bayous, canals, swamps, lakes, reservoirs, ponds, small streams, or oxbows). Lake Lery, Bayou Lery and nearby oilfield canals do provide open-water habitat within the AA that could provide one parameter of suitable foraging habitat for ASTs. However, the shallow (5 feet or less) water depths and salinity with a lack of overstory canopy and underwater or bank structures within the AA are not ideal for ASTs, which primarily prefer deeper freshwater habitat with a higher percentage of canopy cover. No suitable nesting or juvenile rearing habitat is present within or near the AA. Additionally, ASTs are only occasionally known to enter brackish waters. Therefore, while ASTs have the potential to occur within the AA, that likelihood is extremely low and limited to transient occurrences of adult individuals potentially moving through the AA from/to suitable freshwater habitats closer to the Mississippi River.

Critical Habitat for the Alligator Snapping Turtle

As of March 2024, no critical habitat for AST has been proposed or designated.

Tricolored Bat

Status

The TCB was proposed for listing as an endangered species with a rule issued under Section 4 of the ESA on September 13, 2022 (USFWS 2022). The proposed rule does not include any designated critical habitat for the TCB (USFWS 2022). As of March 2024, USFWS has not made a final determination about the proposed listing.

Range

TCBs are found in Washington DC and 39 states, excluding Alaska, Arizona, California, Hawaii, Idaho, Montana, Nevada, North Dakota, Oregon, Utah, and Washington (USFWS 2022). In Louisiana, TCBs can be found throughout the state where there is suitable habitat.

Habitat

During non-hibernating seasons (i.e., spring, summer, and fall), TCBs primarily roost in both live and dead leaf clusters of live or recently dead deciduous hardwood trees (USFWS 2022). During the summer, they have also been found to roost in pine needles, eastern red cedar, and artificial roosts such as barns, roofs, bridges, and bunkers (USFWS 2022). Female TCBs can exhibit site fidelity and form maternity colonies, switching roost trees regularly, while males roost alone (USFWS 2022, USFWS 2023e). Maternity colonies can range in abundance, from 5 to 56 females and pups in a colony roost (USFWS 2022), generally averaging 35 or less females and pups in a roost (Texas Parks and Wildlife Department [TPWD] n.d.).

In the southern United States, TCBs hibernate during the winter in road-associated culverts, tree cavities, and abandoned water wells, displaying high site fidelity for their hibernaculum (USFWS 2022). TCBs are found to hibernate in warmer locations with higher humidity within a hibernaculum (TPWD n.d.; USFWS 2022).

TCBs forage opportunistically on small insects (e.g., caddisflies, moths, beetles, wasps, flying ants, and flies), emerging in early evening at or above treetops and foraging closer to the ground later in the evening (USFWS 2022). TCBs forage most commonly above forest edges and waterways (USFWS 2022).

TCBs prefer habitats with larger forested areas, forest aggregations, and tree corridors, and they are less abundant in areas of urban development. Large stretches of urban development present less suitable habitat and likely negatively influences connectivity between summer and winter habitats (USFWS 2022). Bat occupancy of suitable habitat is negatively impacted by noise generated from an urban environment, even if water sources are available (Lehrer et al. 2021).

Life History

As previously mentioned, TCBs roost during the spring, summer, and fall, and they hibernate during the winter. In the southern United States, TCBs hibernation is shorter, with some TCBs displaying shorter torpor sessions, remaining more active and feeding throughout the winter. TCBs do not usually form clusters during hibernation. While they often roost singly, TCBs occasionally roost in pairs or small clusters away from other bats (USFWS 2022).

TCBs swarm and mate during the fall before winter hibernation. However, fertilization does not occur until spring emergence from hibernation. Gestation is approximately 44 to 50 days in length, and females typically give birth to two young (pups) (TPWD n.d.). Pups experience rapid growth, flying at 3 weeks of age and exhibiting adult foraging ability at 4 weeks old. TCBs are considered juveniles through their first hibernation and do not participate in mating in their first fall (USFWS 2022). TCBs have been documented to live up to 14 years (TPWD n.d.; USFWS 2022).

TCBs perform a short annual migration between its winter hibernacula and its summer roost sites, averaging 31 miles or less in distance (TPWD n.d.).

Potential to Occur Within the Action Area

The AA consists of intermediate to brackish salinity open water of Lake Lery and adjacent intermediate fragmented marsh with no presence of habitats with larger forested areas, forest aggregations, and tree corridors and associated tree canopy. The AA does not contain freshwater rivers or their tributaries, or other freshwater habitats (such as freshwater bayous, canals, swamps, lakes, reservoirs, ponds, small streams, or oxbows). While the AA is within the geographical range of the TCB and potential suitable foraging habitat for the TCB occurs in the AA over and along the edges of Lake Lery, TCBs prefer habitats with larger forested areas, forest aggregations, and tree corridors, and they are less abundant in areas of urban development. Additionally, TCBs prefer to roost in hardwood trees, although they have been observed to roost on bridges, culverts, other human structures, and in overwintering sites (McCoshum et al. 2023; USFWS 2022). Therefore, while TCBs may have the potential to incidentally occur within the AA, that likelihood is extremely low and limited to occurrences of adult individuals potentially foraging in marginal habitats in the AA during the spring, summer, and/or fall.

Critical Habitat for the Tricolored Bat

The proposed rule to list the TCBs as an endangered species concludes that the designation of critical habitat for the species is not prudent (USFWS 2022). Therefore, this BA does not consider it further.

Eastern Black Rail

Status

The EBR was listed as a threatened subspecies with a 4[d] rule on November 9, 2020 (USFWS 2020).

Range

The EBR is a bird that occurs across the eastern United States, Mexico, Brazil, Central America, and the Caribbean. Historically, the EBR was known to be present during breeding months (March through August) at inland and coastal locations throughout southeastern coastal states, including Louisiana (USFWS n.d.). EBR are elusive, secretive birds that are difficult to detect and capture, and relatively little specific information is known about their distribution, particularly in Louisiana. The Center for Conservation Biology estimated with high uncertainty that, as of 2016, zero to 10 EBR breeding pairs possibly existed in Louisiana, but no confirmed breeding records currently exist (USFWS 2018; Watts 2016). In Louisiana, between 2010 and 2017, only a small number of credible records of the EBR were documented (USFWS n.d.). Specifically, prior to 2017, only a total of 13 “accepted” historic records existed statewide, which included an observation near the Gulf of Mexico coast of Jefferson Parish at Grand Isle, LA (Johnson and Lehman 2021). More recently, EBR point count surveys in coastal Louisiana by Johnson and Lehman (2021) between May 2017 and April 2019 detected EBR at 13.8% (number = 152) of point count locations at 33% (number = 33) of survey sites in Vermilion and Cameron Parishes, LA, but none at any point count locations at three survey sites within coastal Jefferson Parish, LA. Winter (non-breeding season) drag-line surveys of

that effort resulted in 28 captures of 25 individual EBR (three birds were recaptured once) in Cameron and Vermilion Parishes only. These surveys provided the first evidence of a year-round EBR population in Louisiana (particularly the Chenier Plain region of southwestern Louisiana) (Johnson and Lehman 2021).

Habitat

The EBR is a wetland-dependent species that requires dense vegetative cover and moist to saturated (occasionally dry) soils that are interspersed with or adjacent to very shallow water. EBRs can be found in a variety of salt, brackish, and freshwater wetland habitats that can be tidally or non-tidally influenced. EBRs occur across an elevational gradient that lies between lower and wetter portions of the marsh and their contiguous uplands. These habitat gradients have gentle slopes so that portions of these wetlands can have areas of shallow inundation (sheet water). EBRs also require adjacent higher elevation areas (i.e., a wetland-upland transition zone) with dense cover to survive high water events owing to the propensity of juvenile and adult black rails that walk and run rather than fly, and chicks' inability to fly (USFWS 2019).

An analysis of point count data by Johnson and Lehman (2021) from 1,239 EBR surveys in Cameron, Vermilion, and Jefferson Parishes, LA, across multiple seasons, indicated that Gulf cordgrass (*Spartina spartinae*) was an important predictor of EBR occupancy, consistent with findings by Tolliver et al. (2019) in coastal Texas. Gulf cordgrass is often considered a "high marsh" or "terrestrial border" obligate because of its tolerance of high salinity soils that are irregularly inundated by storm surge, and not daily tidal fluctuations. Despite Gulf cordgrass-dominated wetlands being the best current predictor of EBR occupancy, several detections occurred in saltgrass- (*Distichlis spicata*) or turtleweed- (*Batis maritima*) dominated coastal wetlands and one bird was found in saltmeadow cordgrass-dominated habitat. However, the only locality where the single EBR was observed in saltmeadow cordgrass-dominated habitat was also a "high marsh." EBR nesting occurs in dense clumps of vegetation over moist soils or shallow water. Water deeper than 1 inch is not preferred for nesting because chicks would have to swim during brood rearing (USFWS 2019).

Life History

Adult EBRs begin mating and laying eggs in March and continue through August. Eggs are laid in a bowl-type nest, often with a canopy and ramp, constructed of dead and live fine-stemmed emergent grasses, rushes, and other herbaceous plants. Adult females lay one egg per day for approximately 7 days, and the egg stage lasts for approximately 26 days, including 7 days of egg-laying and 19 days of incubation. Chicks stay in the nest until all eggs have hatched. Once all eggs have hatched, chicks are precocial and typically leave the nest within 24 hours, often returning to the nest–site to roost for the evening. Approximately 42 days after hatching, chicks obtain juvenile plumage and are capable of flight. EBRs reach the adult life stage during the spring after their hatch year (USFWS 2019).

Potential to Occur in the Action Area

The habitat within the AA is fragmented intermediate marsh and contains a mix of freshwater and intermediate marsh vegetation that is influenced by operation of the CFD. Intermediate marsh

habitat occurs between freshwater and saline marshes and demonstrates characteristics of both types of marsh. Intermediate marsh habitat is identified by the presence of saltmeadow cordgrass, a dominant species in brackish marsh, and a mixture of typically freshwater species, such as bulrush (*Schoenoplectus* sp.) and cattail (*Typha* sp.). While the AA contains estuarine marsh habitats with dense vegetative cover that may potentially be used for EBR foraging, the AA does not have an elevation gradient with adjacent "high marsh" or "terrestrial border" habitat dominated by Gulf cordgrass, saltgrass, or turtleweed which are tolerant of high salinity soils. Recent surveys suggest that those habitats are preferred by EBR for nesting and foraging in coastal Louisiana and Texas (Johnson and Lehman 2021; Toliver et al. 2021). Because the AA consists of low intermediate marsh that is occasionally inundated and does not contain elevation gradients with adjacent "high marsh" or "terrestrial border" habitats that EBR need for refugia, the potential for EBR to occur in the AA is extremely low.

Critical Habitat for Eastern Black Rail

No critical habitat for EBR has been designated.

West Indian Manatee

Status

The WIM was downlisted to a threatened species on May 5, 2017 (USFWS 2017) after previously being listed as endangered on March 11, 1967 (32 *Federal Register* 4061). Critical habitat was designated for the WIM in 1976 (50 CRF Part 17.95(a)).

Range

The WIM is an aquatic mammal most common in Florida, but can also be occasionally found in Louisiana, Mississippi, Georgia, North Carolina, and South Carolina (LDWF n.d.-a). Water temperatures affect the seasonal distribution of the WIM. During the summer, when water temperatures are warmer, WIMs may range as far west as Texas (USFWS 1999). While rare in Louisiana, WIMs are most likely to be observed in the Pearl, Pontchartrain, Barataria, Mermentau, Calcasieu, and Sabine basins (LDWF n.d.-b).

Habitat

WIMs are generally restricted to rivers and estuaries, although they may use brackish and marine habitats to move from site to site. Manatees are herbivorous and eat a variety of aquatic plants. They are often found in waters with submerged aquatic vegetation beds or floating vegetation and in coastal areas are particularly drawn to areas with flourishing seagrass beds. Manatees generally avoid areas with strong currents and prefer waters at least 4 to 7 feet deep. Most manatee sightings in Louisiana are east of the Mississippi River (Wilson 2003, LDWF n.d.).

Life History

WIM breeding has been reported during all seasons; however, research shows that males are more fertile from March through November. WIMs form mating herds composed of one or more males when a female comes into estrous. These mating herds can last up to 4 weeks with males joining and leaving the herd daily. Males appear to reach sexual maturity at 3 to 4 years of age, and females at around 5 years of age. WIMs typically have one calf at a time and have a gestation period of

approximately 1 year. After a calf is born, dependency upon their mothers usually lasts 1 to 2 years (USFWS 2001, LDWF n.d.).

Potential to Occur in the Action Area

According to data obtained from the Dauphin Island Sea Lab's Manatee Sighting Network, WIMs have not been observed within or near 5 miles of the AA (Dauphin Island Sea Lab 2023). The marsh stabilization/creation area does not contain water deep enough for WIMs to move through that marsh, and the borrow pit area does not support substantial submerged aquatic beds or floating vegetation that WIMs consume. Additionally, the indirect route required to access Lake Lery from the Gulf of Mexico greatly reduces the likelihood of WIM occurring within the AA. Therefore, WIM have the potential to occur within the AA; however, this potential is extremely low, and any occurrence would likely be transitory.

Critical Habitat for the West Indian Manatee

Critical habitat was designated for the WIM in 1976, all of which is in Florida. No critical habitat for WIM occurs within 10 miles of the AA.

SECTION 4. Effects Analysis

4.1. Alligator Snapping Turtle

No suitable nesting or juvenile habitat for AST occurs within the AA, and the potential for AST to be present within the AA is extremely low. Direct impacts on any potentially present AST could occur from vessel and equipment strikes and entanglement with barriers, such as suction booms, dredge pipelines, and siltation screens. Vessel strikes to ASTs can cause severe injury and have been reported to have a 33 percent mortality rate (Shook et al. 2023).

Indirect impacts from construction-related underwater noise, increased turbidity, and elevated total suspended sediment could disrupt AST foraging behaviors within the AA, if any AST would be present during Proposed Action operations. Airborne and underwater noise from dredging activities could cause any potential ASTs in the area to relocate, thus leading to energetic stress. Additionally, increased underwater noise and decreased water quality due to the Proposed Action could cause prey species to move away from project-related sources of disturbance. Those conditions could force any potentially present ASTs to follow them, leading to increased nutritional and energetic stress.

The likelihood of injury or mortality of any potentially present ASTs from project-related activities will be minimized through the implementation of the GEN AMMs described in Section 2.6.1 and the species-specific AMMs described in Section 2.6.2. In the highly unlikely event that an AST were to be detected within the AA, implementation of GEN AMMs 3 and 4 would minimize potential harm or injury by avoiding direct contact with individuals. Additionally, indirect impacts from decreased water quality would be minimized by the implementation of water quality BMPs discussed in Section 2.5.

With the extremely low potential for ASTs to occur within the AA (because of the absence of preferable AST habitat), and the implementation of proposed AMMs and BMPs, the potential for project activities to cause take of ASTs or destroy AST habitat is not likely.

4.2. Tricolored Bat

Preferred roosting/foraging habitat for TCBs is not present within the AA, and the potential for TCBs to be present within the AA is extremely low. No direct impacts to TCBs would be anticipated from the Proposed Action. Indirect impacts on any potentially present TCB could occur from vessel and equipment noise, which can disrupt TCB foraging or cause physiological stress.

The likelihood of injury or mortality of any potentially present TCBs from project-related activities will be minimized through the anticipated project work schedule, which would occur primarily during the winter months when TCB activity is significantly reduced. With the extremely low potential for TCBs to occur within the AA (because of the absence of preferable TCB habitat), and the project work schedule, the potential for project activities to cause take of TCBs or destroy TCB habitat is discountable.

4.3. Eastern Black Rail

The AA consists of low intermediate marsh that is occasionally inundated by operation of the CFD and does not contain high salinity wetlands and associated vegetation with elevation gradients and adjacent "high marsh" or "terrestrial border" habitats. Recent surveys suggest that in coastal Louisiana, those habitats are preferable to foraging, and potentially nesting, EBR. The nearest accepted record of EBR was observed near the Gulf of Mexico coast of Jefferson Parish at Grand Isle, LA, which contains high salinity wetlands and "high marsh/terrestrial border" habitat, 40 miles southwest of the AA.

If EBRs were to occur within the AA, construction activities in the marsh could result in direct impacts on EBR from being struck or crushed by construction equipment. However, if foraging or loafing EBR were present during construction, it would be readily able to detect and avoid slow-moving construction equipment. Because the AA is not currently known to be preferred EBR habitat in Louisiana, EBR presence is highly improbable; therefore, the potential for an EBR to be struck or crushed by construction equipment is extremely unlikely.

Indirect impacts from construction-related noise and activity could disrupt normal EBR foraging behaviors within the AA. Impacts from EBRs being flushed while foraging include nutritional and energetic stress. However, there are hundreds of thousands of acres of emergent marsh habitat surrounding the project area, and EBR presence is highly improbable. Therefore, potential nutritional and energetic stress associated with relocating to foraging habitat outside the AA is unlikely.

In the long term, marsh creation and stabilization could possibly increase the availability of suitable EBR foraging and nesting habitat by reducing inundation, providing an elevation gradient of higher lands than the surrounding marsh and increasing vegetative cover within the AA. Additionally, the restoration and creation of wetlands and elimination of erosion caused by wave action on the currently exposed shore of Lake Lery would improve stability and longevity of highly fragmented marsh north of the AA. Therefore, the Proposed Action could have a long-term beneficial effect on the EBR if they chose to utilize the low salinity habitat provided by the restored AA.

4.4. West Indian Manatee

The potential for WIM occurrence within the AA is extremely low. If the low likelihood of a WIM occurrence in the AA does happen, potential direct impacts on WIMs could occur from vessel and equipment strikes and entanglement with barriers such as suction booms, dredge pipelines, and siltation screens. Direct strikes from vessels and equipment could injure and/or kill WIMs, and vessel strikes are the leading human-related cause of death of manatees (Spencer 2019). Additionally, manatees are particularly susceptible to entanglement in lines, nets, and siltation barriers. Entanglement may cause inhibited movement, necrosis, and constriction that can result in drowning, self-amputation, and fatal secondary infections. Indirect impacts on WIMs could occur from noise created by construction activities. WIMs avoid or reduce foraging in areas with increased noise, which can lead to nutritional and energetic stress from displacement to suitable habitat (Hieb et al. 2021).

Potential injury or mortality of WIMs from project-related activities will be minimized through implementation of the GEN AMMs described in Section 2.6.1 and the species-specific AMMs described in Section 2.6.2. In the highly unlikely event that a WIM were to be detected within the AA, implementation of GEN AMMs 3 and 4 would minimize potential harm or injury by avoiding direct contact with individuals.

There is no suitable foraging habitat within the AA; therefore, no indirect impacts from habitat degradation would occur from implementation of the Proposed Action.

Because of the extremely low potential for WIMs to occur within the AA and the implementation of AMMs and BMPs, the potential for the Proposed Action to disturb, injure, or kill WIMs or destroy WIM habitat is unlikely.

SECTION 5. Effects Determination

Although the AA may provide limited suitable foraging habitat for adult ASTs, the likelihood that individuals could occur within the AA is extremely low because the aquatic habitats within the AA are shallow and intermediate to brackish with a lack of overstory canopy and underwater or bank structures; also, adult ASTs typically prefer deeper, freshwater riverine or lacustrine habitats with overstory canopy. The AA contains no habitat that would support AST nesting or juveniles. However, if ASTs were to occur within the AA, underwater noise and degraded water quality could disrupt normal foraging behavior. Additionally, AST could be injured or killed from being struck by vessels and equipment. However, any potential for injury or mortality of ASTs to result from the Proposed Action would be minimized through implementation of AMMs described in Section 2.6. Therefore, the potential for the Proposed Action to result in take of ASTs is unlikely. Similarly, the Proposed Action could influence AST foraging availability due to underwater noise and degraded water quality; however, that potential impact is unlikely with the implementation of the proposed BMPs. For these reasons, FEMA determines that the Proposed Action ***will not jeopardize the continued existence*** of the AST. If the AST becomes listed prior to completion of the Proposed Action, the Proposed Action ***may affect, but is not likely to adversely affect*** the AST.

Although the AA may provide some marginal foraging habitat within the geographic range for TCBs, the likelihood that individuals could occur within the AA is extremely low because TCBs prefer habitats with larger forested areas, forest aggregations, and tree corridors. Additionally, TCBs prefer to roost in hardwood trees, although they have been observed to roost on bridges, culverts, other human structures, and in overwintering sites (McCoshum et al. 2023; USFWS 2022). The AA contains limited to no habitat that would support TCBs roosting. However, if TCBs were to occur incidentally within the AA, vessel and equipment noise could deter TCBs from active roost sites and disrupt foraging. However, any potential for injury or mortality of TCBs to result from the Proposed Action would be minimized through the anticipated work schedule occurring during winter. Therefore, the potential for the Proposed Action to result in take of TCBs is discountable. For these reasons, FEMA determines that the Proposed Action ***will not jeopardize the continued existence*** of the TCB. If the TCB becomes listed prior to completion of the Proposed Action, the Proposed Action ***may affect, but is not likely to adversely affect*** the TCB.

Habitat analysis of recent coastal Louisiana and Texas EBR occurrence surveys suggest that the intermediate marsh of the AA does not contain habitat preferred, or most probable of EBR occupancy (Johnson and Lehman 2021, Toliver et al. 2021). The AA does not currently have an elevation gradient with adjacent “high marsh” or “terrestrial border” habitat dominated by Gulf cordgrass, saltgrass, or turtleweed, which are tolerant of high salinity soils. The above recent surveys mostly observed EBR in Gulf cordgrass-dominated, higher elevation, coastal marshes of Calcasieu and Vermilion Parishes, but those recent surveys had zero observations at Grand Isle, LA, in the coastal Jefferson Parish, the locality of the nearest accepted historic record of EBR. However, if EBRs were to occur within the AA, despite such low probability of occurrence, noise from construction activities could disrupt their normal foraging behavior. Additionally, EBRs could be injured or killed from being crushed by construction equipment. However, because of such extremely low probability of EBR

occurrence within the AA and their ability to detect and avoid disturbance, the potential for an EBR to be struck or crushed by construction equipment is extremely unlikely. Additionally, while implementation of the Proposed Action could influence EBR foraging behavior, these effects would be minimal because of the abundance of similar habitat surrounding the AA. For these reasons, FEMA determines that the Proposed Action ***may affect, but is not likely to adversely affect*** the EBR.

No suitable WIM foraging habitat exists within the AA; therefore, the potential for individuals to occur within the AA is extremely low, and any occurrence of WIMs within the AA would be transitory in nature. If WIMs were to occur within the AA, underwater noise from construction activities could disrupt their normal behavior. However, because suitable foraging habitat and preferable water depths do not occur within the AA, this effect is unlikely. Additionally, WIMs could be injured or killed from being struck by vessels or by being struck or entangled by construction equipment. However, any potential injury or mortality of WIMs from the Proposed Action would be minimized through implementation of the AMMs described in Section 2.6. Therefore, the potential that the Proposed Action could result in disturbance, injury, or mortality of WIMs is unlikely. FEMA determines that the Proposed Action ***may affect, but is not likely to adversely affect*** the WIM.

SECTION 6. Potential Effects on Marine Mammals

All marine mammals are protected under the MMPA. The MMPA prohibits, with certain exceptions, unpermitted "take" of marine mammals in waters of the U.S. and by U.S. citizens on the high seas. This includes prohibitions of unpermitted harassment, hunting, capturing, collecting, or killing of marine mammals. Under the MMPA, any action that "has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but which does not have the potential to injure a marine mammal or marine mammal stock in the wild" is considered Level B harassment.

The only species protected under the MMPA that has the potential to occur within the AA is the WIM. According to data obtained from the Dauphin Island Sea Lab's Manatee Sighting Network, WIMs have not been observed within or near 5 miles of the AA (Dauphin Island Sea Lab 2023). Although it is extremely unlikely for WIMs to occur within the AA, if WIMs were to occur in the AA, operation of vessels and equipment in the AA during site access and dredging activities could potentially affect WIMs. Underwater noise generated by dredging activities could potentially disturb (but not injure) WIMs by disrupting behavior patterns and is considered Level B harassment under the MMPA.

Any potential effects to WIMs, while unlikely, would be temporary and localized and would not permanently degrade marine habitats used by marine mammal species. The Proposed Action would not introduce passage barriers or result in increased anthropogenic activity in the AA that would result in take of marine mammals. WIMs are mobile and would be expected to avoid the dredging area because of underwater noise. AMMs (Section 2.6) would be implemented to avoid or minimize the potential for vessel strikes, disturbance, water quality impacts, and other potential effects on WIMs. FEMA has determined that because of the very low potential for marine mammals to occur in the AA, and the implementation of AMMs, the Proposed Action would have an ***insignificant impact*** on marine mammals.

SECTION 7. Essential Fish Habitat Assessment

Section 305(b)(2) of the MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires federal agencies to consult with NMFS on activities that may adversely affect EFH for species that are managed under federal FMPs for waters of the U.S. As discussed in Section 3.3, the AA includes waters and substrate that constitute EFH for various life stages of federally managed species including shrimp, red drum, reef fish, and migratory coastal pelagics. The primary categories of EFH affected by project implementation are estuarine intermediate emergent marsh, estuarine mud bottoms, and estuarine water column. The Proposed Action may temporarily adversely affect EFH through the physical alteration of waters and substrate and the loss or injury of prey species within the AA. Therefore, FEMA has conducted the following evaluation to characterize the expected magnitude of potential adverse effects on EFH and describe proposed BMPs that would result from the Proposed Action.

The primary anticipated impacts to EFH and managed fisheries resulting from the Proposed Action are outlined below:

- Increased sediment loads and turbidity in the water column
- Temporary disturbance and displacement of fish species
- Temporary loss of food items to fisheries
- Disruption or destruction of bottom habitats
- Temporary noise disturbance of fish species

Dredging activities, marsh stabilization/creation activities, and construction of the permanent armored embankment would suspend sediment in the water column resulting in elevated turbidity. Increased turbidity and temporary noise disturbance of fish species associated with dredging and marsh creation would likely cause all species and life stages of fish described in Section 3.3 to avoid the area resulting in temporary displacement and disruption of normal foraging behavior within the AA. However, because the life stages of fishes that would be affected are highly mobile (i.e., juveniles and adults), it is anticipated that they would readily move to comparable foraging habitat outside the AA and return to the AA once dredging and/or construction activities are complete. Juvenile shrimp are benthic and, as such, are frequently exposed to high turbidity. However, the continual exposure of juvenile shrimp to high turbidity could cause reduced feeding activity or impaired gill functions resulting in stress or mortality (Lin et al. 1992). To control turbidity, the St. Bernard Parish Government Transit Department would develop and adhere to a turbidity control plan that would include measures such as adjusting the rate of dredging and using floating turbidity curtains, as described in Section 2.5. Therefore, the effects of increased turbidity on EFH for species included in the shrimp, red drum, reef fish, and coastal migratory pelagic fishery management units would be temporary, short-term, and localized.

In addition to elevated turbidity, sediment suspended in the water column from dredging activities, marsh stabilization creation activities, and construction of the permanent armored embankment would result in increased sediment deposition. Increased sediment deposition has the potential to smother benthic organisms, such as juvenile shrimp and other invertebrates, upon which fish species within the red drum, reef fish, and coastal migratory pelagic fishery management units prey. However, impacts from sediment deposition would be limited through the implementation the BMPs described in Section 2.5. Additionally, benthic organisms, including shrimp, are expected to quickly recolonize areas that have been subject to sediment deposition following project completion. Therefore, although some juvenile brown, white, and northern pink shrimp in the immediate vicinity of construction and dredging activities may be killed as a result of burial due to sediment deposition, the number of individuals that would be lost is not expected to affect abundance at the population level. Similarly, while the ability of fish species included in the red drum, reef fish, and coastal migratory pelagic fishery management units to find benthic prey could be minorly impaired as a result of sediment deposition, this effect would be temporary and limited to the immediate vicinity of construction and dredging activities.

The Proposed Action would convert approximately 164.58 acres of open-water habitat to intertidal wetland habitat. Dredging of the bottom of Lake Lery and construction of the permanent earthen embankment along the perimeter of the newly created wetlands would cause disruption or destruction of bottom habitats and initially restrict shrimp and fish access, temporarily reducing EFH within the AA. However, once the marsh creation fill material has settled to intertidal elevations and drainage gaps have been installed in the containment dikes, shrimp and fish would gain access to the newly created marshes and the improved resources that they would provide (e.g., food, cover). This would have a long-term beneficial impact on species included in the shrimp, red drum, reef fish, and coastal migratory pelagic fishery management units by increasing the availability of high-quality nursery habitat within the AA.

As discussed above, direct impacts on federally managed species and designated EFH would be minor, largely temporary, reduced by BMPs and are negligible considering the limited localized effect of the Proposed Action. Direct loss to shrimp and fish populations, if any, are likely to be undetectable. Recovery of temporarily impacted water bottoms and benthic habitat within the dredge-borrow portion of the AA is expected to occur quickly. The conversion of open-water habitats to intertidal wetland habitats would result in the short-term loss of open-water habitat in the AA for federally managed shrimp and fish species. However, in the long term, the newly created intertidal marshes would provide additional high-quality nursery habitat for species included in the shrimp, red drum, reef fish, and coastal migratory pelagic fishery management units. The stabilized estuarine marsh habitat and reduction of land-loss caused by erosion of Lake Lery's shoreline prevented by construction of the permanent earthen embankment would offset impacts from the temporary loss of open-water habitat. The Proposed Action would also assist in increasing the longevity of EFH adjacent to the AA. For these reasons, FEMA has determined that the Proposed Action ***may adversely affect*** EFH, but such effects would be temporary, localized, and less than substantial.

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SECTION 9. List of Preparers

The following is a list of preparers who contributed to the development of the Lake Lery Marsh Creation and Rim Restoration Phase III Project Draft BA for FEMA. The individuals listed below had principal roles in the preparation of this document. Many others contributed, including senior managers, administrative support personnel, and technical staff, and their efforts in developing this BA are appreciated.

CDM Smith

Preparers	Education	Experience
Wilson Folger	BS, Forestry – Wildlife Habitat Management and Conservation	Seven years of experience in wetland and wildlife science, threatened and endangered species surveys, habitat assessments, regulatory compliance, and permitting
Sam Bankston	BS, Aquatic Biology	Ten years of experience in wildlife and fisheries science, threatened and endangered species surveys, biological assessments, regulatory compliance, and permitting

Federal Emergency Management Agency

Reviewers	Education	Experience
Michael Sealy	Project Lead, Environmental Protection Specialist	Twenty-seven years of experience in wildlife and coastal restoration ecology, threatened and endangered species surveys, and consultation

This document was prepared by CDM Smith under Contract No.: 70FA6020D00000002, Task Order: 70FA6021F00000053.

Appendix C

Permits and Additional Conditions

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS, LOUISIANA 70118

REPLY TO
ATTENTION OF

May 20, 2021

Operations Division
Eastern Evaluation Section

Subject: MVN 2018-01345 ES

St. Bernard Parish Government
Attn: John Lane
8201 West Judge Perez Dr.
Chalmette, LA 70043

Dear Mr. Lane:

The proposed work to dredge and place dredged spoil for marsh creation on Lake Lery, Delacroix, St. Bernard Parish, Louisiana as shown on the enclosed drawings, is authorized under **Category II** of the **Programmatic General Permit** provided that all conditions of the permit are met.

In addition, you must comply with the enclosed: "Standard Manatee Conditions for In-Water Activities".

This authorization has a blanket water quality certification from the Louisiana Department of Environmental Quality; therefore, no additional authorization from DEQ is required.

However, prior to commencing work on your project, you must obtain approvals from state and local agencies as required by law and by terms of this permit. These approvals include, but are not limited to, a permit, consistency determination or determination of "no direct or significant impact (NDSI) on coastal waters" from the Louisiana Department of Natural Resources, Office of Coastal Management.

This approval to perform work is valid for 5 years from the date of this letter.

Permittee is aware that this office may reevaluate its decision on this permit at any time the circumstances warrant.

Should you have any further questions concerning this matter, please contact Ben Sherman at (504) 862-2041.

Sincerely,

Michael V. Farabee for
Martin S. Mayer
Chief, Regulatory Branch

Digitally signed by Michael V. Farabee
Date: 2021.05.20 12:46:37 -05'00'

Enclosures

ELOS®
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43177 East Pleasant Ridge Road
Hammond, Louisiana 70403
P. 985-662-5501, F. 985-662-5504

Feet
0 8,000 16,000

N W E S

Legend:
- Site Outline
- Parish Boundary
- Highway
- Roadway
- Waterbody
- Stream/River
- City/Town

Sections: 25,26
Township: 14 South
Range: 13 East

Figure 1: TopoVicinity Map

Lake Lery Phase III

F:\KLE\Lake Lery Phase III\GIS Maps\Permit\Figure 1_TopoVicinity Map

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43177 East Pleasant Ridge Road
Hammond, Louisiana 70403
P. 985-662-5501, F. 985-662-5504

0 1,200 2,400 Feet

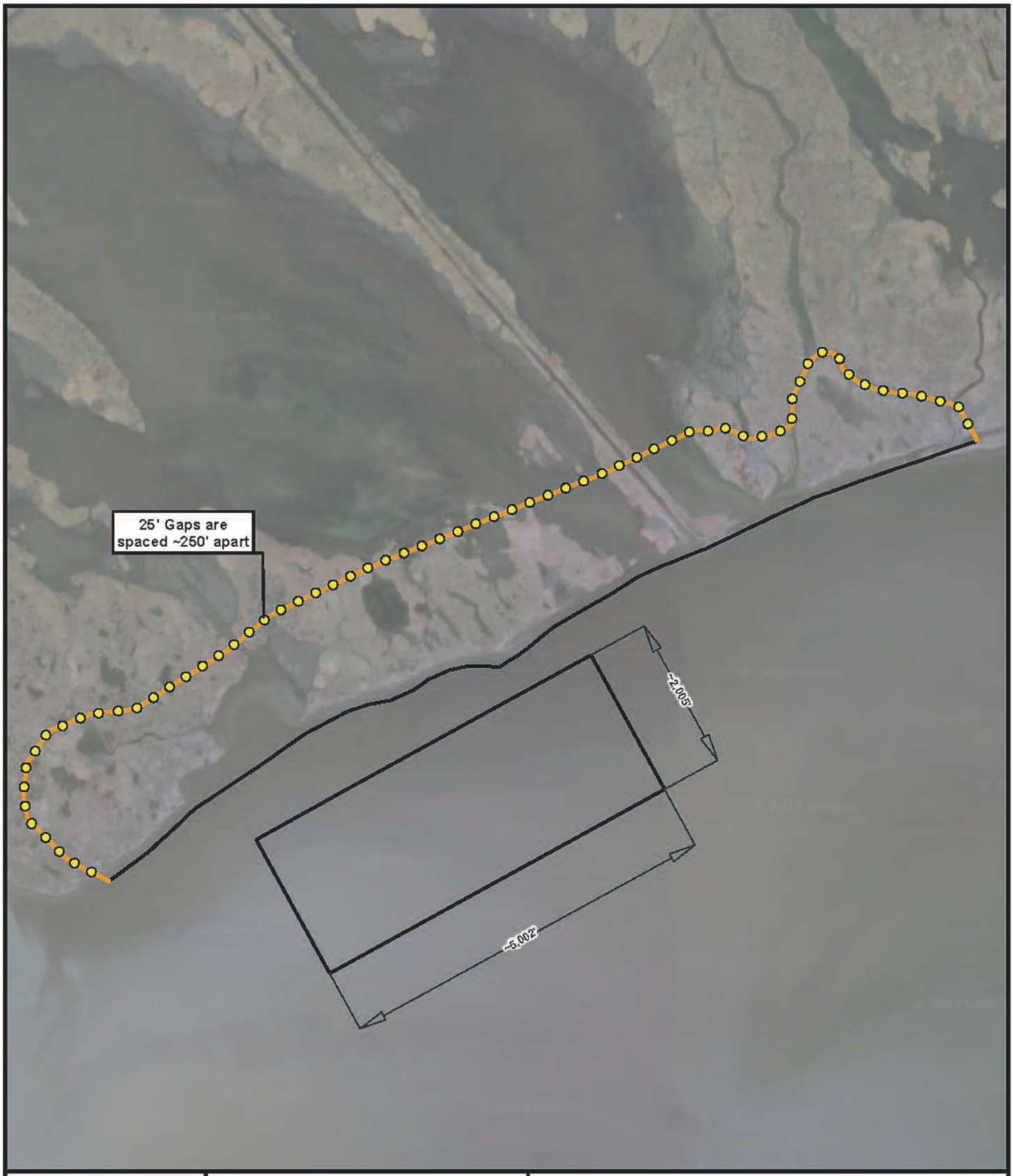
N W E S

Legend:
Site Outline

Figure 2: Existing Conditions

Lake Lery Phase III

F:\KLE\Lake Lery Phase III\GIS Maps\Permit\Figure 2_Existing Conditions



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0 1,250 2,500 Feet

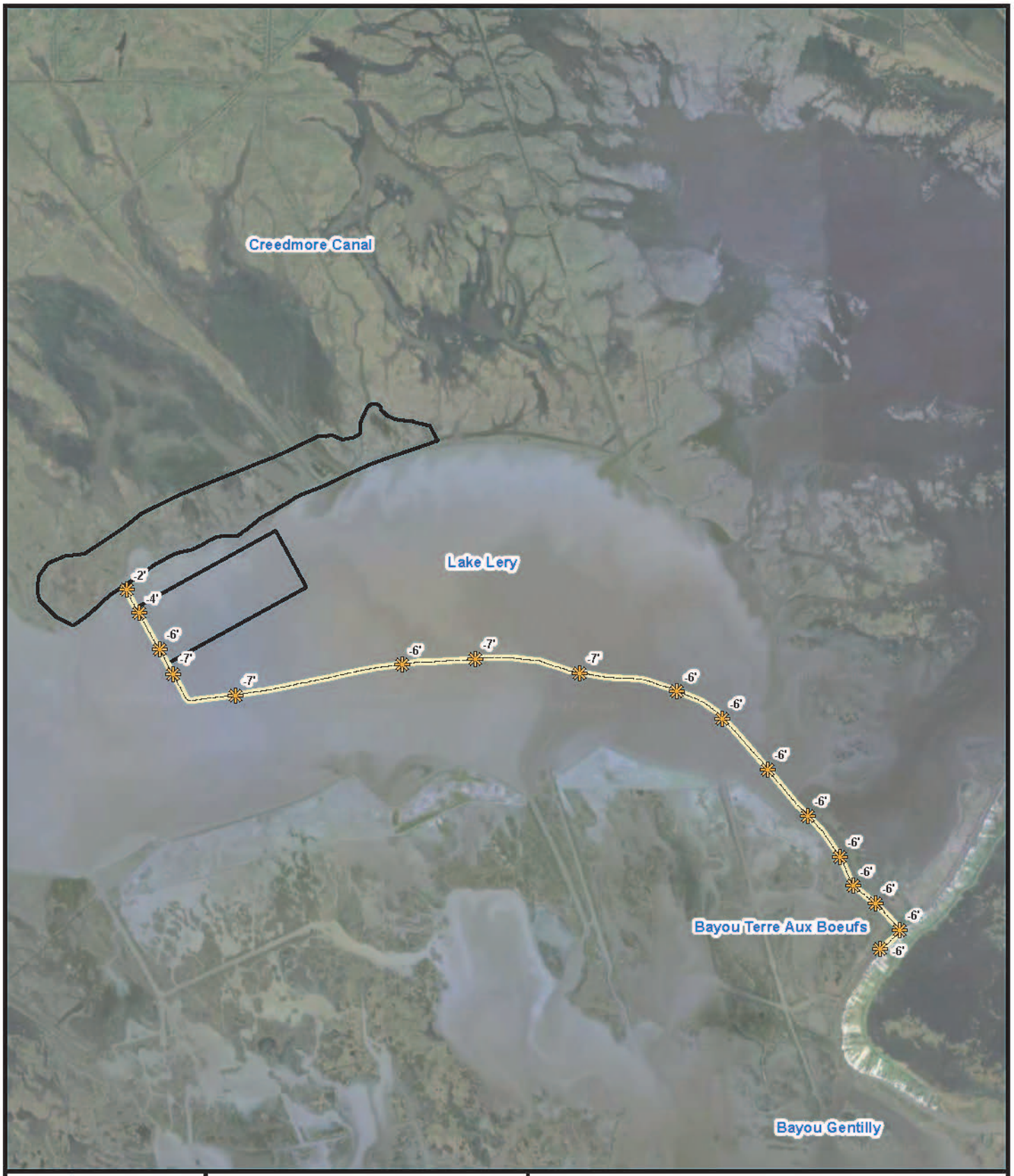
N W E S

Figure 3: Plan View

Lake Lery Phase III

Legend:
- Site Outline
- 25' Gaps
- Perimeter Line ~16,984'

F:\KLE\Lake Lery Phase III\GIS Maps\Permit\Figure 3_Plan View



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0 3,000 6,000 Feet

N W E S

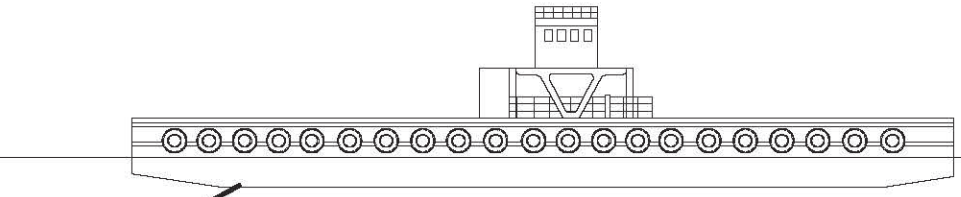
Figure 4: Access Route

Lake Lery Phase III

Legend:
- Site Outline
- Access Route
- Water Depths

F:\KLE\Lake Lery Phase III\GIS Maps\Permit\Figure 4: Access Route

Typical Equipment



http://eloseny.com/
43177 East Pleasant Ridge Road
Hammond, Louisiana 70403
P. 985-662-5501, F. 985-662-5504

Scale = Not to Scale

Figure 5: Typical Section

Lake Lery Phase III

F:\KLE\Lake Lery Phase III\GIS Maps\Permit\Figure 5_Typical Section

GENERAL NOTES:

1. THE CONTRACTOR SHALL NOT, AT ANYTIME, TRAVERSE EXISTING MARSH OR VEGETATIVE WETLANDS OUTSIDE MARSH CREATION AREAS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING SAFE ACCESS TO THE PROJECT SITE AND FOR NAVIGATING WITHIN THE LIMITS OF THE PROJECT SITE. THE ENGINEER OR HIS REPRESENTATIVE SHALL MONITOR THE LOCATION OF EQUIPMENT DURING CONSTRUCTION.
3. THE HYDRAULIC DREDGE SHALL ACCESS THE BORROW AREA THROUGH NAVIGABLE WATERWAYS AND SHALL NOT DISTURB EXISTING WATER BOTTOMS UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL MAINTAIN ADEQUATE NAVIGATIONAL EQUIPMENT ON THE HYDRAULIC DREDGE TO AVOID DREDGING IN RESTRICTED AREAS.
4. PIPELINES AND UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL LOCATE AND MARK ALL PIPELINES AND UTILITIES LOCATED WITHIN 150 FT. OF THE WORK PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN THESE MARKERS DURING CONSTRUCTION.
5. PLANS AND SPECIFICATIONS ARE COMPLEMENTARY; WHAT IS REQUIRED BY ONE IS BINDING AS IF REQUIRED BY ALL. CLARIFICATIONS AND INTERPRETATIONS OF, OR NOTIFICATIONS OF MINOR VARIATIONS AND DEVIATIONS IN THE CONTRACT DOCUMENTS, WILL BE ISSUED IN WRITING BY THE ENGINEER.
6. ANY DAMAGE TO EXISTING U.S. COAST GUARD NAVIGATION AIDS OR PRIVATE NAVIGATION AIDS SHALL BE REPAIRED BY THE CONTRACTOR TO U.S. COAST GUARD STANDARDS AT THE EXPENSE OF THE CONTRACTOR.
7. THE MARSH CREATION AREAS AND BORROW AREA MAY BE REVISED BY THE ENGINEER THROUGHOUT THE PERFORMANCE OF THE WORK TO REFLECT CHANGES IN FIELD CONDITIONS.
8. THE CONTRACTOR SHALL PERFORM A MAGNETOMETER SURVEY WITHIN LIMITS OF WORK AND ANY ACCESS CORRIDORS REQUIRED TO ACCESS WORK AREA AS PROPOSED BY THE CONTRACTOR AND AUTHORIZED BY THE ENGINEER. ALL MAG SURVEY WORK TO BE COMPLETED PRIOR TO MOBILIZATION. THE PRECONSTRUCTION SURVEY SHALL SHOW THE TRACK LINES OF THIS MAGNETOMETER SURVEY AND INCLUDE THE COORDINATES, AMPLITUDE, SIGNATURE TYPE AND SIGNATURE WIDTH OF ALL MAGNETOMETER HITS.
9. THE CONTRACTOR IS RESPONSIBLE FOR CONTAINING ALL DREDGED MATERIAL WITHIN THE BOUNDARIES OF THE MARSH CREATION AREAS. DECANTED WATER FROM THE MARSH CREATION AREA SHALL BE DISCHARGED INTO THE ADJACENT MCA'S THROUGH THE EARTHEN CONTAINMENT DIKES.
10. ANY CONSTRUCTION DEBRIS SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED.
11. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY AND ALL DAMAGE TO PRIVATE PROPERTY OUTSIDE OF ALLOWABLE WORK IN THESE DOCUMENTS AT NO COST TO THE OWNER.
12. CONTRACTOR SHALL CONDUCT A FIELD VISIT TO THE SITE PRIOR TO SUBMITTING BID FOR THIS PROJECT AND BECOME AWARE OF SITE CONDITIONS AND OTHER EXISTING ITEMS WHICH MAY AFFECT SCOPE OF WORK.
13. CONTRACTOR TO SUBMIT PROJECT WORK PLAN PRIOR TO START OF CONSTRUCTION. SEE SPECIFICATIONS SECTION XX FOR WORK PLAN REQUIREMENTS, AND AS FURTHER DESCRIBED THROUGHOUT THE SPECIFICATIONS.
14. CONTRACTOR SHALL COMPLY WITH ALL TERMS AND CONDITIONS OF THE PERMIT NO. XXX. PERMIT IS INCLUDED IN THE PROJECT SPECIFICATIONS FOR REFERENCE.
15. BACKGROUND IMAGERY WAS TAKEN IN 2018.

UTILITY NOTES:

1. THE CONTRACTOR SHALL NOTIFY LOUISIANA ONE CALL AT 1-800-272-3020 TO LOCATE PIPELINES AND UTILITIES AT LEAST FIVE (5) WORKING DAYS PRIOR TO PERFORMING THE WORK. THE CONTRACTOR SHALL ALSO NOTIFY THE FOLLOWING PIPELINE OPERATOR AT LEAST FIVE (5) WORKING DAYS PRIOR TO PERFORMING THE WORK:

UTILITY CONTACTS		
HAROLD SYLVIZ	BOARDWALK PIPELINES	(504) 415-1864
ROBIN ASVADO	AMERICAN MIDSTREAM	(504) 800-6685
LAURA WILLIAMS	PLAINS PIPELINE	(713) 646-4245
KILEY WILLIAMS	COLONIAL PIPELINES	(409) 291-5655

2. KNOWN PIPELINES AND UTILITIES ARE SHOWN ON THE PLANS. LOCATIONS SHOWN ARE APPROXIMATE, IT IS POSSIBLE THAT SOME UNKNOWN PIPELINES AND UTILITIES MAY EXIST THAT HAVE NOT BEEN SHOWN. THE CONTRACTOR SHALL BE ON THE ALERT FOR SUCH PIPELINES AND UTILITIES, AND SHALL REPORT IMMEDIATELY TO THE ENGINEER THOSE LOCATIONS. DREDGE TEMPLATES SHALL BE MODIFIED AT NO COST TO ACCOUNT FOR FOUND UTILITIES. CONTRACTOR SHALL STOP ALL DREDGING ACTIVITY MINIMUM OF 50' ON EACH SIDE OF THE PIPELINES. CONTRACTOR CANNOT TRAVERSE 50' ON EACH SIDE OF PIPELINES WITH LAND OR MARSH BUGGY EQUIPMENT AT EMA LOCATION WITHOUT PRIOR CONSENT OF PIPELINE OWNER.
3. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

ENVIRONMENTAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH THE SPECIAL PROVISION FOR PROTECTED SPECIES IN THE SPECIFICATIONS.
2. PIPELINE AND EQUIPMENT ACCESS TO MARSH CREATION AREA SHALL BE THROUGH THE CORRIDORS SHOWN. ACCESS FROM ANY OTHER LOCATION IS STRICTLY PROHIBITED.
3. MODIFICATIONS TO THE DREDGE PIPELINE ALIGNMENT SHALL REQUIRE PRIOR APPROVAL FROM THE ENGINEER.

SURVEY NOTES:

1. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) GEOID 12A U.S. SURVEY FEET. ALL HORIZONTAL COORDINATES ARE GIVEN IN THE NORTH AMERICAN DATUM OF 1983 (NAD 83, LOUISIANA STATE PLANE SOUTH ZONE U.S. FEET). ELEVATIONS ARE BASED ON THE SECONDARY MONUMENT "BS-16-SM-02".
2. THE EXISTING ELEVATIONS SHOWN ON THE PLANS ARE BASED ON THE BATHYMETRIC AND TOPOGRAPHIC SURVEYS PERFORMED BETWEEN OCTOBER 2018 AND FEBRUARY 2019, BY ALL SOUTH CONSULTING ENGINEERS, LLC.
3. DATA FROM CRMS GAGE BS03A-02 WAS USED TO CALCULATE THE WATER ELEVATIONS.
4. A GEOTECHNICAL INVESTIGATION WAS PERFORMED BY THE BETA GROUP BETWEEN MAY 2019 AND JUNE 2019. THE SOIL BORING LOCATIONS ARE SHOWN ON THE PLANS. THE GEOTECHNICAL INVESTIGATION REPORT IS PROVIDED IN THE SPECIFICATIONS.

SUMMARY OF ESTIMATED QUANTITIES:

ITEM No.	DESCRIPTION	UNIT	QTY.
1	GENERAL MOBILIZATION AND DEMOBILIZATION	LUMP SUM	1
2	CONSTRUCTION LAYOUT & SURVEY	LUMP SUM	1
3	PERMANENT EMBANKMENT (30 FT BERM, EARTHEN)	CY	265,420
4	GEOCOMPOSITE	SY	181,107
5	ARTICULATED CONCRETE MAT (4 IN THICK)	SY	41,589
6	EARTHEN CONTAINMENT DIKES	LF	18,411
7	GRADE STAKES	EA	75
8	HYDRAULIC DREDGING AND MARSH CREATION	CY	2,936,267
9	GENERAL SIGNAGE	LUMP SUM	1

1. BID QUANTITIES SHOWN ARE FOR BID PURPOSES ONLY AND WERE CALCULATED ACCORDING TO THE CONDITIONS SURVEYED BETWEEN OCTOBER 2018 AND FEBRUARY 2019, THE OWNER RESERVES THE RIGHT TO ADJUST THE QUANTITIES 25% HIGHER OR LOWER WITHOUT ADJUSTMENT OF THE UNIT PRICE.
2. QUANTITY IS BASED ON THE DREDGE CUT VOLUME OF THE BORROW AREA. PAYMENT QUANTITIES WILL BE BASED ON PROCESS SURVEYS OF THE BORROW AREA.

LEGEND-PROFILE/SECTION VIEWS

- MARSH CREATION AREA (MCA)
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION BORROW AREA (MCBA)

LEGEND-PLAN VIEWS

- GAS PIPELINE
- DREDGE PIPELINE
- EQUIPMENT ACCESS CORRIDOR (EAC)
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- EARTHEN CONTAINMENT DIKE BORROW AREA (ECD-BA)
- PERMANENT ARMORED EARTHEN EMBANKMENT BORROWED AREA, ECD-BA
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture

REVISIONS

DATE:	REMARKS:	APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
PAPWORTH AVENUE
METAIRIE, LA 70005

DESIGNED BY: JDW	DRAWN BY: MMM	CHECKED BY: JDW
DATE: 10-10-2019	SCALE: -	JOB NO. 18034

ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION
AND RIM RESTORATION PROJECT
PHASE III

GENERAL NOTES

SHEET NO. 6

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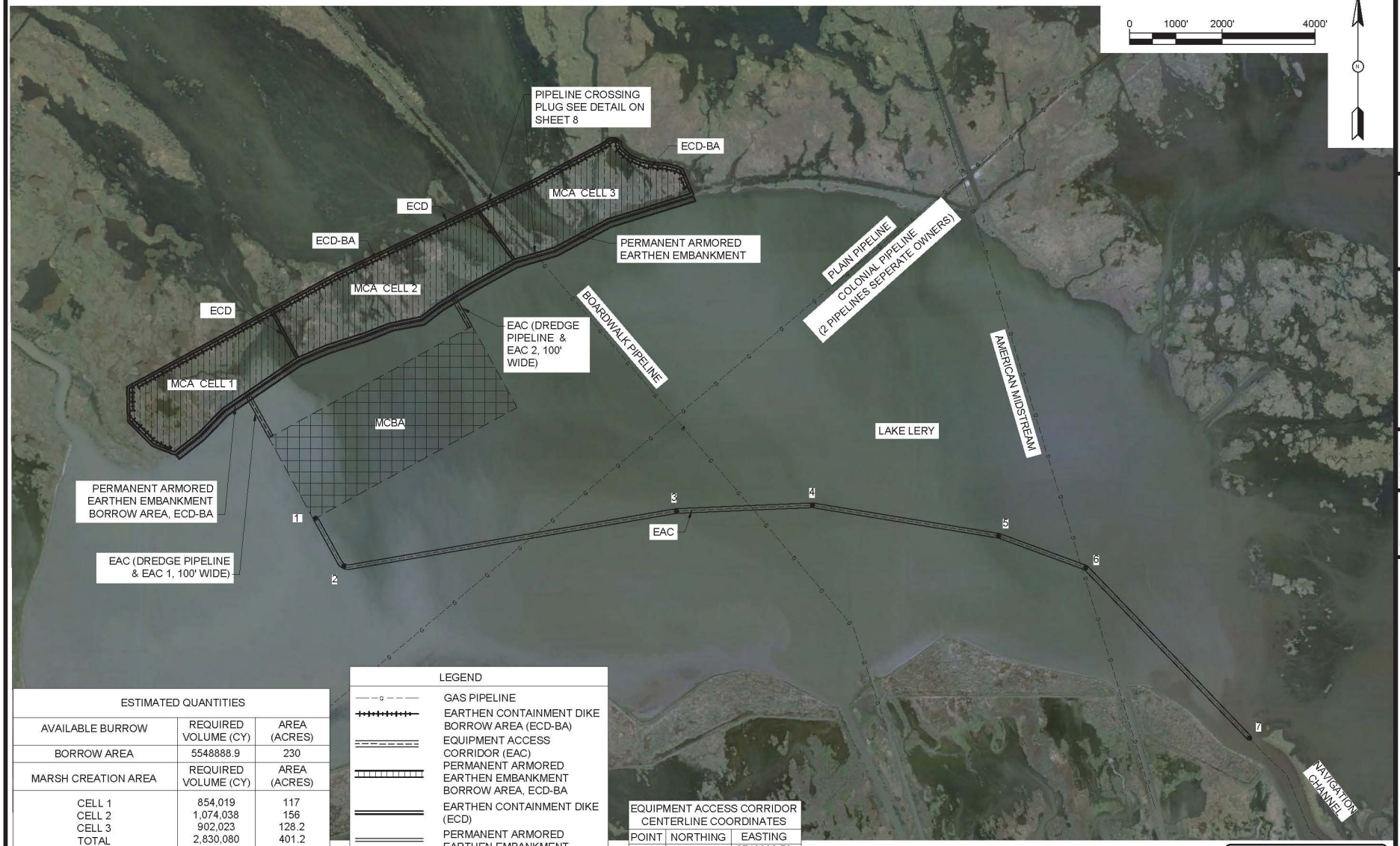
GLAZIER – 6/30/2020 9:28:02 AM



ESTIMATED QUANTITIES		
AVAILABLE BURROW	REQUIRED VOLUME (CY)	AREA (ACRES)
BORROW AREA	5548888.9	230
MARSH CREATION AREA	REQUIRED VOLUME (CY)	AREA (ACRES)
CELL 1 CELL 2 CELL 3 TOTAL	854,019 1,074,038 902,023 2,830,080	117 156 128.2 401.2
EARTHEN DIKES	REQUIRED VOLUME (CY)	LENGTH(FT)
EARTHEN CONTAINMENT DIKES, 5' CROWN	106,187	18,411

LEGEND

- GAS PIPELINE
- EARTHEN CONTAINMENT DIKE BORROW AREA (ECD-BA)
- EQUIPMENT ACCESS CORRIDOR (EAC)
- PERMANENT ARMORED EARTHEN EMBANKMENT BORROW AREA, ECD-BA
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

EQUIPMENT ACCESS CORRIDOR CENTERLINE COORDINATES		
POINT	NORTHING	EASTING
1	474409.44	3748906.79
2	473355.82	3749632.42
3	474564.29	3756680.81
4	474686.33	3759610.29
5	474029.27	3763632.38
6	473344.15	3765496.51
7	469675.42	3769026.46

NOTE:
MODIFICATIONS TO THE DREDGE PIPELINE ALIGNMENT SHOWN SHALL REQUIRE PRIOR APPROVAL FROM THE ENGINEER.

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture
838 Village Lane N. • Mandeville, LA 70471 • 985.727.9977

REVISIONS

DATE:	REMARKS:	APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
622 PAPWORTH AVENUE
METAIRIE, LA 70005
(504) 322-2753

DESIGNED BY: JDW
DRAWN BY: MMM
CHECKED BY: JDW
DATE: 10-10-2019
SCALE: 1" = 2000'
JOB NO.: 18034

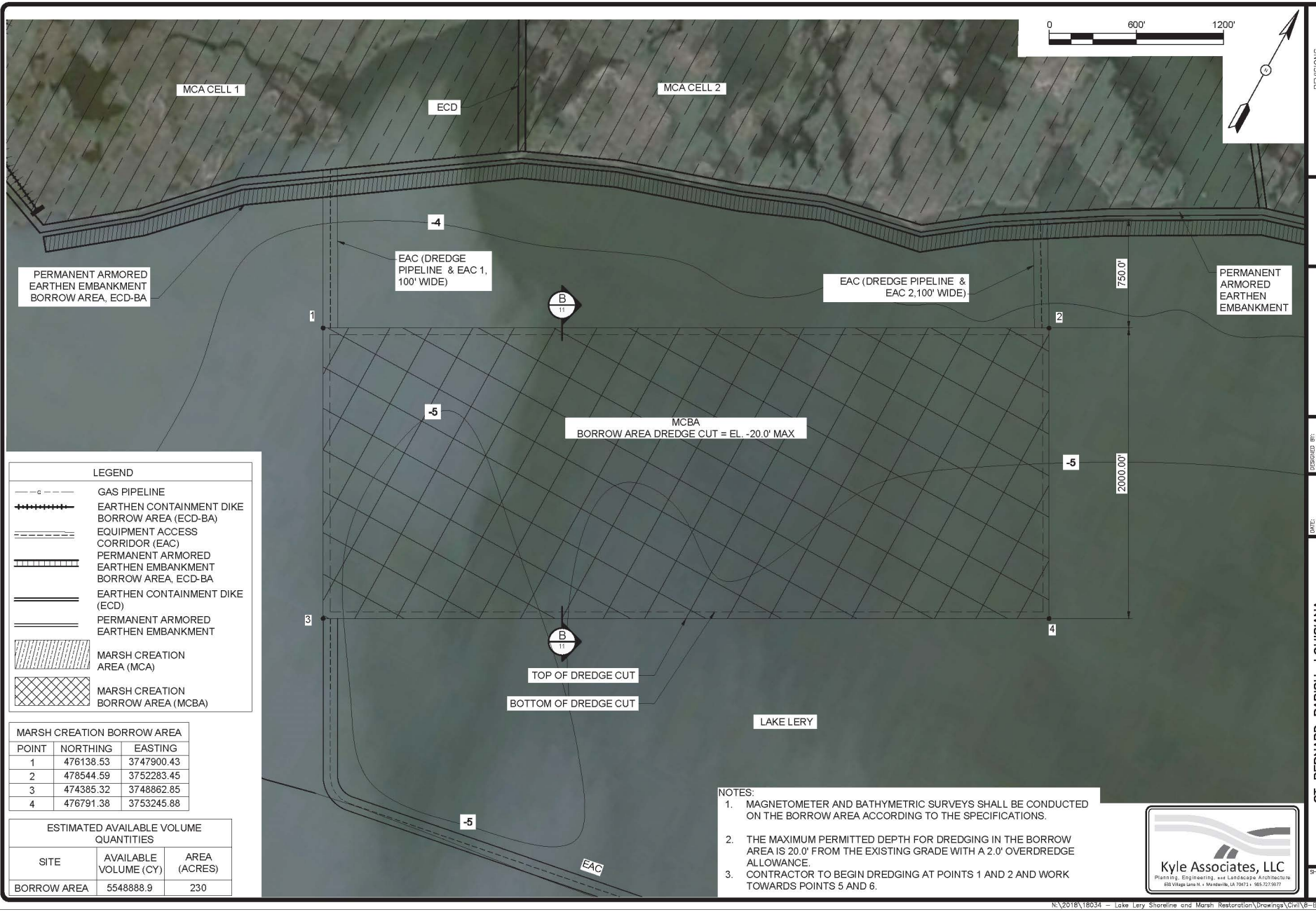
ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION AND RIM RESTORATION PROJECT PHASE III

PROJECT LOCATION MAP

SHEET NO. 7

GLADNER – 6/30/2020 9:30:13 AM

N:\2018\18034 – Lake Lery Shoreline and Marsh Restoration\Drawings\Civil\7–Project Location Map.dwg



LEGEND

- GAS PIPELINE
- EARTHEN CONTAINMENT DIKE BORROW AREA (ECD-BA)
- EQUIPMENT ACCESS CORRIDOR (EAC)
- PERMANENT ARMORED EARTHEN EMBANKMENT BORROW AREA, ECD-BA
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

MARSH CREATION BORROW AREA		
POINT	NORTHING	EASTING
1	476138.53	3747900.43
2	478544.59	3752283.45
3	474385.32	3748862.85
4	476791.38	3753245.88

ESTIMATED AVAILABLE VOLUME QUANTITIES		
SITE	AVAILABLE VOLUME (CY)	AREA (ACRES)
BORROW AREA	5548888.9	230

NOTES:

1. MAGNETOMETER AND BATHYMETRIC SURVEYS SHALL BE CONDUCTED ON THE BORROW AREA ACCORDING TO THE SPECIFICATIONS.
2. THE MAXIMUM PERMITTED DEPTH FOR DREDGING IN THE BORROW AREA IS 20.0' FROM THE EXISTING GRADE WITH A 2.0' OVERDREDGE ALLOWANCE.
3. CONTRACTOR TO BEGIN DREDGING AT POINTS 1 AND 2 AND WORK TOWARDS POINTS 5 AND 6.

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture
838 Village Lane N. • Mandeville, LA 70471 • 985.727.9377

REVISIONS

DATE:	REMARKS:	APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
622 PAPWORTH AVENUE
METAIRIE, LA 70005
(504) 322-2753

DESIGNED BY:	DRAWN BY:	CHECKED BY:
JDW	MMM	JDW

DATE:	SCALE:	JOB NO.
10-10-2019	1" = 600'	18034

ST BERNARD PARISH, LOUISIANA LAKE LERY MARSH CREATION AND RIM RESTORATION PROJECT PHASE III

BORROW AREA LAYOUT

SHEET NO. 8

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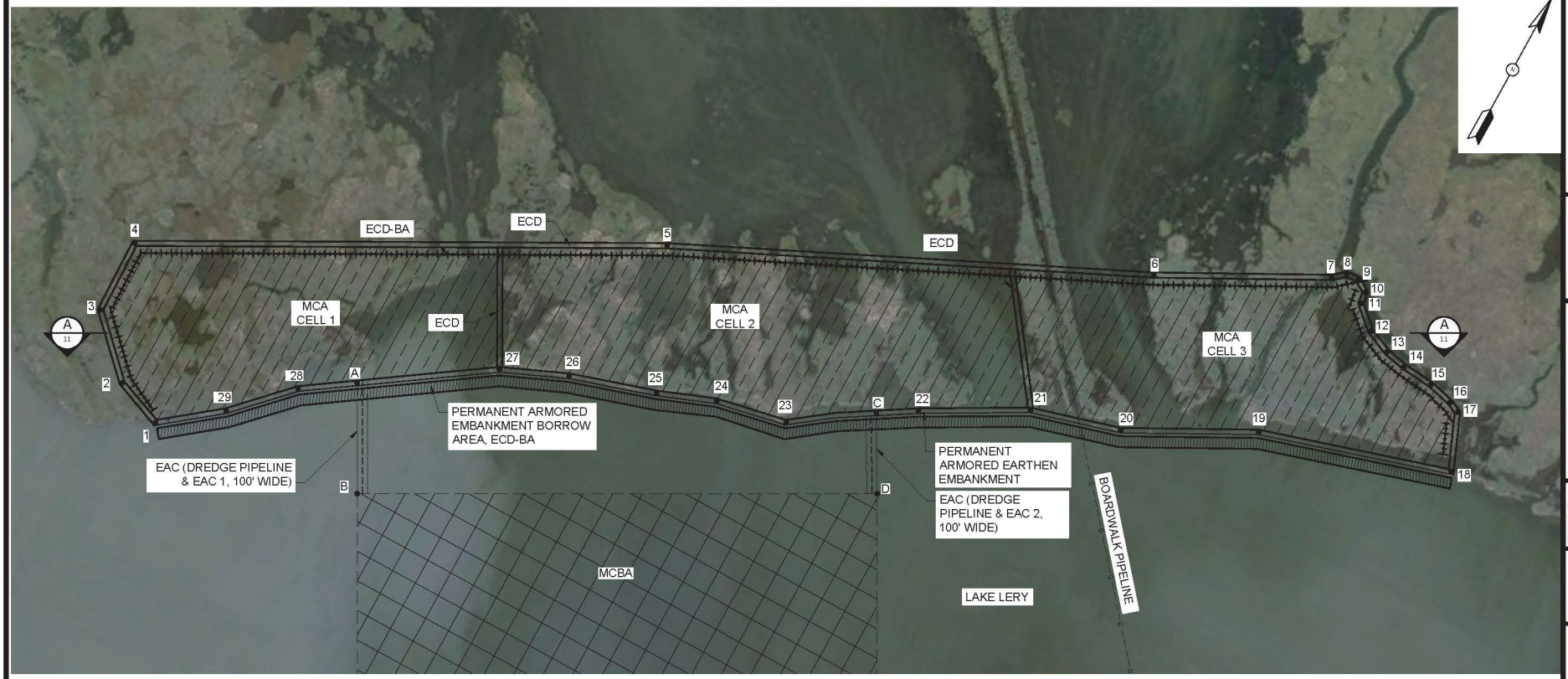
GLADNER – 6/30/2020 9:35:14 AM



CONTAINMENT DIKE CENTERLINE COORDINATES					
POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
1	475,804.06	3,745,870.73	16	481,965.23	3,756,689.96
2	475,983.63	3,745,406.15	17	481,914.70	3,756,796.58
3	476,500.00	3,744,885.41	18	481,384.15	3,757,016.27
4	477,218.18	3,744,867.21	19	480,827.22	3,755,212.40
5	479,660.87	3,749,365.56	20	480,204.93	3,754,043.35
6	481,665.60	3,753,603.75	21	479,957.21	3,753,187.71
7	482,467.20	3,755,112.47	22	479,433.24	3,752,246.75
8	482,563.66	3,755,226.61	23	478,722.77	3,751,185.83
9	482,575.21	3,755,349.13	24	478,581.96	3,750,502.15
10	482,496.37	3,755,464.25	25	478,370.63	3,749,959.09
11	482,384.04	3,755,480.55	26	478,109.93	3,749,141.75
12	482,195.59	3,755,693.49	27	477,843.05	3,748,524.05
13	482,095.42	3,755,924.72	28	476,749.72	3,746,916.81
14	482,053.73	3,756,135.19	29	476,230.58	3,746,411.62
15	482,023.25	3,756,445.72			

ESTIMATED QUANTITIES		
AVAILABLE BURROW	REQUIRED VOLUME (CY)	AREA (ACRES)
BORROW AREA	5548888.9	230
MARSH CREATION AREA	REQUIRED VOLUME (CY)	AREA (ACRES)
CELL 1 CELL 2 CELL 3 CONTAINMENT DIKE INFILL TOTAL	854,019 1,074,038 902,023 106,187 2,936,267	117 156 128.2
EARTHEN DIKES	REQUIRED VOLUME (CY)	LENGTH(FT)
PERMANENT ARMORED EMBANKMENT EARTHEN CONTAINMENT DIKE	265,420	12,677

NOTES:.

1. ECD'S TO BE GAPPED AFTER ACCEPTANCE OF THE MARSH CREATION AREA AS SHOWN ON TYPICAL SECTIONS.
2. MODIFICATIONS TO THE DREDGED PIPELINE ALIGNMENT SHOWN SHALL REQUIRE PRIOR APPROVAL FROM THE ENGINEER.

PIPELINE & EQUIPMENT CORRIDOR CENTERLINE COORDINATES		
POINT	NORTHING	EASTING
A	477,070.33	3,747,388.12
B	476,138.19	3,747,899.82
C	479,220.17	3,751,901.83
D	478,544.25	3,752,282.84

LEGEND

- GAS PIPELINE
- EARTHEN CONTAINMENT DIKE BORROW AREA (ECD-BA)
- EQUIPMENT ACCESS CORRIDOR (EAC)
- PERMANENT ARMORED EARTHEN EMBANKMENT BORROW AREA, ECD-BA
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

0 1000' 2000'

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Planning, Engineering, and Landscape Architecture
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REVISIONS

DATE:	REMARKS:	APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
622 PAPWORTH AVENUE
METAIRIE, LA 70005
(504) 322-2763

DESIGNED BY: JDW
DRAWN BY: MMM
CHECKED BY: JDW
DATE: 10-10-2019
SCALE: 1" = 1000'
JOB NO. 18034

ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION
AND RIM RESTORATION PROJECT
PHASE III

MARSH AREA LAYOUT

SHEET NO. 9

GLADNER – 8/30/2020 9:46:49 AM

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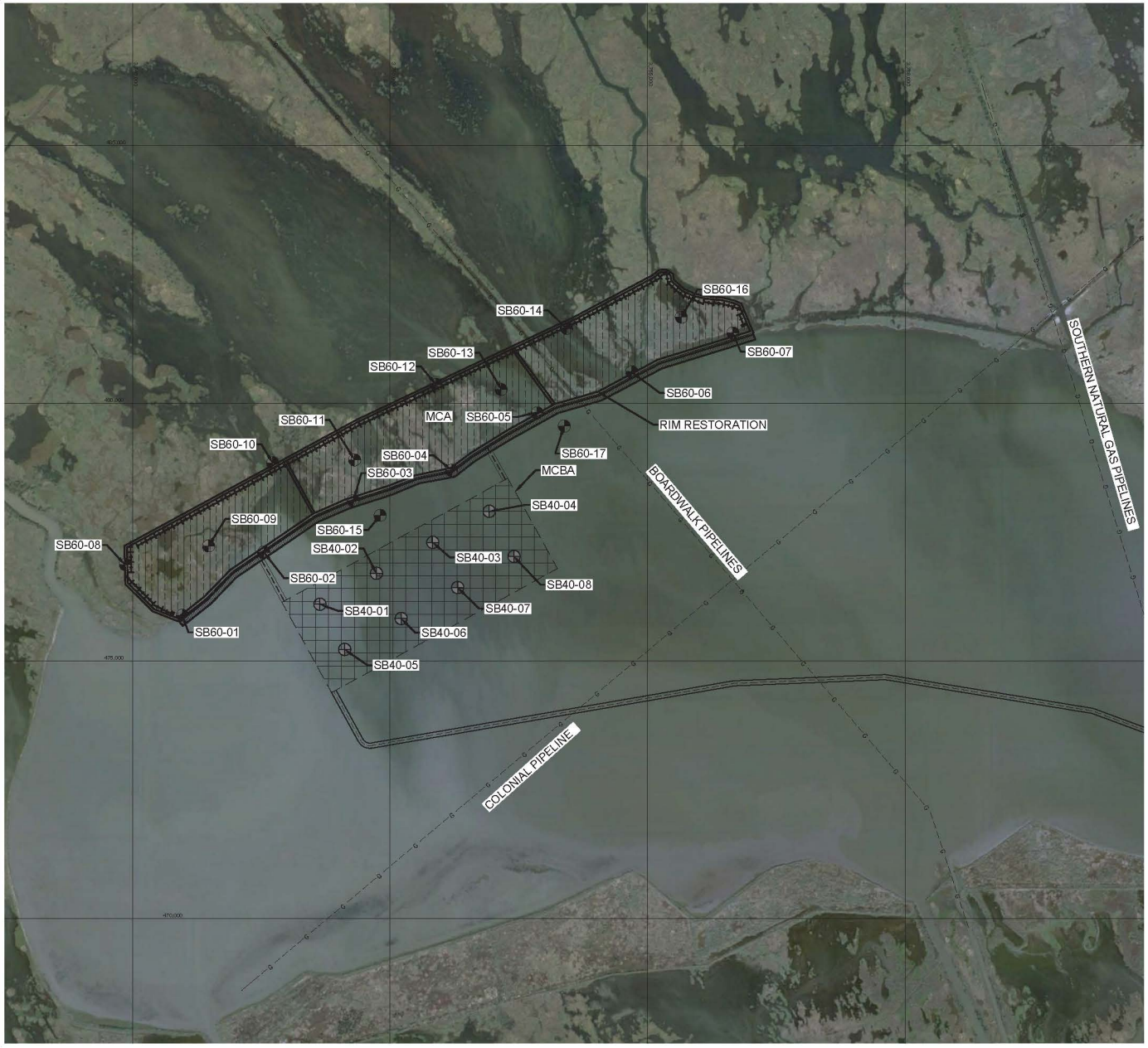

0 1000' 2000' 4000'

N

SOIL BORING LOCATION TABLE

BORING NO.	NORTHING	EASTING
SB40-01	476097.30	3748635.24
SB40-02	476698.82	3749731.00
SB40-03	477300.33	3750826.75
SB40-04	477901.85	3751922.51
SB40-05	475220.70	3749116.45
SB40-06	475822.21	3750212.21
SB40-07	476423.73	3751307.97
SB40-08	477025.24	3752403.72
SB60-01	475886.89	3745965.77
SB60-02	477110.22	3747544.97
SB60-03	478108.13	3749281.26
SB60-04	478698.59	3751192.37
SB60-05	479811.96	3752853.27
SB60-06	480613.04	3754685.82
SB60-07	481364.00	3756653.13
SB60-08	476869.21	3744860.95
SB60-09	477228.80	3746474.92
SB60-10	478841.38	3747718.40
SB60-11	478900.62	3749310.65
SB60-12	480361.93	3750890.19
SB60-13	480266.78	3752151.66
SB60-14	481451.60	3753422.56
SB60-15	477822.94	3749805.94
SB60-16	481669.48	3755649.90
SB60-17	479554.95	3753379.83

LEGEND

- 40' BORING (8 TOTAL)
- 60' BORING (17 TOTAL)
- GAS PIPELINE
- EARTHEN CONTAINMENT DIKE BORROW AREA (ECD-BA)
- EQUIPMENT ACCESS CORRIDOR (EAC)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

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REVISIONS

DATE:	REMARKS:	APP'D

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622 PAPWORTH AVENUE
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(504) 522-2783

DESIGNED BY: JDW
DRAWN BY: MMM
CHECKED BY: JDW
DATE: 10-10-2019
SCALE: 1" = 2000'
JOB NO.: 18034

ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION AND RIM RESTORATION PROJECT PHASE III

SOIL BORING LOCATION MAP

SHEET NO. 10

GLADNER - 6/30/2020 9:51:29 AM

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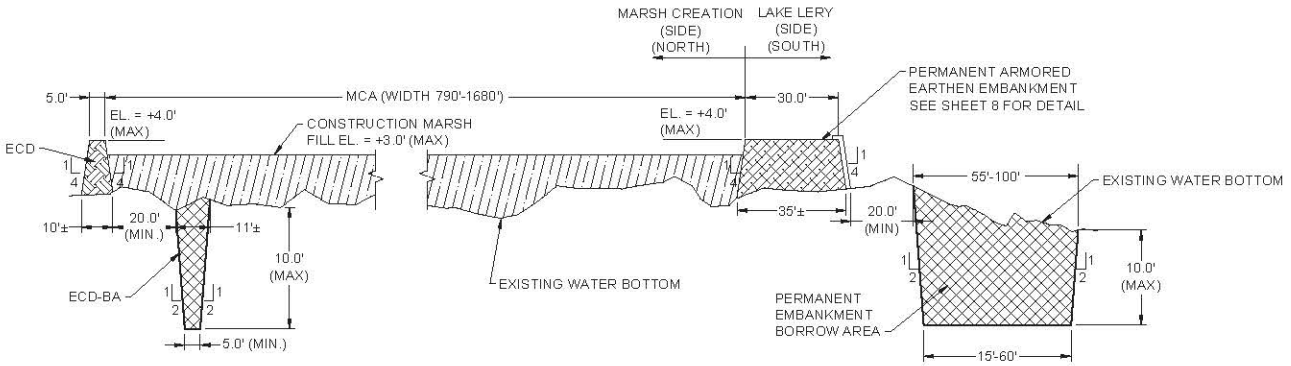
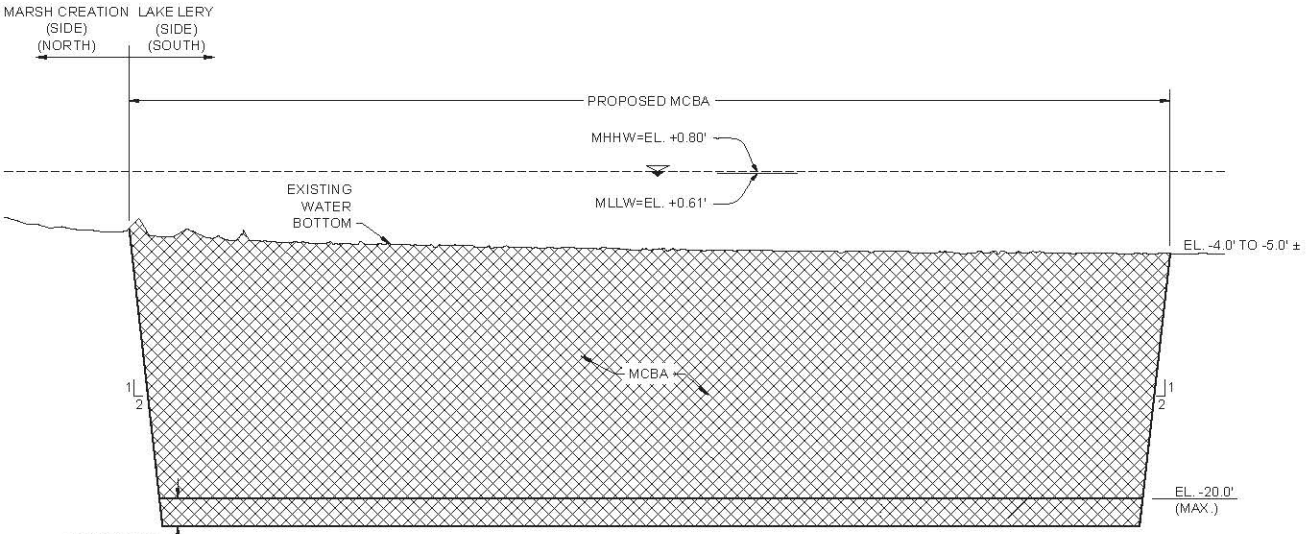


A/9 TYPICAL MARSH CREATION AREA SECTION

SCALE: 1"=40' HORZ
1"=10' VERT



B/8 TYPICAL MARSH CREATION BORROW AREA SECTION

SCALE: 1"=40' HORIZ.
1"=10' VERT

LEGEND

- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

NOTES:

1. THE VERTICAL TOLERANCE FOR THE MARSH FILL AND CONTAINMENT DIKE SHALL BE 6 INCHES FROM MAXIMUM.
2. THE DREDGED DEPTH AND SLOPE OF THE BORROW AREA SHALL BE RELATIVE TO EXISTING GRADE.
3. THE EARTHEN CONTAINMENT DIKES SHALL BE FROM CONSTRUCTION MARSH FILL ELEVATION TO EXISTING GRADE AFTER ACCEPTANCE OF MARSH CREATION AREA.

REVISIONS

DATE:	REMARKS:	APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
6838 PAPWORTH AVENUE
BATON ROUGE, LA 70806
(225) 922-6783

DESIGNED BY:	DRAWN BY:	CHECKED BY:
JDW	MMM	JDW

DATE:	SCALE:	JOB NO.
10-10-2019		18034

ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION AND RIM RESTORATION PROJECT PHASE III

TYPICAL SECTIONS

SHEET NO.
11

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture
933 Village Lane N. - Mandeville, LA 70471 - 985.727.3577

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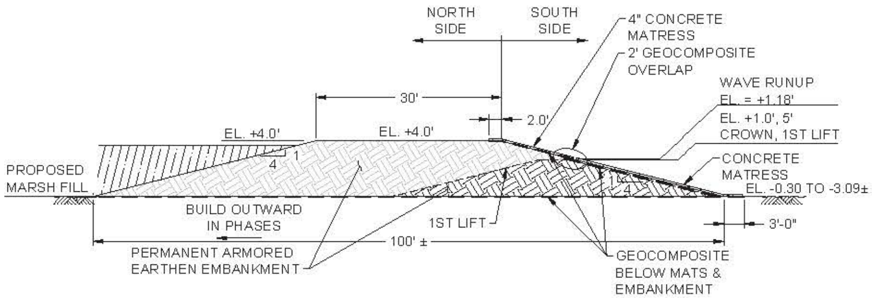
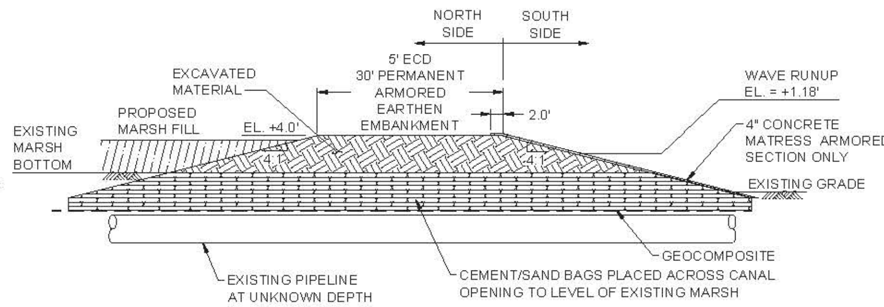


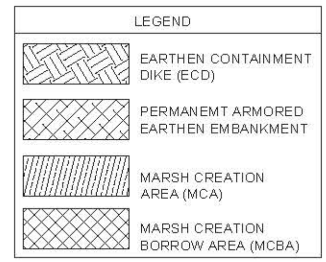
NOTE:
1. SEE SPECIFICATIONS FOR REQUIRED SEQUENCE OF CONSTRUCTION.

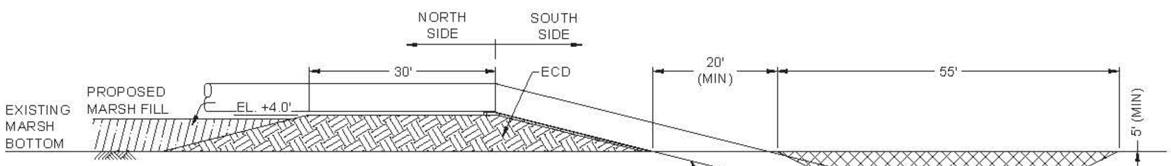
TYPICAL SECTION
CONCRETE MATTRESS (MARSH AND OPEN WATER)
SCALE: 1"=20'



NOTE:
1. PLUGS ON DIKES AND EMBANKMENT IN PROJECT WILL MATCH SECTION DIMENSIONS OF ADJACENT SECTIONS.

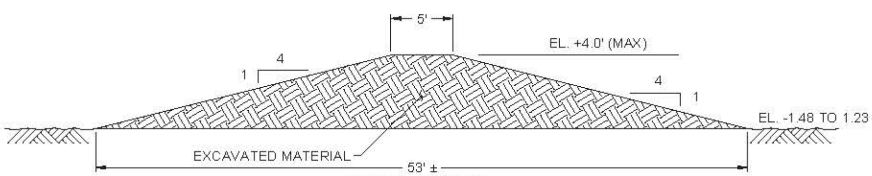
TYPICAL SECTION - PIPELINE CROSSING PLUG FOR
ECD OR PERMANENT ARMORED EARTHEN EMBANKMENT
SCALE 1"=20'





NOTE:
1. TEMPORARY PIPELINE MARKERS TO BE INSTALLED ON BOTH SIDES OF THE EAC AT THE PIPELINE CROSSING LOCATIONS.
2. TEMPORARY SPOIL TO BE BACKFILLED IMMEDIATELY AFTER INSTALLATION AND REMOVAL OF DREDGE PIPELINE IN TRENCH.

TYPICAL SECTION OF DREDGE PIPELINE
SCALE 1"=20'



TYPICAL SECTION
EARTHEN CONTAINMENT DIKE (ECD)
SCALE: 1"=10'

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REVISIONS
DATE: | REMARKS: | APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
6680 PAPWORTH AVENUE
METAIRIE, LA 70006
(504) 322-2765

DESIGNED BY: JDW
DRAWN BY: MMM
CHECKED BY: JDW
DATE: 10-10-2019
SCALE:
JOB NO. 18034

ST. BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION
AND RIM RESTORATION PROJECT
PHASE III

TYPICAL SECTIONS

SHEET NO. 12

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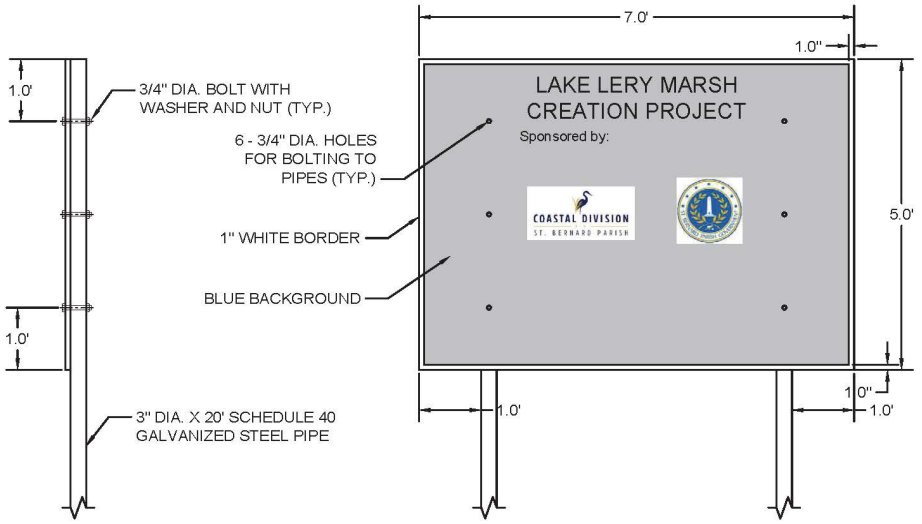
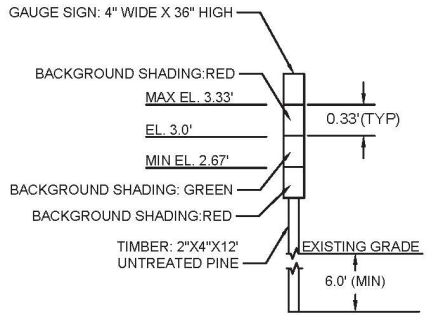


SIDE VIEW
NOT TO SCALE

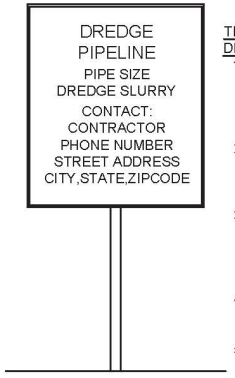
PLAN VIEW
NOT TO SCALE

SIGNAGE DETAIL
NOT TO SCALE

NOTES:
1. PROJECT FUNDING SIGN SHALL BE MOUNTED ON TWO (2), THREE (3) INCH DIAMETER BY TWENTY (20) FOOT LONG, SCHEDULE 40 GALVANIZED STEEL PIPES EMBEDDED TO A DEPTH OF AT LEAST TEN (10) FOOT. SIGN SHALL BE ATTACHED TO PIPES WITH SIX (6), 3/4" DIA.X4" A307 (HDG) BOLTS WITH WASHERS AND NUTS.
2. BOTTOM EDGE OF SIGN SHALL BE APPROXIMATELY FIVE (5) FOOT ABOVE THE GROUND.
3. SIGN TEMPLATE TO BE INCLUDED IN SPECIFICATIONS.

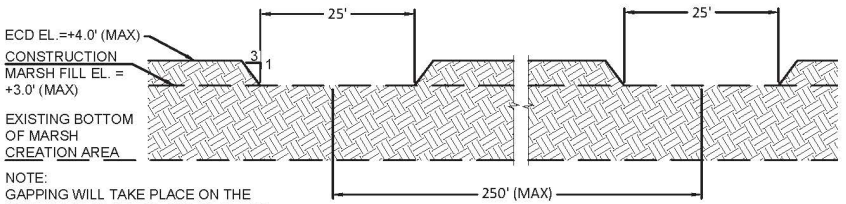


GRADE STAKE DETAIL
NOT TO SCALE



TEMPORARY PIPELINE MARKER DETAIL NOTES:
1. MARKERS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH LADOTD 2006 STANDARD SPECIFICATION 729.
2. A SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF THE MARKERS.
3. MARKERS SHALL BE INSTALLED PRIOR TO INSTALLATION OF THE DREDGE PIPELINE AND REMOVED AFTER THE REMOVAL OF THE DREDGE PIPELINE.
4. MARKERS SHALL BE INSTALLED ON BOTH BANKS OF BAYOU BONFOUCA.
5. CHANNEL MARKERS TO BE AS REQUIRED BY U.S.C.G.

TEMPORARY PIPELINE AND CHANNEL MARKER DETAIL
NOT TO SCALE



NOTE:
GAPPING WILL TAKE PLACE ON THE NORTHERN, EASTERN, AND WESTERN CONTAINMENT DIKES ONLY, AND WILL BE 25' WIDE AT 250'

DETAIL OF GAPS IN ECD
SCALE: NOT TO SCALE

REVISIONS
DATE: REMARKS: APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
622 PAPWORTH AVENUE
METAIRIE, LA 70005
(504) 352-2769

DESIGNED BY: JDW
DRAWN BY: MAM
CHECKED BY: JDW
DATE: 10-10-2019
SCALE:
JOB NO. 18034

ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION
AND RIM RESTORATION PROJECT
PHASE III

DETAILS

SHEET NO. 13

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture
638 Village Lane N. • Mandeville, LA 70471 • 985.727.9377

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1. Activities authorized under this general permit shall not be used for piecemeal work and shall be applied to single and complete projects. All components of a single and complete project shall be treated together as constituting one single and complete project. All planned phases of multi-phased projects shall be treated together as constituting one single and complete project. This general permit shall not be used for any activity that is part of an overall project for which an individual permit is required.

2. No activity is authorized under this general permit which may adversely affect significant cultural resources listed or eligible for listing in the National Register of Historic Places until the requirements for Section 106 of the National Historic Preservation Act are met. Upon discovery of the presence of previously unknown historic and/or prehistoric cultural resources, all work must cease and the permittee must notify the State Historic Preservation Office and the Corps of Engineers. The authorization is suspended until it is determined whether or not the activity will have an adverse effect on cultural resources. The authorization may be reactivated or modified through specific conditions if necessary, if it is determined that the activity will have no adverse effect on cultural resources. The PGP authorization will be revoked if it is determined that cultural resources would be adversely affected, and an individual permit may be necessary.

3. There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein. The permittee will, at his or her expense, install and maintain any safety lights, signals, and signs prescribed by the United States Coast Guard, through regulations or otherwise, on authorized facilities or on equipment used in performing work under the authorization.

4. No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species which normally migrate through the area, unless the activity's primary purpose is to block or impound water.

5. If the **authorized** activity involves the installation of aerial transmission lines, submerged cable, or submerged pipelines across navigable waters of the United States the following is applicable:

> The National Ocean Service (NOS) has been notified of this authorization. You must notify NOS and this office in writing, at least two weeks before you begin work and upon completion of the activity authorized by this permit. Your notification of completion must include a drawing which certifies the location and configuration of the completed activity (a certified permit drawing may be used). Notification to NOS will be sent to the following address: National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910-3282.

6. For pipelines under an anchorage or a designated fairway in the Gulf of Mexico the following is applicable: The NOS has been notified of this authorization. You must notify NOS and this office in writing, at least two weeks before you begin work and upon completion of the activity authorized by this permit. Within 30 days of completion of the pipeline, 'as built' drawings certified by a professional engineer registered in Louisiana or by a registered surveyor shall be furnished to this office, the Commander (dpw), Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, and to the Director, National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910-3282. The plans must include the location, configuration and actual burial depth of the completed pipeline project.

7. If the **authorized** project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.,) in the waterway, you are advised to notify the Eighth Coast Guard District so that a Notice to Mariners, if required, may be prepared. Notification with a copy of your permit approval and drawings should be mailed to the Commander (dpw), Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, about 1 month before you plan to start work. Telephone inquiries can be directed to the Eighth Coast Guard District, Waterways Management at (504) 671-2107.

8. All activities authorized herein shall, if they involve, during their construction or operation, any discharge of pollutants into waters if the United States, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, pretreatment standards and management practices established pursuant to the Clean Water Act (PL 92-500:86 Stat 816), or pursuant to applicable state and local laws.

9. Substantive changes to the Louisiana Coastal Resources Program may require immediate suspension and revocation of this permit in accordance with 33 CFR 325.7.

10. Irrespective of whether a project meets the other conditions of this permit, the Corps of Engineers retains discretionary authority to require an individual Department of the Army permit when circumstances of the proposal warrant this requirement.

11. Any individual authorization granted under this permit may be modified, suspended, or revoked in whole or in part if the Secretary of the Army or his authorized representative determines that there has been a violation of any of the terms or conditions of this permit or that such action would otherwise be in the public interest.

12. The Corps of Engineers may suspend, modify, or revoke this general permit if it is found in the public interest to do so.

13. Activities proposed for authorization under the PGP must comply with all other necessary federal, state, and/or local permits, licenses, or approvals. Failure to do so would result in a violation of the terms and conditions of PGP.

14. The permittee shall permit the District Commander or his authorized representative(s) or designee(s) to make periodic inspections of the project site(s) and disposal site(s) if different from the project site(s) at any time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

15. This general permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and it does not authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations nor does it obviate the requirements to obtain state or local assent required by law for the activity authorized herein.

16. In issuing authorizations under this permit, the federal government will rely upon information and data supplied by the applicant. If, subsequent to the issuance of an authorization, such information and data prove to be false, incomplete, or inaccurate, the authorization may be modified, suspended, or revoked, in whole or in part.

17. For activities resulting in sewage generation at the project site, such sewage shall be processed through a municipal sewage treatment system or, in areas where tie-in to a municipal system is not practical, the on-site sewerage system must be approved by the local parish sanitarian before construction.

18. Any modification, suspension, or revocation of the PGP, or any individual authorization granted under this permit, will not be the basis for any claim for damages against the United States.

19. Additional conditions deemed necessary to protect the public interest may be added to the general permit by the District Commander at any time. If additional conditions are added, the public will be advised by public notice. Individual authorizations under the PGP may include special conditions deemed necessary to ensure minimal impact and compliance with the PGP.

20. The PGP is subject to periodic formal review by MVN and OCM in coordination with the Environmental Protection Agency, US Fish and Wildlife Service, the National Marine Fisheries Service, and the Louisiana Department of Wildlife and Fisheries. Comments from reviewing agencies will be considered in determination as to whether modifications to the general permit are needed. Should the District Commander make a determination not to incorporate a change proposed by a reviewing agency, after normal negotiations between the respective agencies, the District Commander will explain in writing to the reviewing agency the basis and rationale for his decision.

21. CEMVN retains discretion to review the PGP, its terms, conditions, and processing procedures, and decide whether to modify, reissue, or revoke the permit. If the PGP is not modified or reissued within 5 years of its effective date, it automatically expires and becomes null and void.

22. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

23. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party as described in Special Condition 25 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

24. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

25. If you sell the property associated with this permit, you must provide this office with a copy of the permit and a letter noting your agreement to transfer the permit to the new owner and the new owner's agreement to accept the permit and abide by all conditions of the permit. This letter must be signed by both parties.

26. Many local governing bodies have instituted laws and/or ordinances in order to regulate dredge and/or fill activities in floodplains to assure maintenance of floodwater storage capacity and avoid disruption of drainage patterns that may affect surrounding properties. Your project involves dredging and/or placement of fill; therefore, you must contact the local municipal and/or parish governing body regarding potential impacts to floodplains and compliance of your proposed activities with local floodplain ordinances, regulations or permits.

27. In issuing authorizations under this permit, the federal government does not assume any liability for: damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest; damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit, and; design or construction deficiencies associated with the permitted work.

STANDARD MANATEE CONDITIONS FOR IN-WATER ACTIVITIES

During in-water work in areas that potentially support manatees, all personnel associated with the project shall be instructed and aware of the potential presence of manatees, manatee speed zones, and the need to avoid collisions with, and injury to, manatee. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel shall be instructed not to attempt to feed or otherwise interact with the animal.

All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). To minimize potential impacts to manatees in areas of their potential presence, the permittee shall insure the following are adhered to:

- All work, equipment, and vessel operation shall cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).

- If a manatee(s) is sighted in or near the project area, all vessels associated with the project shall operate at “no wake/idle” speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels shall follow routes of deep water whenever possible.

- If used, siltation or turbidity barriers shall be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.

- Temporary signs concerning manatees shall be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8½ " X 11" reading language similar to the following: “CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT”. A second temporary sign measuring 8½ " X 11” shall be posted at a location prominently visible to all personnel engaged in water-related activities and shall read language similar to the following: “CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION”.

- Collisions with, injury to, or sightings of manatees shall be immediately reported to the U.S. Fish and Wildlife Service’s, Louisiana Ecological Services Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821). Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.

MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Memorandum Documenting General Permit Verification

1.0 Introduction and overview: Information about the proposal subject to one or more of the Corps regulatory authorities is provided in Section 1, detailed evaluation of the activity is found in Sections 2 through 4 and findings are documented in Section 5 of this memorandum. Further, summary information about the activity including administrative history of actions taken during project evaluation is attached (ORM2 summary).

1.1 Applicant name:

St. Bernard Parish Government
8201 West Judge Perez Dr.
Chalmette, LA 70043

1.2 Activity location:

The project is located on Lake Lery, Delacroix, St. Bernard Parish, Louisiana.

Latitude: 29.809481 Longitude: -89.853633

1.3 Description of activity requiring verification: Project involves dredging and placing dredged spoil for marsh creation.

1.4 Permit authority: Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344)

1.5 Applicable Permit: Programmatic General Permit (PGP) 2

1.6 Activity requires written waiver? No

2.0 Evaluation of the Pre-Construction Notification

2.1 Direct and indirect effects caused by the GP activity: Direct and indirect effects caused by the dredging and spoil placement for marsh creation are minimal.

2.2 Site specific factors: Location of canal.

2.3 Coordination

2.3.1 Was the PCN coordinated with other agencies? Yes

If yes, describe results including resolution of any concerns.

US Environmental Protection Agency: No Comments Received

National Marine Fisheries Service: In an email dated July 27, 2020 states “The NMFS Habitat Conservation Division has reviewed the project listed below, and does not object to the issuance of the following permit”

Louisiana Department of Wildlife and Fisheries: In an email dated July 23, 2020, states “At this time, due to staffing constraints, Habitat Section biologists are unable to provide specific comments on this application.”

2.3.2 Was the PCN coordinated with other Corps offices? Yes

If yes, describe results including resolution of any concerns:

In a memo dated July 23, 2020, the USACE Real Estate Region South Division stated that the proposed project does not require a real estate instrument.

By memo dated April 16, 2021, Corps Archaeologist Noah Fulmer provided a final determination of “No Historic Properties Affected 36 CFR 800.4(d)(1). The borrow area has been previously surveyed and the disposal area has one known archaeological site that has previously been determined to be ineligible for the National Register.

2.4 Mitigation

2.4.1 Provide brief description of how the activity has been designed on-site to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site: Project would minimize the area of impact for project location. Impacts are minimal and temporary.

2.4.2 Is compensatory mitigation required for unavoidable impacts to jurisdictional aquatic resources to reduce the individual and cumulative adverse environmental effects to a minimal level? No

Provide rationale: The project is for restoration activities.

3.0 Compliance with Other Laws, Policies and Requirements

3.1 Section 7(a)(2) of the Endangered Species Act (ESA)

3.1.1 ESA action area: All areas to be affected directly or indirectly by the proposed work and/or structures.

3.1.2 Has another federal agency taken steps to document compliance with Section 7 of the ESA and completed consultation(s) as required? Yes

If yes, identify that agency, the actions taken to document compliance with Section 7 and whether those actions are sufficient to ensure the activity(s) requiring DA authorization is in compliance with Section 7 of the ESA:

US FWS – Information for Planning and Consultation (IPaC) system.

3.1.3 Known species/critical habitat present? Yes

Effect determination(s), including no effect, for all known species/habitat, and basis for determination(s):

Name of species and/or critical habitat considered:
West Indian Manatee (Trichechus manatus);

Effect determination(s):
Not likely to adversely affect—Manatee

Basis for determination(s): Manatee effect determination was the outcome of following the IPAC agreement.

3.1.4 Consultation with either the National Marine Fisheries Service and/or the U.S. Fish and Wildlife Service was initiated and completed as required, for any determinations other than “no effect” (see the attached “Summary” sheet for begin date, end date and closure method of the consultation). Consultation was not required per IPaC agreement. Based on a review of the information above, the Corps has determined that it has fulfilled its responsibilities under Section 7(a)(2) of the ESA.

Additional information: NLAA determination requires the "Standard Manatee Conditions For In-water Activities" to be included with the Permit.

3.2 **Magnuson-Stevens Fishery Conservation and Management Act, Essential Fish Habitat (EFH)** *Select N/A if appropriate*

3.2.1 Has another federal agency taken steps to comply with EFH provisions of Magnuson-Stevens Act? No

If yes, identify that agency, the actions taken to document compliance with the Magnuson-Stevens Act and whether those actions are sufficient to ensure the activity(s) requiring DA authorization is in compliance with the EFH provisions:

If yes, identify agency and provide discussion Select appropriate conclusion.

3.2.2 Did the proposed project require review under the Magnuson-Stevens Act? YES

3.2.3 If yes, EFH species or complexes considered: Shrimp, Red Drum, Coastal Migratory Pelagics and Reef Fish.

Effect determination: Minimal adverse effect

Basis for determination: Due to the motility of the species present and the relatively small area of disturbance compared to similar available habitat, the proposed work should result in no more than minimal adverse effects to EFH, either individually or cumulatively.

3.2.4 Consultation with the National Marine Fisheries Service was initiated and completed as required (see the attached "Summary" sheet for consultation type, begin date, end date and closure method of the consultation). Based on review of the above information, the Corps has concluded that it has fulfilled its responsibilities under the EFH provisions of the Magnuson-Stevens Act.

Additional information: National Marine Fisheries Service: In an email dated July 27, 2020, states "The NMFS Habitat Conservation Division has reviewed the project listed below, and does not object to the issuance of the following permit"

3.3 Section 106 of the National Historic Preservation Act (Section 106)

3.3.1 Section 106 permit area: The permit area includes only those areas comprising waters of the United States that will be directly affected by the proposed work or structures. Activities outside of waters of the U.S. are not included because all three tests identified in 33 CFR 325, Appendix C(g)(1) have not been met.

Final description of the permit area: The permit area includes only those areas comprising waters of the United States that will be directly affected by the proposed work or structure.

3.3.2 Has another federal agency taken steps to comply with Section 106 of the National Historic Preservation Act and completed consultation(s) as required? No

If yes, identify that agency, the actions taken to document compliance with Section 106 and whether those actions are sufficient to ensure the activity(s) requiring DA authorization is in compliance with Section 106 of the NHPA:

If yes, identify agency and provide discussion Select appropriate conclusion.

3.3.3 Known cultural resource sites present and/or survey or other additional information needed? No, surveys previously completed. 1 site present, not eligible for National Registry.

Basis for effect determination(s) for all known site(s) and/or site(s) identified by a survey:
Effect Determination(s):

Table 4	
No potential to cause effects; consultation not required	
No effect; consultation required	x
No adverse effect; consultation required	
Adverse effect; consultation required	

Basis for determination(s): see 2.3.2

3.3.4 Consultation was initiated and completed as required with the appropriate agencies, tribes and/or other parties for any determinations other than “no potential to cause effects” (see the attached “Summary” sheet for consultation type, begin date, end date and closure method of the consultation). The Corps has determined that it has fulfilled its responsibilities under Section 106 of the NHPA.

Additional information: Federally recognized Tribes were provided a 30 day comment period beginning April 19, 2021. No comments received.

3.4 Tribal Trust Responsibilities

3.4.1 Was government-to-government consultation conducted with Federally-recognized Tribe(s)? No

Provide a description of any consultation(s) conducted including results and how concerns about significant effects to protected tribal resources, tribal rights and/or Indian lands were addressed. The Corps has determined that it has fulfilled its tribal trust responsibilities.

Additional Information: Federally recognized Tribes were provided a 30 day comment period beginning April 19, 2021. No comments received.

3.5 Section 401 of the Clean Water Act – Water Quality Certification (WQC)

3.5.1 Is a Section 401 WQC required, and if so, has the certification been issued or waived? A general WQC has been issued for this permit. Blanket Authorization for PGPs

3.6 Coastal Zone Management Act (CZMA)

3.6.1 Is a CZMA consistency concurrence required, and if so, has the concurrence been issued, waived or presumed? An individual CZMA consistency concurrence is required and has been issued by the appropriate agency. P20200531 authorized on April 8, 2021.

3.7 Wild and Scenic Rivers Act

3.7.1 Is the project located in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system? No

If yes, summarize coordination and the determination on whether activity will adversely affect the Wild and Scenic River designation or study status. The Corps has determined that it has fulfilled its responsibilities under the Wild and Scenic Rivers Act.

3.8 Effects on Corps Civil Works Projects (33 USC 408)

3.8.1 Does the applicant also require permission under Section 14 of the Rivers and Harbors Act (33 USC 408) because the activity, in whole or in part, would alter, occupy, or use a Corps Civil Works project? No, there are no Corps Civil Works project(s) in or near the vicinity of the proposal.

If yes, provide date permission is provided:

4.0 Special Conditions

4.1 Are special conditions required to ensure minimal effects, protect the public interest and/or ensure compliance of the activity with any of the laws above? Yes

If no, provide rationale: *Select option as appropriate or provide discussion*

4.2 Required special condition(s)

Special condition:

Standard conditions issued for PGPs

Rationale: required to insure minimal impacts to the aquatic environment.

Standard Manatee Conditions For In-water Activities

Rationale: minimize impacts to the species.

5.0 Determination

5.1 Waiver request conclusion, if required or select N/A: N/A

5.2 The activity will result in no more than minimal individual and cumulative adverse effects on the aquatic environment and will not be contrary to the public interest, provided the permittee complies with the special conditions identified above.

5.3 This activity, as described, complies with all terms and conditions of the permit identified in Section 1.5.

PREPARED BY:

_____

Ben Sherman, Environmental Resource Specialist/Project Manager

APPROVED BY:

_____

Michael V. Farabee, Chief, Eastern Evaluation Section

Department of the Army General Permit Verification – ORM2 Decision Summary Data for MVN-2018-01345-ES – SBPG - Lake Lery Marsh Creation and Rim Restoration Project - Phase III - St Bernard

Date Generated: 20-MAY-2021

Permit ID(s): 11223919

Applicant Info:

Contact ID	Applicant
11024425	John Lane (St. Bernard Parish Government)

Location Latitude/Longitude: 29.809481, -89.853633

Authorized Project Description (from the permit action)

Description	Permit IDs
dredge for material to restore Lake Lery shoreline	11223919

Closure Method

Permit Begin Date	Permit End Date	Closure Method	Permit IDs
08-JUL-2020	20-MAY-2021	Verified With Special Conditions	11223919

After-the-fact (ATF)?

ATF	Permit IDs
No	11223919

Jurisdictional Determination(s) (JDs)

No Data Found

Permit Authority

Permit Authority	Permit IDs
Section 10/404	11223919

Permit Type, Permit Name and Number (PNN)

Permit Type	PNN	Permit IDs
PGP	PGP II - Programmatic GP	11223919

Pre-Construction Notification (PCN)?

PCN	Permit IDs
Yes	11223919

Date Determined Complete for Processing

Date Processing Complete	Permit IDs
22-JUL-2020	11223919

Worktypes

Worktype	Permit IDs

\ DREDGING \ DISPOSAL	11223919

Impact(s) including Impact Activity Types (IAT), Units of Measure (UOM) and Amounts

Permit ID	Perm Loss	Cowardin Class	IAT	Initially Proposed	Proposed	Authorized
11223919	No	M2-MARINE, INTERTIDAL	Fill Area	(L) (W) (A) 401 Acre	(L) (W) (A) 401 Acre	(L) (W) (A) 401 Acre

Aquatic Resource(s) associated with Impact(s)

Waters Name	Waters Type	Cowardin Class	Waterway	Latitude/Longitude	Permit IDs
2018-01345-ES Phase III, Lake Lery	Used for Delineation Concurrence	M2-MARINE, INTERTIDAL		29.809481, -89.853633	11223919

Internal Coordination

Permit ID	SubAction ID	Permit Start Date	Permit End Date
11223919	11223929	22-JUL-2020	16-APR-2021
11223919	11223940	22-JUL-2020	23-JUL-2020

Compensatory Mitigation Required (CMR)? Permittee Responsible Mitigation (PRM)?

CMR?	PRM?	Permit IDs
No	No	11223919

Mitigation including Type, Units of Measure (UOM) and Amounts

No Data Found

Advanced Permittee Responsible Credits

No Data Found

Aquatic Resource(s) associated with Mitigation

No Data Found

Evaluation Checklist Responses for:

Endangered Species Act (ESA)

Type	Decision	Permit IDs
ESA Coordination	Resources Present/No Effect	11223919

Essential Fish Habitat (EFH)

Type	Decision	Permit IDs
EFH Coordination	Resources Present/No Effect	11223919

Section 106 of the NHPA

Type	Decision	Permit IDs
Section 106 of the NHPA	Coordination/Consultation Not Required	11223919

Tribal Consultation(s)

Type	Decision	Permit IDs
Tribal Coordination/Consultation	Not Required	11223919

Wild & Scenic River

Type	Decision	Permit IDs
Wild & Scenic River	No Resources Present	11223919

Water Quality Certification (WQC)

Type	Decision	Permit IDs
Individual WQC	Not Required	11223919

Coastal Zone Management Consistency Concurrence (CZM)

Type	Decision	Permit IDs
CZM	Required	11223919

Recapture Provision

Type	Decision	Permit IDs
Recapture Provision	Does Not Apply	11223919

Subactions Added:

ESA Consultation(s)

Type	ESA Begin Date	ESA End Date	Species	Closure Method	Permit IDs
ESA	08-JUL-2020	22-JUL-2020	Manatee, West Indian (Trichechus manatus)	Activity Covered by a Programmatic Consultation	11223919

EFH Consultation(s)

No Data Found

Section 106 of the NHPA Consultation(s)

No Data Found

Tribal Consultation(s)

No Data Found

Water Quality Certification (WQC) Consultation(s)

No Data Found

408 Review Required?

Section 408	Permit IDs
No	11223919

CEMVN-ODR-E **July 22, 2020**

Memo for Chief, Real Estate Division

The attached permit application is forwarded for your determination as to the need for a real estate instrument.

APPLICANT: **St. Bernard Parish Government**

APPLICATION NUMBER: **MVN 2018-01345 ES**

PROJECT MANAGER: **Ben Sherman**

PARISH: **St. Bernard**

Please advise us of your determination as soon as possible. Lack of reply within 5 days of this date will be construed as indicating that Real Estate Division has no property interest at the proposed site and does not object to permit issuance.

Martin S. Mayer
Chief, Regulatory Branch

Encl

CEMVN-REM 23 July 2020

FOR C/ REGULATORY BRANCH, OPERATIONS DIVISION

Reference permit application forwarded for determination as to need for a real estate interest.

__X__ a. No real estate instrument will be required for this application as no real estate interest under the jurisdiction of the New Orleans District is involved.

___ b. The United States holds a perpetual easement over the area on which the applicant seeks a permit. However, the proposed work is of a temporary nature, no structures are proposed to be constructed, and/or the proposed work does not interfere/inhibit the use of the area by the United States for its authorized purposes. Therefore, no real estate instrument is needed. The permit should include the attached language.

___ c. The proposed work impacts a real estate interest under the jurisdiction of the New Orleans District. Within the permit, please advise the applicant that the United States holds a real estate interest in that area and that work cannot commence until the applicant has received the appropriate instrument from the Real Estate Division. The applicant should contact Real Estate by email after he/she has received the regulatory permit; emails should be sent to Robert.J.Thomson@usace.army.mil. Please forward for our records a final copy of the permit inclusive of any changes that were requested during review.

If Operations Division determines that a Section 408 permission is required prior to such issuance of the regulatory permit, requests for Real Estate review and input, as required by EC 1165-2-216, should be forwarded under separate memorandum.

/s/
Robert J. Thomson
Chief, Management & Disposal Branch
Real Estate Division

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Louisiana Ecological Services Field Office
200 Dulles Drive
Lafayette, LA 70506
Phone: (337) 291-3100 Fax: (337) 291-3139

In Reply Refer To:
Consultation Code: 04EL1000-2020-I-1531
Event Code: 04EL1000-2020-E-03641
Project Name: MVN-2018-01345-ES

July 22, 2020

Subject: Verification letter for the project named 'MVN-2018-01345-ES' for specified threatened and endangered species that may occur in your proposed project location pursuant to the Louisiana Endangered Species Act project review and guidance for other federal trust resources determination key (Louisiana DKey).

Dear Benjamin Sherman:

The U.S. Fish and Wildlife Service (Service) received on July 22, 2020 your effects determination(s) for the 'MVN-2018-01345-ES' (the Action) using the Louisiana DKey within the Information for Planning and Consultation (IPaC) system. The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based on your answers, and the assistance in the Service's Louisiana DKey, you made the following effect determination(s) for the proposed Action:

Species	**Determination**
Threatened West Indian Manatee (*Trichechus manatus*)	NLAA

Consultation Status

Species protective measures (contained within this application) will be used by the applicant and will be incorporated into any special conditions of a DA permit; therefore the Service concurs with the U.S. Army Corps of Engineers "may affect, not likely to adversely affect" determination(s) for the species listed above. Your agency has met consultation requirements by informing the Service of your "No Effect" determinations. No consultation for this project is required for species that you determined will not be affected by this action.

This concurrence verification letter confirms you may rely on effect determinations you reached by considering the Louisiana DKey to satisfy agency consultation requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.;

ESA). No further consultation for this project is required for species that you determined will not be affected by this action.

The Service recommends that your agency contact the Louisiana Ecological Services Field Office or re-evaluate the project in IPaC if: 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat; 3) the action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Louisiana Ecological Services Field Office should take place before project changes are final or resources committed.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

MVN-2018-01345-ES

2. Description

The following description was provided for the project 'MVN-2018-01345-ES':

Marsh Creation and Dredging

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/29.801533744183725N89.84905916486204W

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?
   No

2. Are you with the U.S. Army Corps of Engineers Regulatory Division?
   Yes

3. [Hidden Semantic] Does the project intersect the west indian manatee AOI?
   Automatically answered
   Yes

4. (Semantic) Is the project located within the manatee consultation zone, excluding the Mississippi River?
   Automatically answered
   Yes

5. Is the project footprint entirerly on land?
   No

6. Is the water depth within the project greater than 2 feet (at mean high tide)?
   Yes

7. Will the project occur during the months of June through November?
   Yes

8. Will the following Standard Manatee Conditions for in-Water Activities be included as permit conditions?
   Yes

9. [Semantic] Does the project intersect the Northern Long-eared bat AOI?
   Automatically answered
   No

10. (Semantic) Does the project intersect the Louisiana black bear Range?
    Automatically answered
    No

NHPA
Section 106 Compliance Review MFR

Project Mgr: Ben Sherman Date: 7/22/2020

Ref #: MVN 2018-01345 ES Applicant: St. Bernard Parish Government

Project Name: SBPG - Lake Lery Marsh Creation and Rim Restoration Project - Phase III - St

Authority: Section 10 ☒ Section 404: ☒

Permit Type: SP: ☐ NWP: ☐ RGP: ☐ PGP: ☒ LOP: ☐

Project Location: Parish: St. Bernard Waterway: Eastern Louisiana Coastal

Latitude: 29.809481 Longitude: -89.853633

Project description: Project involves to dredging and placing dredge spoil for marsh creation.

Which of the following information is provided:

- ☐ Photos/aerials
- ☐: Information about structures on the site and approximate construction dates
- ☐: Previous Cultural Resources Work (predetermination reports, survey reports, etc
- ☐: Correspondence (SHPO, Tribal letters, etc.)
- ☐: Cultural Resources Survey Report/EIS/EA

below this line is to be completed by cultural resources reviewer-

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Date: 16 April 2021
Reviewed by Noah Fulmer

Reviewed Phase I Survey negative findings draft report by ELOS Environmental dated February 2021 and titled, Phase I Cultural Resource Assessment Survey for the Proposed Lake Lery Phase III Marsh Creation and Rim Restoration located in St Bernard Parish, LA.

Notes: The proposed borrow area has been previously used and has been previously surveyed (22-3406) with no identified resources. One archaeolgosical site was previously identifyed in the disposal area (16SB59), but was previously determiend to be ineligible for the National Registers.

Final Effect Determination: No Historic Properties Affected 36 CFR 800.4(d)(1)

Farabee, Michael V CIV USARMY CEMVN (USA)

From: Sherman, Benjamin C CIV CPMS (USA)
Sent: Monday, April 19, 2021 6:23 AM
To: 'Celestine.bryant@actribe.org'; 'kswalden@chitimacha.gov'; 'ithompson@choctawnation.com'; 'lbilyeu@choctawnation.com'; CEMVN Regulatory Tribal; 'llangley@mcneese.edu'; 'ashively@jenachoctaw.org'; 'kcarleton@choctaw.org'; 'douglas.m@sno-nsn.gov'; 'Harjo.n@sno-nsn.gov'; 'THPOCompliance@semtribe.com'; 'earlii@tunica.org'
Cc: Farabee, Michael V CIV USARMY CEMVN (USA)
Subject: NPCE, New Orleans District, St. Bernard , St. Bernard Parish Government MVN 2018-1345 ES
Attachments: 2018-01345 ES.pdf; Application MVN 2018-1345-ES (P20200531).pdf

Brief Description of Project: Proposes to dredge and place dredge spoil for marsh creation on Lake Lery, Delacroix, St. Bernard Parish, Louisiana

The proposal is centered at Latitude: 29.809481 Longitude: -89.853633

The Corps of Engineers New Orleans District (CEMVN) Regulatory Branch has received the permit application, as listed above and attached, from St. Bernard Parish Government

The CEMVN Regulatory Branch is providing the attached documentation for your record keeping/informational purposes.

Ben Sherman
Environmental Resources Specialist/Project Manager United States Army Corps of Engineers
(504)862-2041
Benjamin.c.Sherman@usace.army.mil

From: January.Murray@noaa.gov
To: Sherman, Benjamin C CIV CPMS (USA)
Cc: NMFS ser HCDconsultations
Subject: [Non-DoD Source] Re: PGP 2 review of MVN 2018-01345 ES for St. Bernard Parish Government
Date: Monday, July 27, 2020 10:16:13 AM
Attachments: Application MVN 2018-1345-ES (P20200531).pdf

Hello Benjamin,
The NMFS Habitat Conservation Division has reviewed the project listed below and does not object to the issuance of the following permit **MVN-2018-1345-ES.**
Thank you for your coordination,
January Murray

On Wed, Jul 22, 2020 at 11:24 AM Sherman, Benjamin C CIV CPMS (USA) <Benjamin.C.Sherman@usace.army.mil> wrote:

> Permit Application No.: MVN 2018-01345 ES
>
> CUP/Consistency No.: P20200531
>
> L St. Bernard Parish Government has submitted a request work to dredge and place dredge spoil for marsh creation on Lake Lery, Delacroix, St. Bernard Parish, Louisiana as shown in the attached application.
>
> The proposed work appears to be eligible under the PGP 2. Please review and comment on the subject proposal within five working days so that we may consider your comments in our permit review.
>
> We are also forwarding the attached PCN to the US Fish and Wildlife Service and National Marine and Fisheries Service for review and comment concerning any project likely to affect any threatened or endangered species or destroy or adversely modify such species' critical habitat.
>
> The New Orleans District has determined that the project is located in waters known to be utilized by the West Indian manatee, and that the activity is not likely to adversely affect this species based on the Information and Planning and Consultation For Endangered Species in Louisiana (IPAC), dated January 27, 2020, between the U.S. Army Corps of Engineers, New Orleans and U.S. Fish and Wildlife Service, Ecological Services Office. If a permit is issued, the "Standard Manatee Conditions for In-Water Activities" would be included as part of the authorization.
>
> Have a great week,
>
> Sincerely,
>
> Ben Sherman
>
> Ben Sherman
> Environmental Resources Specialist/Project Manager United States Army Corps of Engineers
> (504)862-2041
> Benjamin.c.Sherman@usace.army.mil

CLASSIFICATION: UNCLASSIFIED
CLASSIFICATION: UNCLASSIFIED
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CLASSIFICATION: UNCLASSIFIED

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January Murray
Fishery Biologist
Habitat Conservation Division
NOAA Fisheries | U.S. Department of Commerce
5757 Corporate Blvd, Suite 375
Baton Rouge, LA 70808
Office: (225) 380-0089
Blockedwww.fisheries.noaa.gov

From: Dave Butler
To: Sherman, Benjamin C CIV CPMS (USA)
Subject: [Non-DoD Source] RE: PGP 2 review of MVN 2018-01345 ES for St. Bernard Parish Government
Date: Thursday, July 23, 2020 7:54:35 AM

Ben,

At this time, due to staffing constraints, Habitat Section biologists are unable to provide specific comments on this application.

Thanks,

Dave Butler
Permits Coordinator
Louisiana Department of Wildlife and Fisheries
2000 Quail Drive
Baton Rouge, LA 70808
(504) 286-4173 New Orleans Office
(225) 763-3595 Baton Rouge Office
(225) 765-2625 Fax

-----Original Message-----
From: Sherman, Benjamin C CIV CPMS (USA) <Benjamin.C.Sherman@usace.army.mil>
Sent: Wednesday, July 22, 2020 11:19 AM
To: 'lafayette_permits@fws.gov'; 'Elizabeth.hill@la.gov'; 'dbutler@wlf.la.gov'; 'kitto.alison@epa.gov'; Brandon.howard@noaa.gov; craig.gothreaux@noaa.gov; january.murray@noaa.gov; nmfs.ser.hcdconsultations@noaa.gov; Gutierrez.Raul@epa.gov
Subject: PGP 2 review of MVN 2018-01345 ES for St. Bernard Parish Government

Permit Application No.: MVN 2018-01345 ES

CUP/Consistency No.: P20200531

L St. Bernard Parish Government has submitted a request work to dredge and place dredge spoil for marsh creation on Lake Lery, Delacroix, St. Bernard Parish, Louisiana as shown in the attached application.

The proposed work appears to be eligible under the PGP 2. Please review and comment on the subject proposal within five working days so that we may consider your comments in our permit review.

We are also forwarding the attached PCN to the US Fish and Wildlife Service and National Marine and Fisheries Service for review and comment concerning any project likely to affect any threatened or endangered species or destroy or adversely modify such species' critical habitat.

The New Orleans District has determined that the project is located in waters known to be utilized by the West Indian manatee, and that the activity is not likely to adversely affect this species based on the Information and Planning and Consultation For Endangered Species in Louisiana (IPAC), dated January 27, 2020, between the U.S. Army Corps of Engineers, New Orleans and U.S. Fish and Wildlife Service, Ecological Services Office. If a permit is issued, the "Standard Manatee Conditions for In-Water Activities" would be included as part of the authorization.

Have a great week,

Sincerely,

Ben Sherman

Ben Sherman
Environmental Resources Specialist/Project Manager United States Army Corps of Engineers
(504)862-2041
Benjamin.c.Sherman@usace.army.mil

Louisiana Department of Natural Resources
Office of Coastal Management
(OCM)

Joint Permit Application

For Work Within the Louisiana Coastal Zone

U.S. Army Corps Of Engineers
(COE)
New Orleans District

Print Application

Permit Number: P20200531 Date Received: 07/06/2020

Step 1 of 15 - Applicant Information

Applicant/Company Name: St. Bernard Parish Government ***Applicant Type:*** GOVERNMENT AGENCY

Mailing Address: 8201 West Judge Perez Dr.
Chalmette, LA 70043

Contact Information: John Lane

Daytime: 504 278 4223 ***Fax:*** ***Contact Email:*** jlane@sbpg.net

Step 2 of 15 - Agent Information

Company Name: ELOS Environmental, LLC

Mailing Address: 607 W. Morris St.
Hammond, LA 70403

Contact Information: Flynn Daigle

Daytime: 985 662 5501 ***Fax:*** 985 662 5504 ***Contact Email:*** fdaigle@elosenv.com

Step 3 of 15 - Permit Type

☒ **Coastal Use Permit (CUP)** ☐ **Solicitation of Views (SOV)** ☐ **Request for Determination (RFD)**

Step 4 of 15 - Pre-Application Activity

a. Have you participated in a Pre-Application or Geological Review Meeting for the proposed project?

☒ No ☐ Yes **Date meeting was held:**

Attendees:

(Individual or Company Rep) (OCM Representative) (COE Representative)

b. Have you obtained an official wetland determination from the COE for the project site?

☒ No ☐ Yes **JD Number:**

c. Is this application a mitigation plan for another CUP?

☒ No ☐ Yes **OCM Permit Number:**

Step 5 of 15 - Project Information

a. Describe the project:

The Lake Lery Marsh creation and Rim Restoration Project-Phase III is one of a series of projects designed to stabilize the lake rim and its surrounding tidal marches, South Lake Lery Shoreline and Restoration (BS-16) and Lake Lery East Shoreline and Marsh Restoration (BS-17). Phase I (642 acres of creation) has been constructed; Phase II is currently being advertised for bid. Those two phases focus on the southeastern lake rim. Phase III proposes to use material from a designated mid-lake borrow area, and hydraulically transport it to an 401.2 acre marsh creation and nourishment footprint on the northern lake rim. Earthen containment will surround the perimeter of the marsh creation and nourishment footprint. Approximately 12,000 feet of foreshore containment will be armored by articulated mat to provide protection from wind driven wave erosion caused by prevailing southeast winds. This foreshore containment will remain, while the balance of the containment features will be gapped to marsh fill elevation upon stabilization of the creation and nourishment footprint. Gaps will be placed throughout the marsh cells in order to promote hydraulic conductivity between Lake Lery and the interior marsh. Gapping will take place on the northern, eastern, and western containment dikes only, and will be 25' wide at 250' centers.

b. Is this application a change to an existing permit?

☒ No ☐ Yes **OCM Permit Number:**

c. Have you previously applied for a permit or emergency authorization for all or any part of the proposed project?

☐ No ☒ Yes

	Agency Name	Permit Number	Decision Status	Decision Date
OCM	Mark Hogan	P20181069	Approved	01/10/2019
COE	Melissa Marino	MVN-2018-01345-MM	Approved	04/18?2019
Other				

Step 6 of 15 - Project Location

a. Physical Location

Street:

City: Delacroix **Parish:** SAINT BERNARD **Zip:**

Water Body: Lake Lery

b. Latitude and Longitude

Latitude: 29 48 55.39 **Longitude:** -89 49 51.95

c. Section, Township, and Range

Section #: 8, 9, 25, 26, 30 **Township #:** 14S **Range #:** 13E

Section #: **Township #:** **Range #:**

d. Lot, Tract, Parcel, or Subdivision Name

Lot #: **Parcel #:**

Tract #: **Subdivision Name:**

e. Site Direction:

Start: I-10 East. Continue onto I-10 E and take exit 246A for I-510 S. Continue on I-510 S. roadway becomes LA-47S/ Paris Rd. Turn left onto LA-46 E. Follow LA-46 E until LA-624 W. Turn right onto LA-624 W and follow into Hopedale Marina. Launch at Hopedale Marina. Access Bayou Terre a Beoufs through Breton Sound. Navigate Bayou Terre Au Beoufs north until reaching Bayou Lery. Navigate Bayou Lery into Lake Lery.

Step 7 of 15 - Adjacent Landowners

Step 8 of 15 - Project Specifics

a. Project Name and/or Title: Lake Lery Marsh Creation and Rim Restoration Project-Phase III

b. Project Type: Non-Residential

c. Source of Funding: Local

d. What will be done for the proposed project?

☐ **Bridge/Road**	☐ **Home Site/Driveway**	☐ **Pipeline/Flow Line**	☐ **Rip Rap/Erosion Control**
☐ **Bulkhead/Backfill**	☐ **Levee Construction**	☐ **Plug/Abandon**	☐ **Site Clearance**
☐ **Drainage Improvements**	☒ **Dredging**	☐ **Production Barge/Structure**	☐ **Subdivision**

☐ Drill Barge/Structure ☐ Prop Washing ☐ Vegetative Plantings ☐ Wharf/Pier /Boathouse

☐ Drill Site ☐ Pilings ☐ Remove Structures

☐ Fill ☐ Marina ☐ Major Industrial/Commercial

☒ Other: Rim Restoration and Marsh Restoration

e. Why is the proposed project needed?

The Lake Lery marsh complex is subject to high open water conversions and shoreline erosion rates. Prevailing southeast winds act as a persistent force against the shoreline area. The marsh creation and nourishment project will restore emergent marsh, and the permanent shoreline armoring will provide persistent protection for the new marsh platform as well as guarding the shoreline area.

Step 9 of 15 - Project Status

a. Proposed project start date: 09/01/2020 *Proposed project completion date:* 09/01/2025

b. Is any of the project work in progress?

☒ No ☐ Yes

c. Is any of the project work complete?

☒ No ☐ Yes

Step 10 of 15 - Structures, Materials, and Methods for the Proposed Project

a. Excavations

3,201,687 **yd^3** 230 **Acres**

b. Fill Areas

3,206,308 **yd^3** 429.56 **Acres**

c. Fill Materials

☒ Concrete:	4621	yd^3	☐ Rock:		yd^3
☐ Crushed Stone or Gravel:		yd^3	☐ Sand:		yd^3
☒ Excavated and placed onsite:	3,201,687	yd^3	☐ Hauled in topsoil/Dirt:		yd^3
☐ Excavated and hauled offsite:		yd^3			
☐ Other:		yd^3			

d. What equipment will be used for the proposed project?

☐ Airboat	☐ Bulldozer/Grader	☒ Marsh Buggy
☐ Backhoe	☐ Dragline/Excavator	☐ Other Tracked or Wheeled Vehicles
☐ Barge Mounted Bucket Dredge	☐ Handjet	☐ Self Propelled Pipe Laying Barge
☐ Barge Mounted Drilling Rig	☐ Land Based Drilling Rig	☐ Tugboat

☒ **Other: Cutterhead Suction Dredge, boats, marsh buggy excav.**

Step 11 of 15 - Project Alternatives

a. Total acres of wetlands and/or waterbottoms filled and/or excavated.

659.56 acres

b. What alternative locations, methods, and access routes were considered to avoid impact to wetlands and/or waterbottoms?

The project requires marsh creation and nourishment in a specified area of Lake Lery. The project team will use navigable waterways with adequate draft and sufficient horizontal clearance for the entire access route.

c. What efforts were made to minimize impact to wetlands and/or waterbottoms?

Wetland impacts will be minimized by limiting access to the project footprint or open water. Depths will be adequate for vessels.

d. How are unavoidable impacts to vegetated wetlands to be mitigated?

The project scope includes the creation and nourishment of approximately 401.2 acres of marsh habitat and the creation of approximately 2.38 miles of shoreline embankment by dredging material from a 230-acre mid-lake borrow area. It is not anticipated that compensatory mitigation will be necessary because the proposed work is a restoration project that will result in a net gain in wetland acreage. Additionally, the proposed project should not result in permanent wetland impacts other than minor impacts to emergent wetlands within the shoreline armoring footprint.

Step 12 of 15 - Permit Type and Owners

a. Are you applying for a Coastal Use Permit?

☐ **No** ☒ **Yes**

b. Are you the sole landowner/oyster lease holder?

☒ **No** ☐ **Yes**

☒ **The applicant is an owner of the property on which the proposed described activity is to occur.**

☒ **The applicant has made reasonable effort to determine the identity and current address of the owner(s) of the land on which the proposed described activity is to occur, which included, a search of the public records of the parish in which the proposed activity is to occur.**

☒ **The applicant hereby attests that a copy of the application has been distributed to the following landowners/oyster lease holders.**

Landowner/Oyster Lease Holder:	Lois M. Johnson
Mailing Address:	625 Foxfield Lane
City/State/Zip:	Madisonville LA 70447

c. Does the project involve drilling, production, and/or storage of oil and gas?

☒ **No** ☐ **Yes**

Step 13 of 15 - Maps and Drawing Instructions

LakeLeryPhaseIIIFigures.pdf	**07/06/2020 12:59:53 PM**
AdjacentLandownersList.pdf	**06/10/2020 04:15:57 PM**

Step 14 of 15 - Payment

The fee for this permit is: $100.00

Step 15 of 15 - Payment Processed

Applicant Information

Applicant Name:	St. Bernard Parish Government
Address:	8201 West Judge Perez Dr.
City/State/Zip:	Chalmette, LA 70043

Application Information

Permit Type: CUP

To the best of my knowledge the proposed activity described in this permit application complies with, and will be conducted in a manner that is consistent with the Louisiana Coastal Resources Program. If applicable, I also certify that the declarations in Step 12c, oil spill response, are complete and accurate.

View Comments related to this project

ELOS®
http://elosenv.com/
43177 East Pleasant Ridge Road
Hammond, Louisiana 70403
P. 985-662-5501, F. 985-662-5504

Feet
0 8,000 16,000

N W E S

Legend:
- Site Outline
- Parish Boundary
- Highway
- Roadway
- Waterbody
- Stream/River
- City/Town

Sections: 25,26
Township: 14 South
Range: 13 East

Figure 1: TopoVicinity Map

Lake Lery Phase III

F:\KLE\Lake Lery Phase III\GIS Maps\Permit\Figure 1_TopoVicinity Map

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43177 East Pleasant Ridge Road
Hammond, Louisiana 70403
P. 985-662-5501, F. 985-662-5504

0 1,200 2,400 Feet

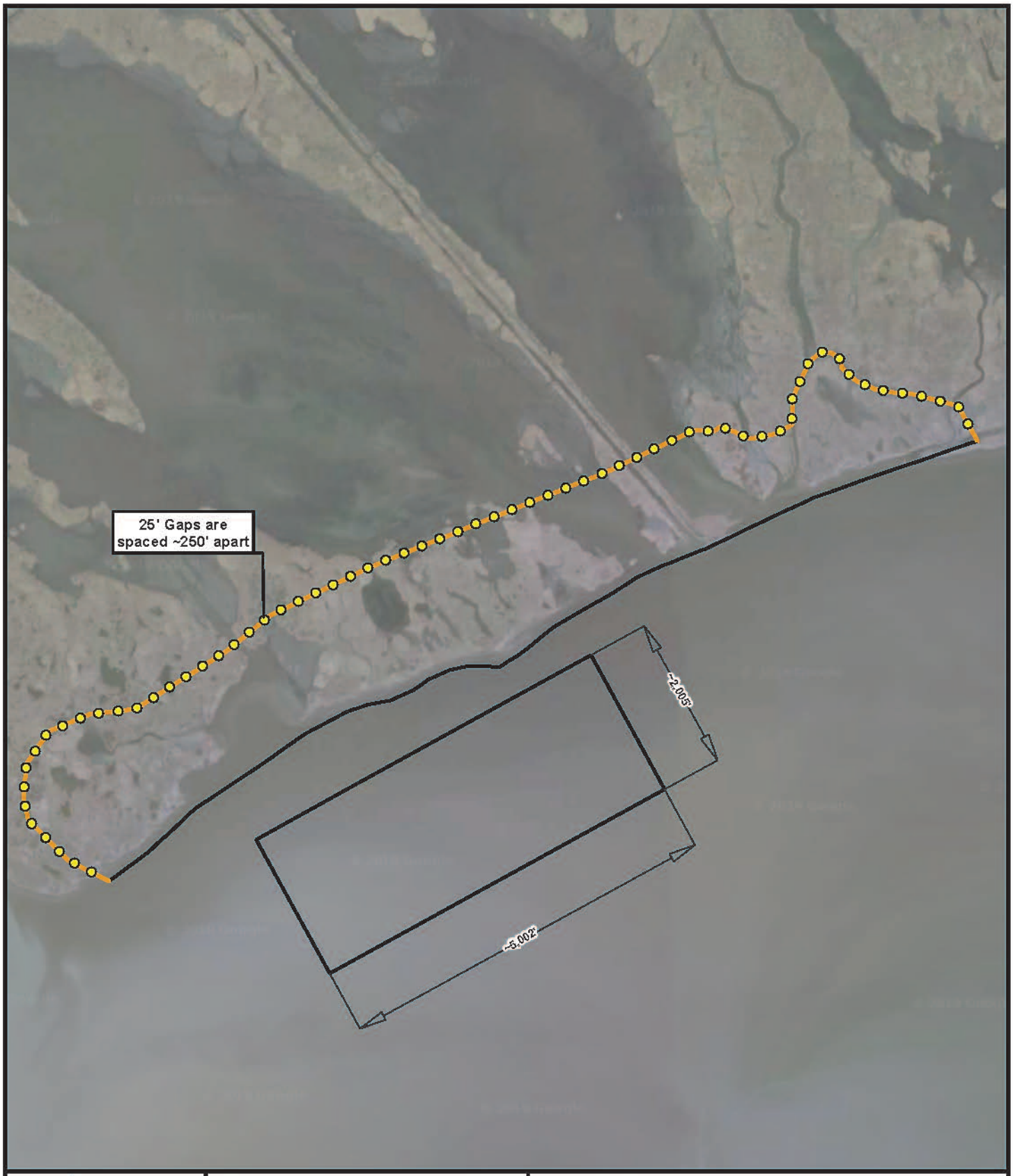
N W E S

Legend:
Site Outline

Figure 2: Existing Conditions

Lake Lery Phase III

F:\KLE\Lake Lery Phase III\GIS Maps\Permit\Figure 2_Existing Conditions



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43177 East Pleasant Ridge Road
Hammond, Louisiana 70403
P. 985-662-5501, F. 985-662-5504

0 1,250 2,500 Feet

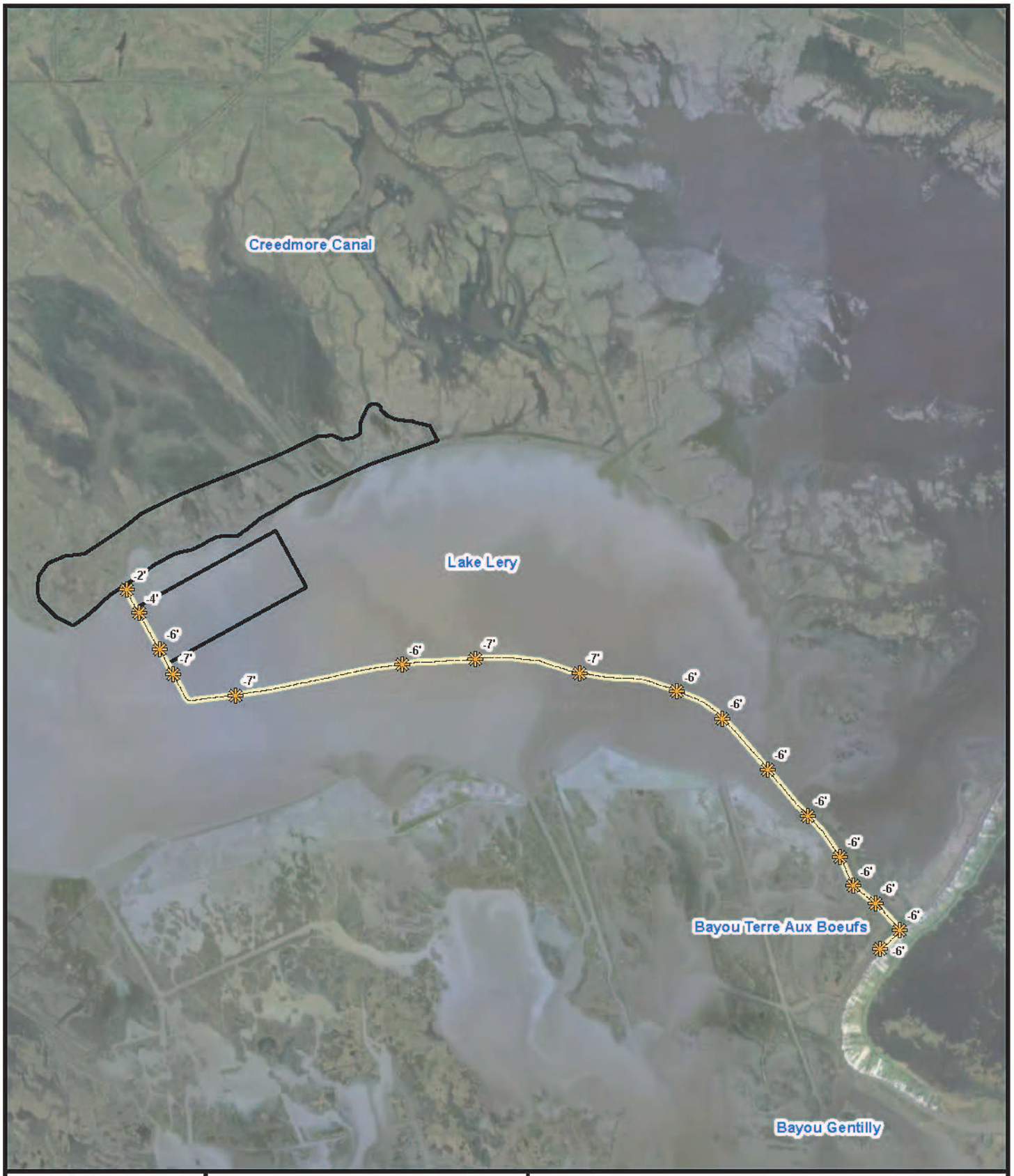
N W E S

Figure 3: Plan View

Lake Lery Phase III

Legend:
- Site Outline
- 25' Gaps
- Perimeter Line ~16,984'

F:\KLE\Lake Lery Phase III\GIS Maps\Permit\Figure 3_Plan View



ELOS®
http://elosenv.com/
43177 East Pleasant Ridge Road
Hammond, Louisiana 70403
P. 985-662-5501, F. 985-662-5504

0 3,000 6,000 Feet

N W E S

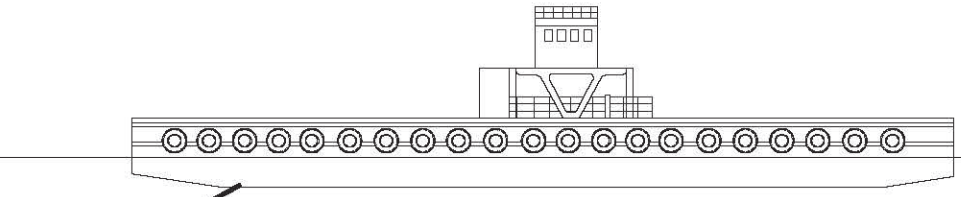
Figure 4: Access Route

Lake Lery Phase III

Legend:
- Site Outline
- Access Route
- Water Depths

F:\KLE\Lake Lery Phase III\GIS Maps\Permit\Figure 4: Access Route

Typical Equipment



http://eloseny.com/
43177 East Pleasant Ridge Road
Hammond, Louisiana 70403
P. 985-662-5501, F. 985-662-5504

Scale = Not to Scale

Figure 5: Typical Section

Lake Lery Phase III

F:\KLE\Lake Lery Phase III\GIS Maps\Permit\Figure 5_Typical Section

GENERAL NOTES:

1. THE CONTRACTOR SHALL NOT, AT ANYTIME, TRAVERSE EXISTING MARSH OR VEGETATIVE WETLANDS OUTSIDE MARSH CREATION AREAS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING SAFE ACCESS TO THE PROJECT SITE AND FOR NAVIGATING WITHIN THE LIMITS OF THE PROJECT SITE. THE ENGINEER OR HIS REPRESENTATIVE SHALL MONITOR THE LOCATION OF EQUIPMENT DURING CONSTRUCTION.
3. THE HYDRAULIC DREDGE SHALL ACCESS THE BORROW AREA THROUGH NAVIGABLE WATERWAYS AND SHALL NOT DISTURB EXISTING WATER BOTTOMS UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL MAINTAIN ADEQUATE NAVIGATIONAL EQUIPMENT ON THE HYDRAULIC DREDGE TO AVOID DREDGING IN RESTRICTED AREAS.
4. PIPELINES AND UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL LOCATE AND MARK ALL PIPELINES AND UTILITIES LOCATED WITHIN 150 FT. OF THE WORK PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN THESE MARKERS DURING CONSTRUCTION.
5. PLANS AND SPECIFICATIONS ARE COMPLEMENTARY; WHAT IS REQUIRED BY ONE IS BINDING AS IF REQUIRED BY ALL. CLARIFICATIONS AND INTERPRETATIONS OF, OR NOTIFICATIONS OF MINOR VARIATIONS AND DEVIATIONS IN THE CONTRACT DOCUMENTS, WILL BE ISSUED IN WRITING BY THE ENGINEER.
6. ANY DAMAGE TO EXISTING U.S. COAST GUARD NAVIGATION AIDS OR PRIVATE NAVIGATION AIDS SHALL BE REPAIRED BY THE CONTRACTOR TO U.S. COAST GUARD STANDARDS AT THE EXPENSE OF THE CONTRACTOR.
7. THE MARSH CREATION AREAS AND BORROW AREA MAY BE REVISED BY THE ENGINEER THROUGHOUT THE PERFORMANCE OF THE WORK TO REFLECT CHANGES IN FIELD CONDITIONS.
8. THE CONTRACTOR SHALL PERFORM A MAGNETOMETER SURVEY WITHIN LIMITS OF WORK AND ANY ACCESS CORRIDORS REQUIRED TO ACCESS WORK AREA AS PROPOSED BY THE CONTRACTOR AND AUTHORIZED BY THE ENGINEER. ALL MAG SURVEY WORK TO BE COMPLETED PRIOR TO MOBILIZATION. THE PRECONSTRUCTION SURVEY SHALL SHOW THE TRACK LINES OF THIS MAGNETOMETER SURVEY AND INCLUDE THE COORDINATES, AMPLITUDE, SIGNATURE TYPE AND SIGNATURE WIDTH OF ALL MAGNETOMETER HITS.
9. THE CONTRACTOR IS RESPONSIBLE FOR CONTAINING ALL DREDGED MATERIAL WITHIN THE BOUNDARIES OF THE MARSH CREATION AREAS. DECANTED WATER FROM THE MARSH CREATION AREA SHALL BE DISCHARGED INTO THE ADJACENT MCA'S THROUGH THE EARTHEN CONTAINMENT DIKES.
10. ANY CONSTRUCTION DEBRIS SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED.
11. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY AND ALL DAMAGE TO PRIVATE PROPERTY OUTSIDE OF ALLOWABLE WORK IN THESE DOCUMENTS AT NO COST TO THE OWNER.
12. CONTRACTOR SHALL CONDUCT A FIELD VISIT TO THE SITE PRIOR TO SUBMITTING BID FOR THIS PROJECT AND BECOME AWARE OF SITE CONDITIONS AND OTHER EXISTING ITEMS WHICH MAY AFFECT SCOPE OF WORK.
13. CONTRACTOR TO SUBMIT PROJECT WORK PLAN PRIOR TO START OF CONSTRUCTION. SEE SPECIFICATIONS SECTION XX FOR WORK PLAN REQUIREMENTS, AND AS FURTHER DESCRIBED THROUGHOUT THE SPECIFICATIONS.
14. CONTRACTOR SHALL COMPLY WITH ALL TERMS AND CONDITIONS OF THE PERMIT NO. XXX. PERMIT IS INCLUDED IN THE PROJECT SPECIFICATIONS FOR REFERENCE.
15. BACKGROUND IMAGERY WAS TAKEN IN 2018.

UTILITY NOTES:

1. THE CONTRACTOR SHALL NOTIFY LOUISIANA ONE CALL AT 1-800-272-3020 TO LOCATE PIPELINES AND UTILITIES AT LEAST FIVE (5) WORKING DAYS PRIOR TO PERFORMING THE WORK. THE CONTRACTOR SHALL ALSO NOTIFY THE FOLLOWING PIPELINE OPERATOR AT LEAST FIVE (5) WORKING DAYS PRIOR TO PERFORMING THE WORK:

UTILITY CONTACTS

HAROLD SYLVIZ	BOARDWALK PIPELINES	(504) 415-1864
ROBIN ASVADO	AMERICAN MIDSTREAM	(504) 800-6685
LAURA WILLIAMS	PLAINS PIPELINE	(713) 646-4245
KILEY WILLIAMS	COLONIAL PIPELINES	(409) 291-5655

2. KNOWN PIPELINES AND UTILITIES ARE SHOWN ON THE PLANS. LOCATIONS SHOWN ARE APPROXIMATE, IT IS POSSIBLE THAT SOME UNKNOWN PIPELINES AND UTILITIES MAY EXIST THAT HAVE NOT BEEN SHOWN. THE CONTRACTOR SHALL BE ON THE ALERT FOR SUCH PIPELINES AND UTILITIES, AND SHALL REPORT IMMEDIATELY TO THE ENGINEER THOSE LOCATIONS. DREDGE TEMPLATES SHALL BE MODIFIED AT NO COST TO ACCOUNT FOR FOUND UTILITIES. CONTRACTOR SHALL STOP ALL DREDGING ACTIVITY MINIMUM OF 50' ON EACH SIDE OF THE PIPELINES. CONTRACTOR CANNOT TRAVERSE 50' ON EACH SIDE OF PIPELINES WITH LAND OR MARSH BUGGY EQUIPMENT AT EMA LOCATION WITHOUT PRIOR CONSENT OF PIPELINE OWNER.
3. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

ENVIRONMENTAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH THE SPECIAL PROVISION FOR PROTECTED SPECIES IN THE SPECIFICATIONS.
2. PIPELINE AND EQUIPMENT ACCESS TO MARSH CREATION AREA SHALL BE THROUGH THE CORRIDORS SHOWN. ACCESS FROM ANY OTHER LOCATION IS STRICTLY PROHIBITED.
3. MODIFICATIONS TO THE DREDGE PIPELINE ALIGNMENT SHALL REQUIRE PRIOR APPROVAL FROM THE ENGINEER.

SURVEY NOTES:

1. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) GEOID 12A U.S. SURVEY FEET. ALL HORIZONTAL COORDINATES ARE GIVEN IN THE NORTH AMERICAN DATUM OF 1983 (NAD 83, LOUISIANA STATE PLANE SOUTH ZONE U.S. FEET). ELEVATIONS ARE BASED ON THE SECONDARY MONUMENT "BS-16-SM-02".
2. THE EXISTING ELEVATIONS SHOWN ON THE PLANS ARE BASED ON THE BATHYMETRIC AND TOPOGRAPHIC SURVEYS PERFORMED BETWEEN OCTOBER 2018 AND FEBRUARY 2019, BY ALL SOUTH CONSULTING ENGINEERS, LLC.
3. DATA FROM CRMS GAGE BS03A-02 WAS USED TO CALCULATE THE WATER ELEVATIONS.
4. A GEOTECHNICAL INVESTIGATION WAS PERFORMED BY THE BETA GROUP BETWEEN MAY 2019 AND JUNE 2019. THE SOIL BORING LOCATIONS ARE SHOWN ON THE PLANS. THE GEOTECHNICAL INVESTIGATION REPORT IS PROVIDED IN THE SPECIFICATIONS.

SUMMARY OF ESTIMATED QUANTITIES:

ITEM No.	DESCRIPTION	UNIT	QTY.
1	GENERAL MOBILIZATION AND DEMOBILIZATION	LUMP SUM	1
2	CONSTRUCTION LAYOUT & SURVEY	LUMP SUM	1
3	PERMANENT EMBANKMENT (30 FT BERM, EARTHEN)	CY	265,420
4	GEOCOMPOSITE	SY	181,107
5	ARTICULATED CONCRETE MAT (4 IN THICK)	SY	41,589
6	EARTHEN CONTAINMENT DIKES	LF	18,411
7	GRADE STAKES	EA	75
8	HYDRAULIC DREDGING AND MARSH CREATION	CY	2,936,267
9	GENERAL SIGNAGE	LUMP SUM	1

1. BID QUANTITIES SHOWN ARE FOR BID PURPOSES ONLY AND WERE CALCULATED ACCORDING TO THE CONDITIONS SURVEYED BETWEEN OCTOBER 2018 AND FEBRUARY 2019, THE OWNER RESERVES THE RIGHT TO ADJUST THE QUANTITIES 25% HIGHER OR LOWER WITHOUT ADJUSTMENT OF THE UNIT PRICE.
2. QUANTITY IS BASED ON THE DREDGE CUT VOLUME OF THE BORROW AREA. PAYMENT QUANTITIES WILL BE BASED ON PROCESS SURVEYS OF THE BORROW AREA.

LEGEND-PROFILE/SECTION VIEWS

- MARSH CREATION AREA (MCA)
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION BORROW AREA (MCBA)

LEGEND-PLAN VIEWS

- GAS PIPELINE
- DREDGE PIPELINE
- EQUIPMENT ACCESS CORRIDOR (EAC)
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- EARTHEN CONTAINMENT DIKE BORROW AREA (ECD-BA)
- PERMANENT ARMORED EARTHEN EMBANKMENT BORROWED AREA, ECD-BA
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture

REVISIONS		
DATE:	REMARKS:	APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
6582 PAPWORTH AVENUE
METAIRIE, LA 70006
(504) 322-2765

DATE: 10-10-2019	DESIGNED BY: JDW
SCALE: -	DRAWN BY: MMM
JOB NO. 18034	CHECKED BY: JDW

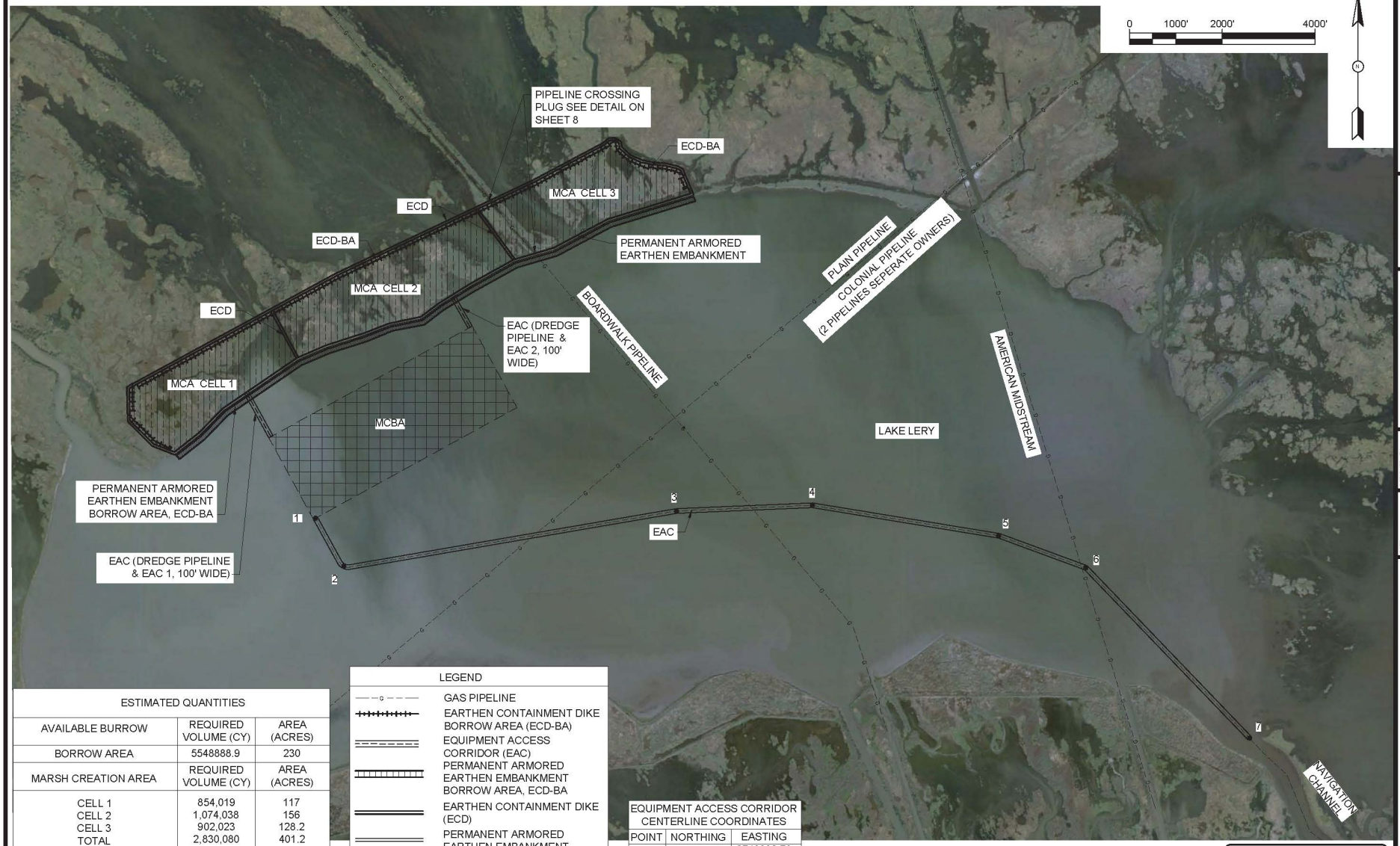
ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION
AND RIM RESTORATION PROJECT
PHASE III

GENERAL NOTES

SHEET NO. 6

N:\2018\18034 – Lake Lery Shoreline and Marsh Restoration\Drawings\Civil\6-General Notes.dwg

GLAZIER – 6/30/2020 9:28:02 AM



ESTIMATED QUANTITIES		
AVAILABLE BURROW	REQUIRED VOLUME (CY)	AREA (ACRES)
BORROW AREA	5548888.9	230
MARSH CREATION AREA	REQUIRED VOLUME (CY)	AREA (ACRES)
CELL 1 CELL 2 CELL 3 TOTAL	854,019 1,074,038 902,023 2,830,080	117 156 128.2 401.2
EARTHEN DIKES	REQUIRED VOLUME (CY)	LENGTH(FT)
EARTHEN CONTAINMENT DIKES, 5' CROWN	106,187	18,411

LEGEND

- GAS PIPELINE
- EARTHEN CONTAINMENT DIKE BORROW AREA (ECD-BA)
- EQUIPMENT ACCESS CORRIDOR (EAC)
- PERMANENT ARMORED EARTHEN EMBANKMENT BORROW AREA, ECD-BA
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

EQUIPMENT ACCESS CORRIDOR CENTERLINE COORDINATES		
POINT	NORTHING	EASTING
1	474409.44	3748906.79
2	473355.82	3749632.42
3	474564.29	3756680.81
4	474686.33	3759610.29
5	474029.27	3763632.38
6	473344.15	3765496.51
7	469675.42	3769026.46

NOTE:
MODIFICATIONS TO THE DREDGE PIPELINE ALIGNMENT SHOWN SHALL REQUIRE PRIOR APPROVAL FROM THE ENGINEER.

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture
838 Village Lane N. • Mandeville, LA 70471 • 985.727.9977

REVISIONS

DATE:	REMARKS:	APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
622 PAPWORTH AVENUE
METAIRIE, LA 70005
(504) 322-2753

DESIGNED BY: JDW
DRAWN BY: MMM
CHECKED BY: JDW
DATE: 10-10-2019
SCALE: 1" = 2000'
JOB NO.: 18034

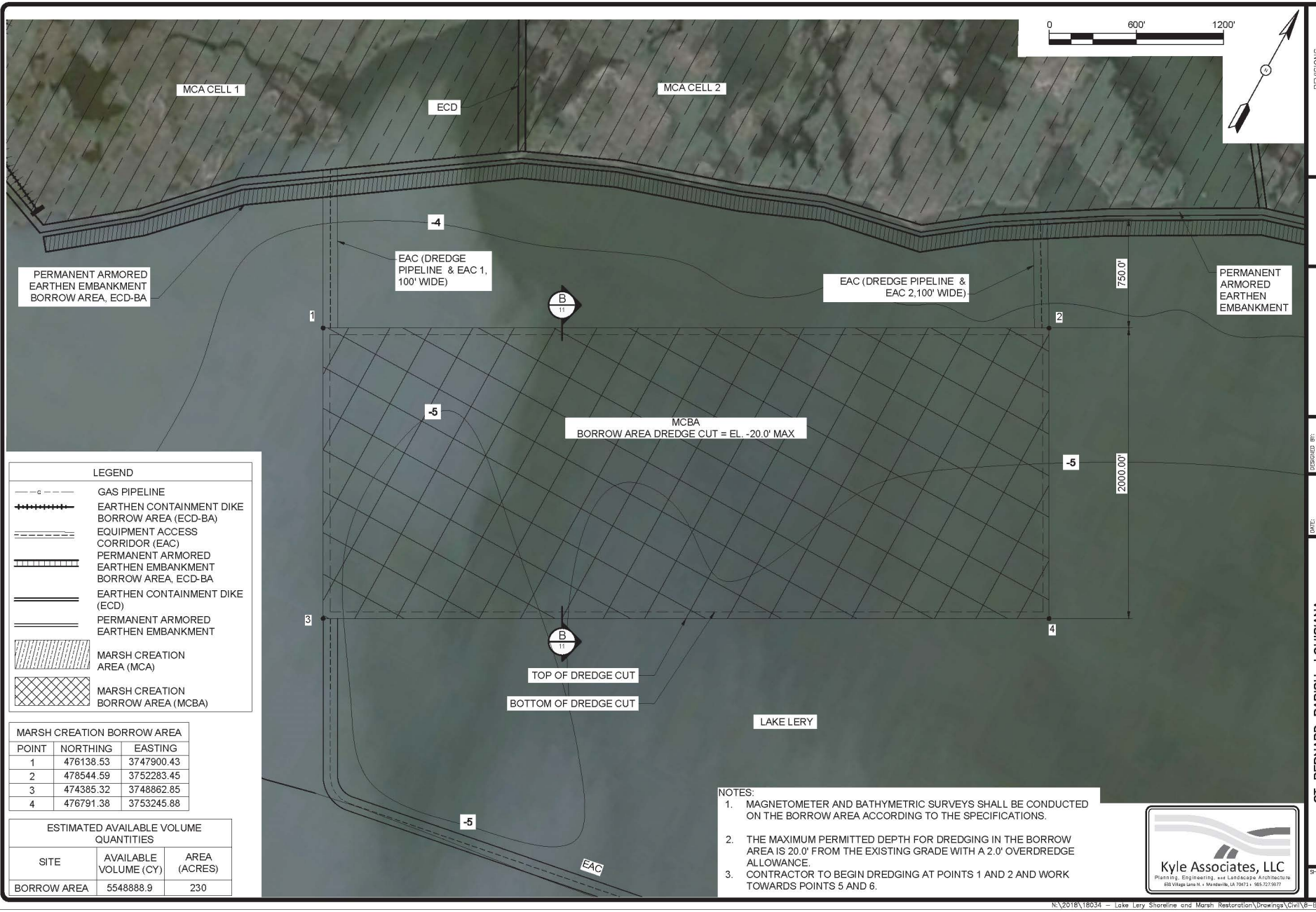
ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION AND RIM RESTORATION PROJECT PHASE III

PROJECT LOCATION MAP

SHEET NO. 7

GLADNER – 6/30/2020 9:30:13 AM

N:\2018\18034 – Lake Lery Shoreline and Marsh Restoration\Drawings\Civil\7–Project Location Map.dwg



LEGEND

- GAS PIPELINE
- EARTHEN CONTAINMENT DIKE BORROW AREA (ECD-BA)
- EQUIPMENT ACCESS CORRIDOR (EAC)
- PERMANENT ARMORED EARTHEN EMBANKMENT BORROW AREA, ECD-BA
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

MARSH CREATION BORROW AREA		
POINT	NORTHING	EASTING
1	476138.53	3747900.43
2	478544.59	3752283.45
3	474385.32	3748862.85
4	476791.38	3753245.88

ESTIMATED AVAILABLE VOLUME QUANTITIES		
SITE	AVAILABLE VOLUME (CY)	AREA (ACRES)
BORROW AREA	5548888.9	230

NOTES:

1. MAGNETOMETER AND BATHYMETRIC SURVEYS SHALL BE CONDUCTED ON THE BORROW AREA ACCORDING TO THE SPECIFICATIONS.
2. THE MAXIMUM PERMITTED DEPTH FOR DREDGING IN THE BORROW AREA IS 20.0' FROM THE EXISTING GRADE WITH A 2.0' OVERDREDGE ALLOWANCE.
3. CONTRACTOR TO BEGIN DREDGING AT POINTS 1 AND 2 AND WORK TOWARDS POINTS 5 AND 6.

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture
838 Village Lane N. • Mandeville, LA 70471 • 985.727.9377

REVISIONS

DATE:	REMARKS:	APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
622 PAPWORTH AVENUE
METAIRIE, LA 70005
(504) 322-2753

DESIGNED BY:	DRAWN BY:	CHECKED BY:
JDW	MMM	JDW

DATE:	SCALE:	JOB NO.
10-10-2019	1" = 600'	18034

ST BERNARD PARISH, LOUISIANA LAKE LERY MARSH CREATION AND RIM RESTORATION PROJECT PHASE III

BORROW AREA LAYOUT

SHEET NO. 8

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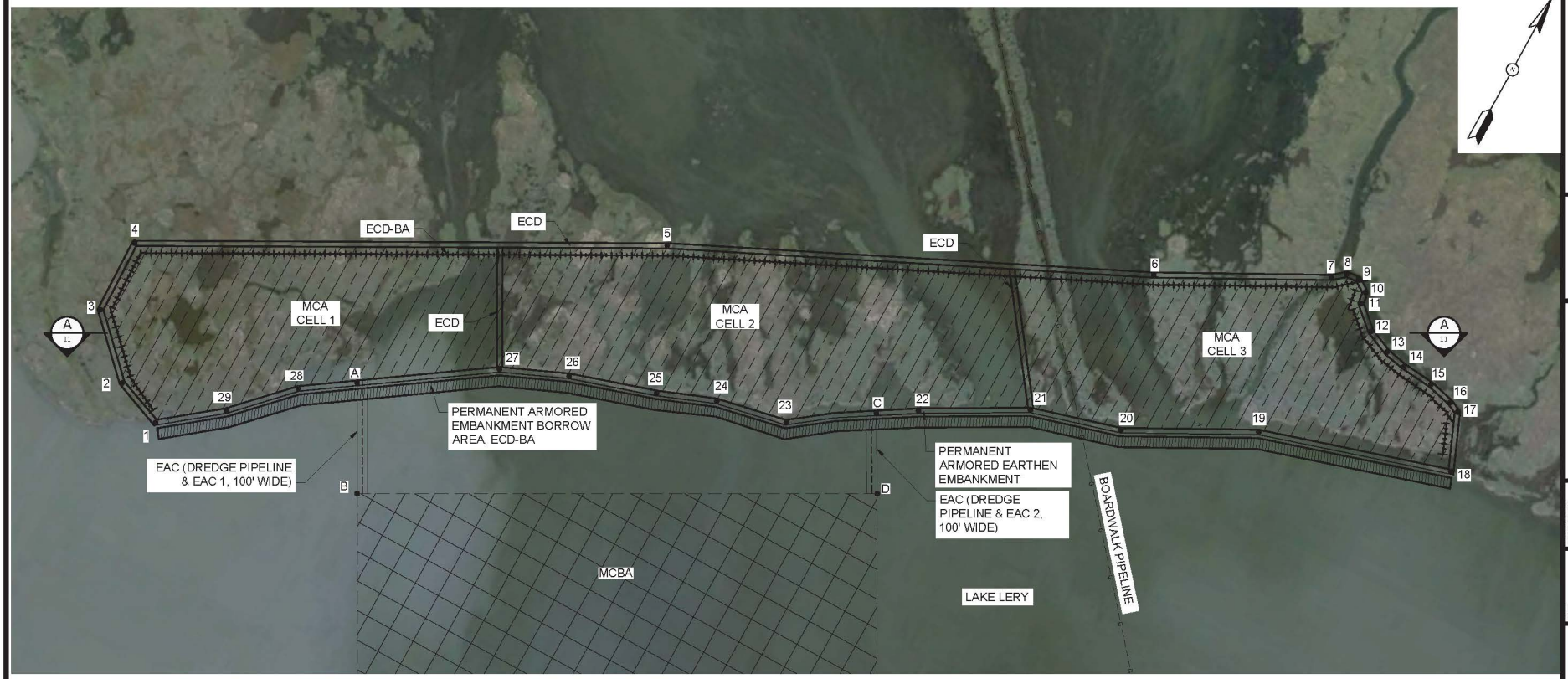
GLADNER – 6/30/2020 9:35:14 AM



CONTAINMENT DIKE CENTERLINE COORDINATES					
POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
1	475,804.06	3,745,870.73	16	481,965.23	3,756,689.96
2	475,983.63	3,745,406.15	17	481,914.70	3,756,796.58
3	476,500.00	3,744,885.41	18	481,384.15	3,757,016.27
4	477,218.18	3,744,867.21	19	480,827.22	3,755,212.40
5	479,660.87	3,749,365.56	20	480,204.93	3,754,043.35
6	481,665.60	3,753,603.75	21	479,957.21	3,753,187.71
7	482,467.20	3,755,112.47	22	479,433.24	3,752,246.75
8	482,563.66	3,755,226.61	23	478,722.77	3,751,185.83
9	482,575.21	3,755,349.13	24	478,581.96	3,750,502.15
10	482,496.37	3,755,464.25	25	478,370.63	3,749,959.09
11	482,384.04	3,755,480.55	26	478,109.93	3,749,141.75
12	482,195.59	3,755,693.49	27	477,843.05	3,748,524.05
13	482,095.42	3,755,924.72	28	476,749.72	3,746,916.81
14	482,053.73	3,756,135.19	29	476,230.58	3,746,411.62
15	482,023.25	3,756,445.72			

ESTIMATED QUANTITIES		
AVAILABLE BURROW	REQUIRED VOLUME (CY)	AREA (ACRES)
BORROW AREA	5548888.9	230
MARSH CREATION AREA	REQUIRED VOLUME (CY)	AREA (ACRES)
CELL 1 CELL 2 CELL 3 CONTAINMENT DIKE INFILL TOTAL	854,019 1,074,038 902,023 106,187 2,936,267	117 156 128.2
EARTHEN DIKES	REQUIRED VOLUME (CY)	LENGTH(FT)
PERMANENT ARMORED EMBANKMENT EARTHEN CONTAINMENT DIKE	265,420	12,677

NOTES:.

1. ECD'S TO BE GAPPED AFTER ACCEPTANCE OF THE MARSH CREATION AREA AS SHOWN ON TYPICAL SECTIONS.
2. MODIFICATIONS TO THE DREDGED PIPELINE ALIGNMENT SHOWN SHALL REQUIRE PRIOR APPROVAL FROM THE ENGINEER.

PIPELINE & EQUIPMENT CORRIDOR CENTERLINE COORDINATES		
POINT	NORTHING	EASTING
A	477,070.33	3,747,388.12
B	476,138.19	3,747,899.82
C	479,220.17	3,751,901.83
D	478,544.25	3,752,282.84

LEGEND

- GAS PIPELINE
- EARTHEN CONTAINMENT DIKE BORROW AREA (ECD-BA)
- EQUIPMENT ACCESS CORRIDOR (EAC)
- PERMANENT ARMORED EARTHEN EMBANKMENT BORROW AREA, ECD-BA
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

0 1000' 2000'

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture
638 Village Lane N. • Mandeville, LA 70471 • 985.727.5377

REVISIONS

DATE:	REMARKS:	APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
622 PAPWORTH AVENUE
METAIRIE, LA 70005
(504) 322-2763

DESIGNED BY: JDW
DRAWN BY: MMM
CHECKED BY: JDW
DATE: 10-10-2019
SCALE: 1" = 1000'
JOB NO. 18034

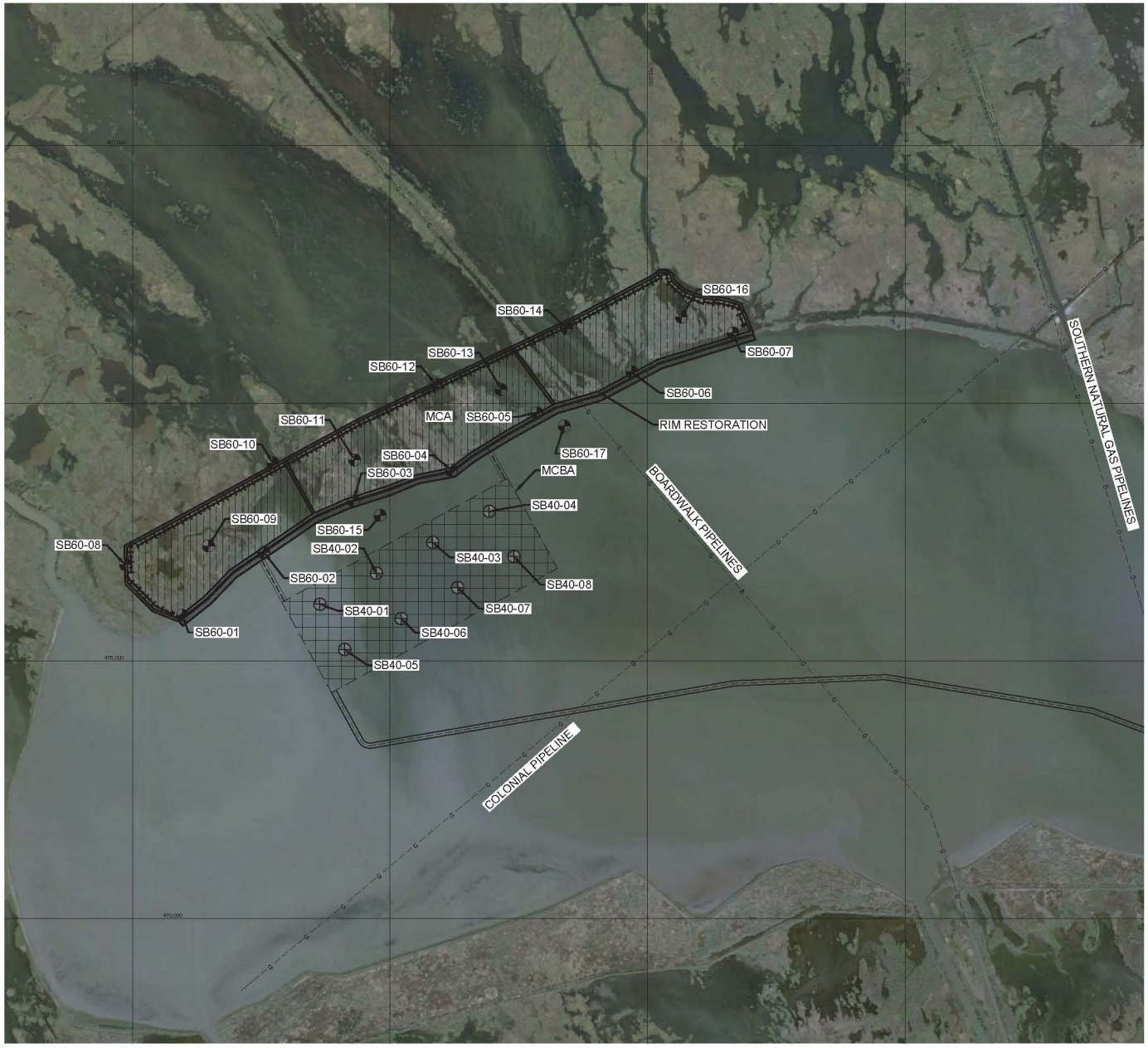
ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION
AND RIM RESTORATION PROJECT
PHASE III

MARSH AREA LAYOUT

SHEET NO. 9

GLADNER – 8/30/2020 9:46:49 AM

N:\2018\18034 – Lake Lery Shoreline and Marsh Restoration\Drawings\Civil\8-MarshAreaLayout.dwg



0 1000' 2000' 4000'

N

SOIL BORING LOCATION TABLE

BORING NO.	NORTHING	EASTING
SB40-01	476097.30	3748635.24
SB40-02	476698.82	3749731.00
SB40-03	477300.33	3750826.75
SB40-04	477901.85	3751922.51
SB40-05	475220.70	3749116.45
SB40-06	475822.21	3750212.21
SB40-07	476423.73	3751307.97
SB40-08	477025.24	3752403.72
SB60-01	475886.89	3745965.77
SB60-02	477110.22	3747544.97
SB60-03	478108.13	3749281.26
SB60-04	478698.59	3751192.37
SB60-05	479811.96	3752853.27
SB60-06	480613.04	3754685.82
SB60-07	481364.00	3756653.13
SB60-08	476869.21	3744860.95
SB60-09	477228.80	3746474.92
SB60-10	478841.38	3747718.40
SB60-11	478900.62	3749310.65
SB60-12	480361.93	3750890.19
SB60-13	480266.78	3752151.66
SB60-14	481451.60	3753422.56
SB60-15	477822.94	3749805.94
SB60-16	481669.48	3755649.90
SB60-17	479554.95	3753379.83

LEGEND

- 40' BORING (8 TOTAL)
- 60' BORING (17 TOTAL)
- GAS PIPELINE
- EARTHEN CONTAINMENT DIKE BORROW AREA (ECD-BA)
- EQUIPMENT ACCESS CORRIDOR (EAC)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture
638 Village Lane N. • Mandeville, LA 70471 • 985.727.9977

REVISIONS

DATE:	REMARKS:	APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
622 PAPWORTH AVENUE
METAIRIE, LA 70005
(504) 522-2783

DESIGNED BY: JDW
DRAWN BY: MMM
CHECKED BY: JDW
DATE: 10-10-2019
SCALE: 1" = 2000'
JOB NO.: 18034

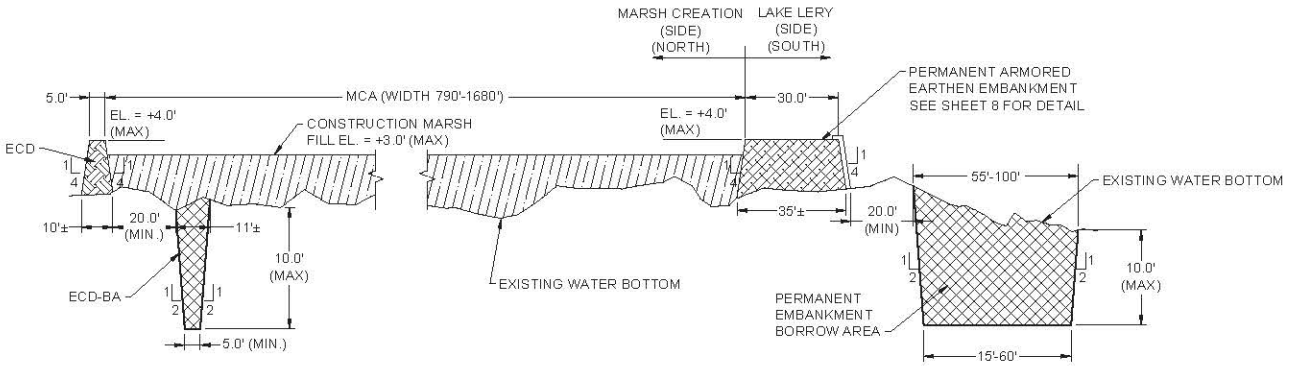
ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION AND RIM RESTORATION PROJECT PHASE III

SOIL BORING LOCATION MAP

SHEET NO. 10

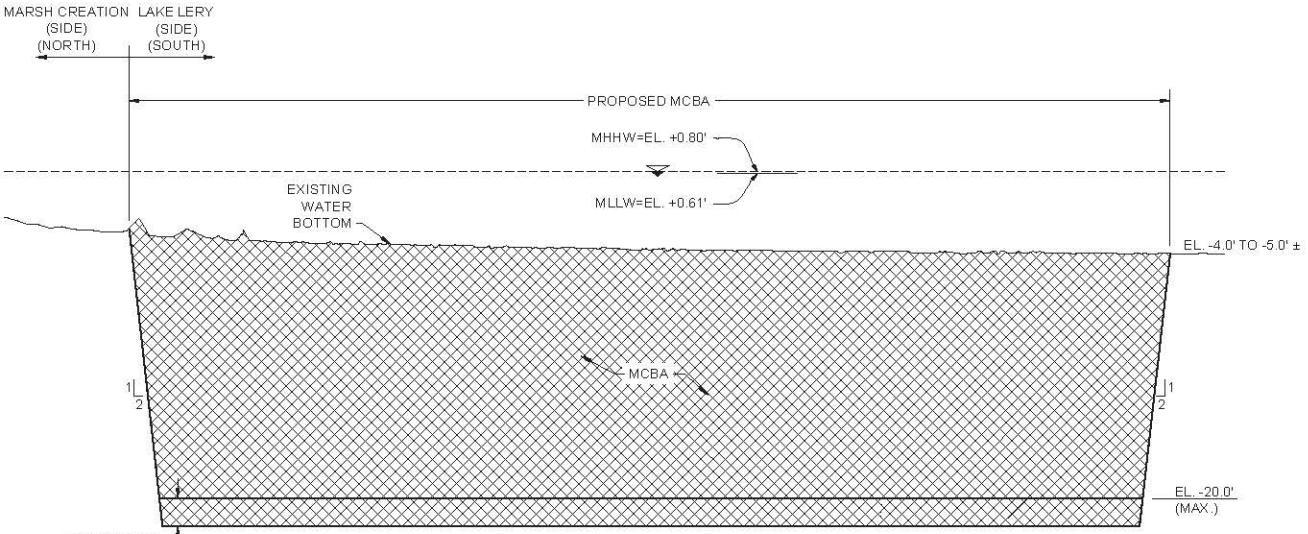
GLADNER - 6/30/2020 9:51:29 AM

N:\2018\18034 - Lake Lery Shoreline and Marsh Restoration\Drawings\Civil\10-Soil Boring Map.dwg



A/9 TYPICAL MARSH CREATION AREA SECTION

SCALE: 1"=40' HORZ
1"=10' VERT



B/8 TYPICAL MARSH CREATION BORROW AREA SECTION

SCALE: 1"=40' HORIZ.
1"=10' VERT

LEGEND

- EARTHEN CONTAINMENT DIKE (ECD)
- PERMANENT ARMORED EARTHEN EMBANKMENT
- MARSH CREATION AREA (MCA)
- MARSH CREATION BORROW AREA (MCBA)

NOTES:

1. THE VERTICAL TOLERANCE FOR THE MARSH FILL AND CONTAINMENT DIKE SHALL BE 6 INCHES FROM MAXIMUM.
2. THE DREDGED DEPTH AND SLOPE OF THE BORROW AREA SHALL BE RELATIVE TO EXISTING GRADE.
3. THE EARTHEN CONTAINMENT DIKES SHALL BE FROM CONSTRUCTION MARSH FILL ELEVATION TO EXISTING GRADE AFTER ACCEPTANCE OF MARSH CREATION AREA.

REVISIONS

DATE:	REMARKS:	APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
6838 PAPWORTH AVENUE
BATON ROUGE, LA 70806
(225) 922-6783

DESIGNED BY:	DRAWN BY:	CHECKED BY:
JDW	MMM	JDW

DATE:	SCALE:	JOB NO.
10-10-2019		18034

ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION AND RIM RESTORATION PROJECT PHASE III

TYPICAL SECTIONS

SHEET NO.
11

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture
933 Village Lane N. - Mandeville, LA 70471 - 985.727.3577

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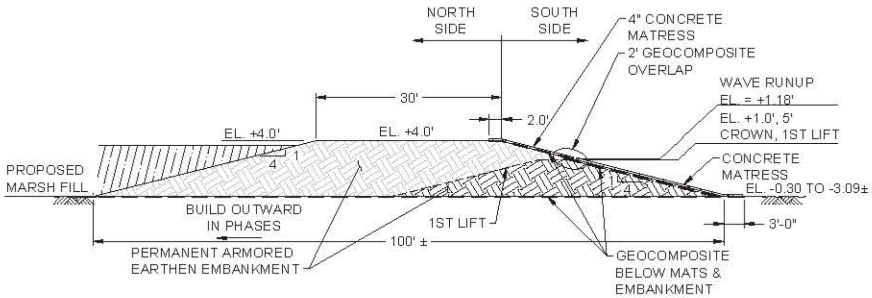
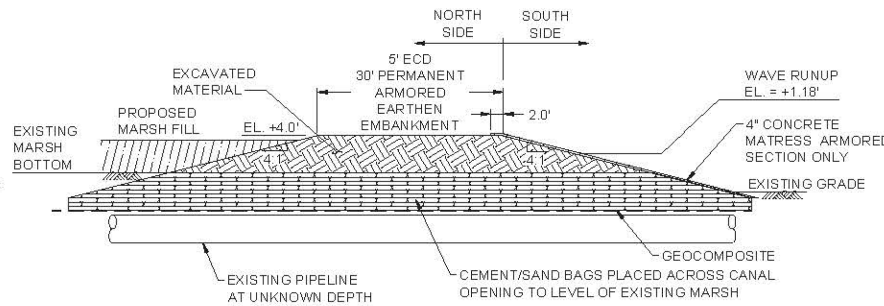
GLAGNIER - 6/30/2020 11:13:13 AM



NOTE:

1. SEE SPECIFICATIONS FOR REQUIRED SEQUENCE OF CONSTRUCTION.

TYPICAL SECTION
CONCRETE MATTRESS (MARSH AND OPEN WATER)
SCALE: 1"=20'

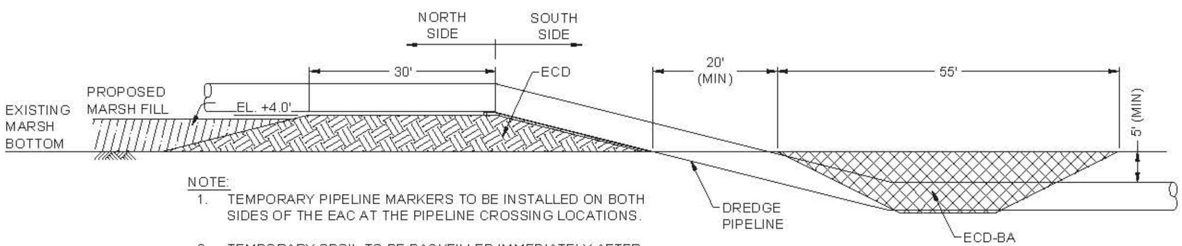


NOTE:

1. PLUGS ON DIKES AND EMBANKMENT IN PROJECT WILL MATCH SECTION DIMENSIONS OF ADJACENT SECTIONS.

TYPICAL SECTION - PIPELINE CROSSING PLUG FOR
ECD OR PERMANENT ARMORED EARTHEN EMBANKMENT
SCALE 1"=20'

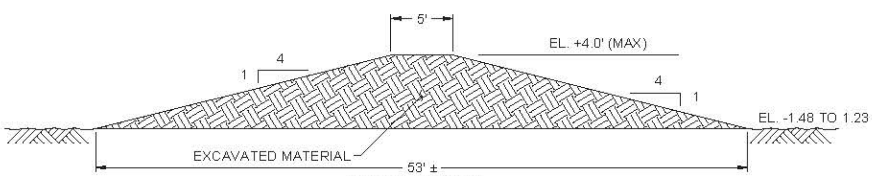
LEGEND
EARTHEN CONTAINMENT DIKE (ECD)
PERMANEMT ARMORED EARTHEN EMBANKMENT
MARSH CREATION AREA (MCA)
MARSH CREATION BORROW AREA (MCBA)



NOTE:

1. TEMPORARY PIPELINE MARKERS TO BE INSTALLED ON BOTH SIDES OF THE EAC AT THE PIPELINE CROSSING LOCATIONS.
2. TEMPORARY SPOIL TO BE BACKFILLED IMMEDIATELY AFTER INSTALLATION AND REMOVAL OF DREDGE PIPELINE IN TRENCH.

TYPICAL SECTION OF DREDGE PIPELINE
SCALE 1"=20'



TYPICAL SECTION
EARTHEN CONTAINMENT DIKE (ECD)
SCALE: 1"=10'

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture

REVISIONS | DATE: | REMARKS: | APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.

DESIGNED BY: JDW | DRAWN BY: MMM | CHECKED BY: JDW

DATE: 10-10-2019 | SCALE: | JOB NO. 18034

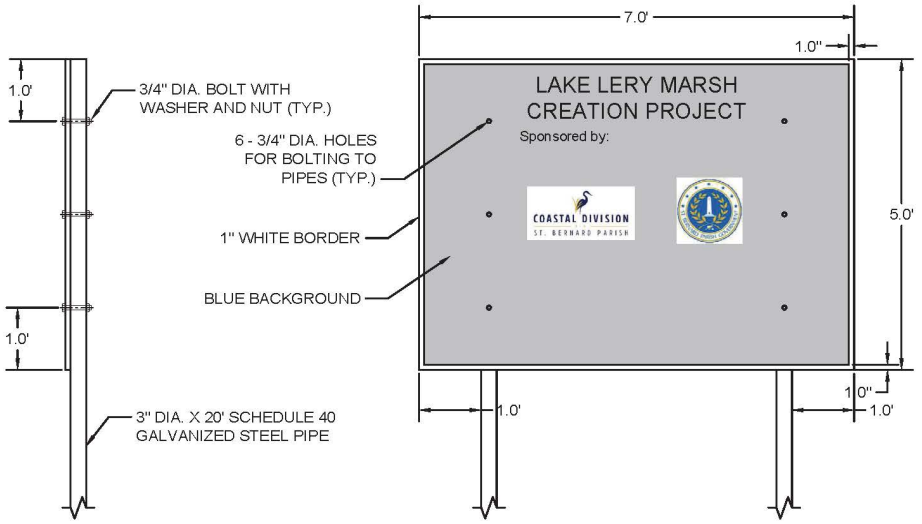
ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION
AND RIM RESTORATION PROJECT
PHASE III

TYPICAL SECTIONS

SHEET NO. 12

GLADNER - 7/1/2020 6:16:03 PM

N:\2018\18034 - Lake Lery Shoreline and Marsh Restoration\Drawings\Civil\ELOS\11-12-Typical Section.dwg

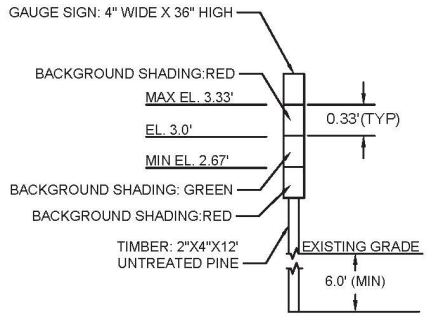


SIDE VIEW
NOT TO SCALE

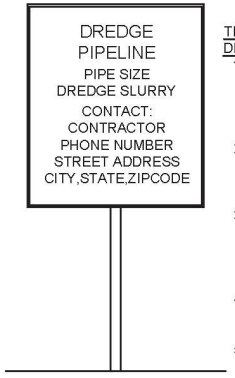
PLAN VIEW
NOT TO SCALE

SIGNAGE DETAIL
NOT TO SCALE

NOTES:
1. PROJECT FUNDING SIGN SHALL BE MOUNTED ON TWO (2), THREE (3) INCH DIAMETER BY TWENTY (20) FOOT LONG, SCHEDULE 40 GALVANIZED STEEL PIPES EMBEDDED TO A DEPTH OF AT LEAST TEN (10) FOOT. SIGN SHALL BE ATTACHED TO PIPES WITH SIX (6), 3/4" DIA.X4" A307 (HDG) BOLTS WITH WASHERS AND NUTS.
2. BOTTOM EDGE OF SIGN SHALL BE APPROXIMATELY FIVE (5) FOOT ABOVE THE GROUND.
3. SIGN TEMPLATE TO BE INCLUDED IN SPECIFICATIONS.

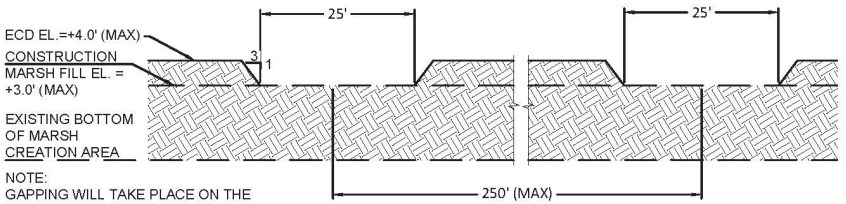


GRADE STAKE DETAIL
NOT TO SCALE



TEMPORARY PIPELINE MARKER DETAIL NOTES:
1. MARKERS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH LADOTD 2006 STANDARD SPECIFICATION 729.
2. A SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF THE MARKERS.
3. MARKERS SHALL BE INSTALLED PRIOR TO INSTALLATION OF THE DREDGE PIPELINE AND REMOVED AFTER THE REMOVAL OF THE DREDGE PIPELINE.
4. MARKERS SHALL BE INSTALLED ON BOTH BANKS OF BAYOU BONFOUCA.
5. CHANNEL MARKERS TO BE AS REQUIRED BY U.S.C.G.

TEMPORARY PIPELINE AND CHANNEL MARKER DETAIL
NOT TO SCALE



NOTE:
GAPPING WILL TAKE PLACE ON THE NORTHERN, EASTERN, AND WESTERN CONTAINMENT DIKES ONLY, AND WILL BE 25' WIDE AT 250'

DETAIL OF GAPS IN ECD
SCALE: NOT TO SCALE

REVISIONS
DATE: REMARKS: APP'D

ALL SOUTH CONSULTING ENGINEERS, L.L.C.
622 PAPWORTH AVENUE
METAIRIE, LA 70005
(504) 352-2769

DESIGNED BY: JDW
DRAWN BY: MAM
CHECKED BY: JDW
DATE: 10-10-2019
SCALE:
JOB NO. 18034

ST BERNARD PARISH, LOUISIANA
LAKE LERY MARSH CREATION
AND RIM RESTORATION PROJECT
PHASE III

DETAILS

SHEET NO. 13

Kyle Associates, LLC
Planning, Engineering, and Landscape Architecture
638 Village Lane N. • Mandeville, LA 70471 • 985.727.9377

GLADNER – 6/30/2020 10:43:50 AM

N:\2018\18034 – Lake Lery Shoreline and Marsh Restoration\Drawings\Civil\13–Details.dwg

Appendix D

Agency Coordination and Correspondence

BILLY NUNGESSER
LIEUTENANT GOVERNOR

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT

KRISTIN P. SANDERS
ASSISTANT SECRETARY

November 30, 2020

ST. BERNARD PARISH GOVERNMENT
c/o ELOS ENVIRONMENTAL, LLC
43177 E. PLEASANT RIDGE ROAD
HAMMOND, LA 70403
Attn: Flynn Daigle

Re: Lake Lery Marsh Creation and Rim Restoration Project Ph III
St. Bernard Parish. LA
CUP No. P20200531

Dear Mr. Daigle,

This is in response to your submittal received by our office on November 2, 2020 regarding the above-referenced project. It is the opinion of the State Historic Preservation Office that the proposed project may impact unrecorded archaeological sites given the location of the project in a culturally sensitive area. We have no concerns for the borrow area and the portions of the project already surveyed for cultural resources.

Therefore, we are recommending a Phase I cultural resources survey of the project area. A copy of our contracting archaeologist list can be found on our website at: https://www.crt.state.la.us/cultural-development/archaeology/CRM/databases/contracting-archaeologists/index

If you have any questions, please contact Rachel Watson at rwatson@crt.la.gov or Abigail Bleichner at ableichner@crt.la.gov.

Sincerely,

Kristin P. Sanders

Kristin Sanders
State Historic Preservation Officer

From:	Crockett, Jakob
To:	Carroll, Annette; Schexnayder, Jamie; FEMA-LIRO-NDG-BRIC-FEMA-EHP
Subject:	FW: Section 106: St. Bernard Parish / Lake Lery Marsh Creation and Rim Restoration Project Phase III, Delacroix, LA (FEMA-EMT-2020-FM-053-007)
Date:	Thursday, August 17, 2023 10:14:13 AM
Attachments:	image001.png

From: Lindsey Bilyeu <lbilyeu@choctawnation.com>
Sent: Thursday, August 17, 2023 10:12 AM
To: Crockett, Jakob <jakob.crockett@fema.dhs.gov>
Subject: RE: Section 106: St. Bernard Parish / Lake Lery Marsh Creation and Rim Restoration Project Phase III, Delacroix, LA (FEMA-EMT-2020-FM-053-007)

Mr. Crockett,

The Choctaw Nation of Oklahoma thanks FEMA for the correspondence regarding the above referenced project. St. Bernard Parish, LA lies in our area of historic interest. The Choctaw Nation is unaware of any cultural or sacred sites in the immediate project area. Our office concurs with the finding of "no historic properties affected". However, we ask that work be stopped, and our office contacted immediately, in the event that Native American artifacts or human remains are encountered.

If you have any questions, please contact me.

Thank you,

Lindsey D. Bilyeu, M.S.
Program Coordinator 2
Choctaw Nation of Oklahoma
Historic Preservation Department
P.O. Box 1210
Durant, OK 74702
Office: (580) 642-8377
Cell: (580) 740-9624

From: Crockett, Jakob <jakob.crockett@fema.dhs.gov>
Sent: Wednesday, July 12, 2023 11:41 AM
To: Lindsey Bilyeu <lbilyeu@choctawnation.com>
Cc: Spann, Tiffany <Tiffany.Spann@fema.dhs.gov>; Scoggin, Robert <robert.w.scoggin@fema.dhs.gov>; Carroll, Annette <annette.carroll@fema.dhs.gov>; FEMA-LIRO-EHP-HMA <fema-liro-ehp-hma@fema.dhs.gov>

Subject: Section 106: St. Bernard Parish / Lake Lery Marsh Creation and Rim Restoration Project Phase III, Delacroix, LA (FEMA-EMT-2020-FM-053-007)

Dear Ms. Bilyeu:

Attached, please find FEMA's Section 106 consultation letter regarding the below project:

RE: **Section 106 Review Consultation, Flood Mitigation Assistance (FMA), FEMA-EMT-2020-FM-053-007**
Applicant: St. Bernard Parish
Undertaking: Lake Lery Marsh Creation and Rim Restoration Project Phase III, Delacroix, LA (29.815404, -89.830977)
Determination: No Historic Properties Affected

Also attached is a copy of the Phase I cultural resources survey report referenced in the consultation letter.

Your prompt review is greatly appreciated. Should you have any questions or need additional information regarding this undertaking, please contact the names listed on the letter or Tiffany Spann-Winfield, Environmental Liaison Officer, at (504) 218-6800, or tiffany.spann@fema.dhs.gov.

Sincerely,
Jakob

Jakob Crockett, PhD
Archeologist | Environmental and Historic Preservation | LIRO
Mobile: (202) 286-6275
jakob.crockett@fema.dhs.gov

Federal Emergency Management Agency
fema.gov

USDA
United States Department of Agriculture

August 1, 2023

Tiffany Spann
Environmental Liaison Officer – FEMA
Region VI – Louisiana Recovery Office
1500 Main Street
Baton Rouge, LA 70802

RE: Scoping Notification/Solicitation of Views
Lake Lery Marsh Creation and Rim Restoration Phase III
Supplemental Environmental Assessment

Tiffany:

I have reviewed the above referenced project for potential requirements of the Farmland Protection Policy Act (FPPA) and potential impact to Natural Resources Conservation Service projects in the immediate vicinity.

Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

The project map and narrative submitted with your request indicates that the proposed construction areas related to this project will not impact prime farmland and therefore are exempt from the rules and regulations of the Farmland Protection Policy Act (FPPA)—Subtitle I of Title XV, Section 1539-1549. Furthermore, we do not predict impacts to NRCS work in the vicinity. For specific information about the soils found in the project area, please visit our Web Soil Survey at the following location: http://websoilsurvey.nrcs.usda.gov/

Please direct all future correspondence to me at the address shown below.

Respectfully,

Brandon Waltman
Assistant State Soil Scientist

Attachment

Natural Resources Conservation Service
State Office
3737 Government Street
Alexandria, Louisiana 71302
Voice: (337) 290-4720 Fax: (844) 325-6947

Helping People Help the Land

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 7/28/23
Name Of Project Lake Lery Marsh Creation and Rim Restoration Ph	Federal Agency Involved FEMA
Proposed Land Use Marsh restoration and embankment constructior	County And State St. Bernard Parish, Louisiana
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 7/28/23

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☐	No ☑	Acres Irrigated	Average Farm Size
Major Crop*(s)*	Farmable Land In Govt. Jurisdiction Acres: %		Amount Of Farmland As Defined in FPPA Acres: %	
Name Of Land Evaluation System Used	Name Of Local Site Assessment System		Date Land Evaluation Returned By NRCS **8/1/23**	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	0.0	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*		0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160	0	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100		0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	0	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side)

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Clear Form

Form AD-1006 (10-83)

JOHN BEL EDWARDS
GOVERNOR

THOMAS F. HARRIS
SECRETARY

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

08/07/2023

FEDERAL EMERGENCY MANAGEMENT AGENCY
1500 MAIN STREET
BATON ROUGE, LA 70802

RE: P20230620, Solicitation of Views
FEDERAL EMERGENCY MANAGEMENT AGENCY
Description: The St. Bernard Parish Government submitted a Flood Mitigation Assistance (FMA) grant application requesting funding for the Lake Lery Marsh Creation and Rim Restoration Phase III. The proposed project entails restoring approximately 401.2 acres of marsh and constructing 2.38 miles of permanent armored earthen embankment around the marsh along the northwest edge of Lake Lery.
Location: Lat. 29-48-32.28 N, Long. 89-51-8.064 W; Lake Lery.
Saint Bernard Parish, LA

Dear Tiffany Spann-Winfield

We have received your Solicitation of Views for the above referenced project, which has been found to be inside the Louisiana Coastal Zone. In order for us to properly review and evaluate this project, we require that a complete Coastal Use Permit Application packet (Joint Application Form, locality maps, project illustration plats with plan and cross section views, etc.) along with the appropriate application fee be submitted to our office. Using your complete application, we can provide you with an official determination, and begin the processing of any Coastal Use Permit that may be required for your project. You may obtain a free application packet by calling our office at (225) 342-7591 or (800)-267-4019, or by visiting our website at

Applying for a Coastal Use Permit

We recommend that, during your planning process, you make every effort to minimize impacts to vegetated wetlands. As our legislative mandate puts great emphasis on avoiding damages to these habitats, in many cases the negotiations involved in reducing such disturbances and developing the required mitigation to offset the lost habitat values delay permit approval longer than any other factor. Additionally, the following sensitive features may require additional processing time by the appropriate resource agencies:
- Chitimacha Aboriginal Grounds
- State Water Bottoms
- CPRA Projects BS-0003-A, BS-0016, BS-0008, BS-0024
- Marsh Mitigation Plans P19830303, P19830304, P19930304

Should you desire additional consultation with our office prior to submitting a formal application, we recommend that you call and schedule a pre-application meeting with our Permit Section staff. Such a preliminary meeting may be helpful, especially if a permit application that is as complete as possible is presented for evaluation at the pre-application meeting.

If you have any questions, would like to request an application packet or would like to schedule a pre-application meeting, please contact Taylor Ross at (225) 342-3781 or Taylor.Ross2@la.gov.

Sincerely,

Kyle F. Balkum
Administrator

Kyle F. Balkum/tr

Attachments

Final Plats:

1) P20230620 Final Plats 07/31/2023

cc: Jordan Cobbs, OCM w/plats
Samuel Welty, CMD/FI w/plats
Saint Bernard Parish w/plats

JOHN BEL EDWARDS
GOVERNOR

ROBERT SHADOIN
SECRETARY

PO BOX 98000 | BATON ROUGE LA | 70898

Date	August 3, 2023
Name Company	Brandon Webb
Street Address	FEMA
City, State Zip	1500 Main Street
Project Project	Baton Rouge, LA 70802
ID Invoice	Lake Lery Marsh Creation and Rim Restoration Phase III
Number	322023
	23080307

Personnel of the Louisiana Wildlife Diversity Program (WDP) have reviewed the preliminary data for the captioned project. After careful review of our database, no impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state wildlife refuges or wildlife management areas are known to occur at the specified site within Louisiana's boundaries.

The Wildlife Diversity Program (WDP) has compiled data on rare, endangered, or otherwise significant plant and animal species, plant communities, and other natural features throughout the state of Louisiana. WDP reports summarize the existing information known at the time of the request regarding the location in question. The quantity and quality of data collected by the WDP are dependent on the research and observations of many individuals. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Louisiana have not been surveyed. This report does not address the occurrence of wetlands at the site in question. WDP reports should not be considered final statements on the biological elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. WDP requires that this office be acknowledged in all reports as the source of all data provided here. If at any time WDP tracked species are encountered within the project area, please contact the WDP Data Manager at 225-763-3554. If you have any questions, or need additional information, please call 337-735-8734.

Sincerely,

for Carolyn Michon

Digitally signed by Carolyn Michon
Date: 2023.08.03 18:36:00 -05'00'

Nicole Lorenz, Program Manager
Wildlife Diversity Program

Appendix E

FONSI

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region 6
Louisiana Integration and Recovery Office
1500 Main Street
Baton Rouge, Louisiana 70802

FINDING OF NO SIGNIFICANT IMPACT
FOR THE LAKE LERY MARSH CREATION AND RIM RESTORATION PHASE III PROJECT IN THE CITY OF DELACROIX, ST. BERNARD PARISH, LOUISIANA FLOOD MITIGATION ASSISTANCE PROGRAM
EMT-2020-FM-053-0007

BACKGROUND

The St. Bernard Parish Government, the Sub-grantee, through the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) (Grantee), has requested federal funding through the Federal Emergency Management Agency's (FEMA) Flood Mitigation Assistance (FMA) grant program to provide flood and high wind disaster risk-reduction activities along the northwest shore of Lake Lery.

Lake Lery is in the southwestern corner of St. Bernard Parish, southeast of the city of New Orleans, Louisiana, south of the hamlet of St. Bernard, Louisiana, and west of the city of Delacroix, Louisiana. Lake Lery is a shallow, inland tidal bay that is part of the Breton Sound basin estuary connected to Bayou Mandeville in the northwest and Bayou Lery in the southeast.

In 2005, Hurricane Katrina significantly altered the shoreline of Lake Lery and the surrounding coastal marsh by separating the contiguous marsh into multiple fragmented segments. The fragmented condition of the marsh has allowed wave action on the lake to penetrate deeper into the existing marsh, causing further damage and degradation, and a greater potential for flooding in the nearby communities. The purpose of the proposed project is to reduce flood hazards in St. Bernard Parish, specifically the areas north of Lake Lery, including the St. Bernard hamlet. The project is needed to protect life and reduce the likelihood of flood damage to property.

The alternatives considered included: 1) the No Action alternative, and 2) the Proposed Action, the Lake Lery Marsh Creation and Rim Restoration Phase III Project.

The Proposed Action would implement flood and high wind disaster risk-reduction activities along the northwest shore of Lake Lery, and in adjacent marshlands and a dredge-borrow area in Lake Lery. Components of this project involve constructing a permanent armored earthen embankment between the marsh and the northwestern edge of Lake Lery and restoration of adjacent marsh by utilizing dredged material from the bottom of Lake Lery to raise the elevation to a level that will support marsh vegetation. A complete description of these alternatives is included in the Supplemental Environmental Assessment (SEA), which is incorporated by reference in this document.

The Louisiana Trustee Implementation Group (TIG), with the National Oceanic and Atmospheric Administration (NOAA) as the federal lead agency, prepared an environmental assessment (EA) for projects that would restore ecological systems injured or lost because of the Deepwater Horizon oil spill. Published in March 2022, the Louisiana TIG Draft Restoration Plan and Environmental Assessment #8: Wetlands, Coastal, and Nearshore Habitats, was tiered off the Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement and included the Lake Lery Marsh Creation and Rim Restoration Phase III Project. However, the TIG EA did not fully evaluate the Proposed Action and FEMA provided additional information through the SEA. The FEMA SEA is tiered off the TIG EA and was prepared in accordance with FEMA Instruction 108-1-1 and the Department of Homeland Security Instruction 023-01-001-01, Rev. 1, pursuant to Section 102 of the National Environmental Policy Act, as implemented by the regulations promulgated by the President's Council on Environmental Quality (40 Code of Federal Regulations [CFR], Parts 1500-1508). The purpose of the SEA was to analyze the potential environmental impacts associated with the proposed work and alternatives that were not considered or previously analyzed in the TIG EA, and to determine whether to prepare an Environmental Impact Statement (EIS) or Finding of No Significant Impact (FONSI).

FINDINGS

FEMA has evaluated the proposed project for significant adverse impacts on water resources (wetlands and floodplains), biological resources (threatened and endangered species and designated critical habitats, vegetation, fish and wildlife), cultural resources, socioeconomic resources (environmental justice), and hazardous materials. Other resources were sufficiently evaluated in the TIG EA. The results of these evaluations as well as consultations and input from other federal and state agencies are presented in the SEA.

The Proposed Action as described in the SEA would not significantly adversely impact wetlands, floodplains, threatened or endangered species, historic properties, minority and low-income populations, or hazardous materials. During construction, short-term, minor to moderate impacts on wetlands, floodplains, vegetation, fish and wildlife, and listed species are anticipated. There would be long-term beneficial effects on wetlands, floodplains, vegetation, fish and wildlife, listed species, and hazardous materials. No long-term adverse impacts are anticipated. All adverse impacts require conditions to minimize and mitigate impacts on the proposed project site and surrounding areas.

CONDITIONS AND MITIGATION MEASURES

The following conditions must be met as part of the implementation of the project. Failure to comply with these conditions may jeopardize federal funds.

- Comply with all project-related conditions within the Louisiana Trustee Implementation Group Environmental Assessment and the National Oceanic and Atmospheric Administration's Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement.
- Comply with all conditions within U.S. Army Corps of Engineers (USACE) Clean Water Act (CWA) permit MVN 2018-01345 ES.
- Comply with all conditions within the Louisiana Department of Natural Resources Office of Coastal Management coastal permit (CUP P20200531).

- Coordinate with the local floodplain manager prior to commencing work.
- Comply with all U.S. Fish and Wildlife Service Standard Manatee Conditions for In-Water Activities.
- Implement all General Avoidance and Minimization Measures listed in this project's Biological Assessment.
- Upon discovery of the presence of previously unknown historic and/or prehistoric cultural resources or archeological remains, all work must cease and Sub-grantee must notify USACE and their contacts at FEMA, who will in turn contact FEMA Environmental Planning and Historic Preservation and the State Historic Preservation Office. Work will be suspended and FEMA and USACE will initiate the federal, Tribal, and state (SHPO) coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places. Sub-grantee will not proceed with work until the SHPO completes review and all consultation as appropriate (Inadvertent Discovery Clause). Work may be reactivated or modified through specific conditions if necessary, or if it is determined that the activity will have no adverse effect on cultural resources. The USACE authorization will be revoked if it is determined that cultural resources would be adversely affected, and an individual permit may be necessary.
- If human remains or unmarked graves are discovered, the parish will immediately cease work, secure the area, and contact law enforcement, FEMA, and the Louisiana Division of Archaeology.
- There shall be no unreasonable interference with navigation by the existence or use of the activity that USACE authorized. The Sub-grantee will, at its expense, install and maintain any safety lights, signals, and signs prescribed by the United States Coast Guard, through regulations or otherwise, on equipment used in performing work under USACE authorization.
- No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species which normally migrate through the area, unless the activity's primary purpose is to block or impound water.
- If the authorized activity involves the installation of submerged pipelines across navigable waters of the United States, the following is applicable: The National Ocean Service (NOS) has been notified of this USACE authorization. Grantee must notify NOS and USACE in writing, at least two weeks before beginning work and upon completion of the activity authorized by USACE. Notification of completion must include a drawing which certifies the location and configuration of the completed activity (a certified permit drawing may be used). Notification to NOS will be sent to the following address: National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910-3282.
- Because the project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.,) in a waterway, Grantee is advised to notify the Eighth Coast Guard District so that a Notice to Mariners, if required, may be prepared. Notification with a copy of USACE authorization and drawings should be mailed to the

Commander (dpw), Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, about 1 month before planning to start work. Telephone inquiries can be directed to the Eighth Coast Guard District, Waterways Management at (504) 671-2107.

- All activities shall, if they involve, during their construction or operation, any discharge of pollutants into waters of the United States, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, retreatment standards and management practices established pursuant to the Clean Water Act (PL 92-500:86 Stat 816), or pursuant to applicable state and local laws.

- Substantive changes to the Louisiana Coastal Resources Program may require immediate suspension and revocation of the USACE authorization in accordance with 33 CFR 325.7.

- Irrespective of whether this project meets the other conditions of its authorization, USACE retains discretionary authority to require an individual Department of the Army permit when circumstances of the proposal warrant this requirement.

- Any individual authorization granted under the USACE permit may be modified, suspended, or revoked in whole or in part if the Secretary of the Army or his authorized representative determines that there has been a violation of any of the terms or conditions of the USACE permit or that such action would otherwise be in the public interest. Further, USACE may suspend, modify, or revoke this general permit if it is found in the public interest to do so.

- Activities authorized by USACE under their permit must comply with all other necessary federal, state, and/or local permits, licenses, or approvals. Failure to do so would result in a violation of the terms and conditions of the USACE authorization.

- The Sub-grantee shall permit the USACE District Commander or his authorized representative(s) or designee(s) to make periodic inspections of the project site(s) and disposal site(s) if different from the project site(s) at any time deemed necessary in order to assure that the activity being performed under authority of the USACE permit is in accordance with the terms and conditions prescribed.

- The USACE authorization/permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and it does not authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations nor does it obviate the requirements to obtain state or local assent required by law for the activity authorized.

- If, subsequent to the issuance of the USACE authorization, information and data provided by the Sub-grantee prove to be false, incomplete, or inaccurate, the authorization may be modified, suspended, or revoked, in whole or in part.

- For activities resulting in sewage generation at the project site, because tie-in to a municipal system is not possible, any on-site sewerage system must be approved by the local parish sanitarian before construction.

- Any modification, suspension, or revocation of the CWA 404 Programmatic General Permit (PGP), or any individual authorization granted under that permit, will not be the basis for any claim for damages against the United States.

- Additional conditions deemed necessary to protect the public interest may be added to the USACE PGP by the District Commander at any time. If additional conditions are added, the public will be advised by public notice. Individual authorizations under the PGP may include special conditions deemed necessary to ensure minimal impact and compliance with the PGP.

- USACE retains discretion to review the PGP, its terms, conditions, and processing procedures, and decide whether to modify, reissue, or revoke the permit. If the PGP is not modified or reissued within 5 years of its effective date, it automatically expires and becomes null and void.

- Sub-grantee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work that USACE authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the Grantee will be required, upon due notice from USACE, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

- Sub-grantee must maintain the activity authorized by USACE in good condition and in conformance with the terms and conditions of this permit. Sub-grantee is not relieved of this requirement if the USACE permitted activity is abandoned, although a good faith transfer to a third party as described below may be made. Should Sub-grantee wish to cease to maintain the USACE authorized activity or desires to abandon it without a good faith transfer, Sub-grantee must obtain a modification of the USACE permit from USACE, which may require restoration of the area.

- If Sub-grantee sells the property associated with the USACE permit, USACE must be provided with a copy of the permit and a letter noting the agreement to transfer the permit to the new owner and the new owner's agreement to accept the permit and abide by all conditions of the permit. This letter must be signed by both parties.

- In issuing authorizations under the CWA 404 PGP, the federal government does not assume any liability for: damages to the USACE permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest; damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit, and; design or construction deficiencies associated with the permitted work.

CONCLUSIONS

Based upon the findings of the SEA, and in accordance with Presidential Executive Orders 12898 (Environmental Justice), 11988 (Floodplain Management), and 11990 (Wetland Protection), FEMA has determined that the implementation of the proposed action with the conditions and

mitigation measures outlined above and in the SEA would not result in significant adverse effects on the quality of the natural and human environment. In addition, the proposed project does not appear to have the potential for significant cumulative effects when combined with past, present, and reasonably foreseeable future actions. As a result of this FONSI, an EIS will not be prepared (FEMA Instruction 108-1-1) and the Proposed Action as described in the SEA may proceed.

APPROVALS

_____

La Toya Leger-Taylor Date
FEMA Region 6
Regional Environmental Officer

_____

Marty Chester Date
FEMA Region 6
Hazard Mitigation Assistance Non-Disaster Branch Chief