

Draft Environmental Assessment

City of Carencro

Post Road Channel Improvements

HMGP No. 4015-055-0001/

FEMA-4015-DR-LA, Project No. 2

Lafayette Parish, Louisiana

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# DRAFT ENVIRONMENTAL ASSESSMENT

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### LIST OF ACRONYMS

AB	Articulated Block
ACHP	Advisory Council on Historic Preservation
BACT	Best Available Control Technology
BFI	Browning-Ferris Industries
BMP	Best Management Practice
BMPs	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Carbon monoxide
CWA	Clean Water Act
EA	Environmental Assessment
ECOS	Environmental Conservation Online System
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHBM	Flood Hazard Boundary Map
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FONSI	Finding of No Significant Impact
GOHSEP	Governor's Office of Homeland Security & Emergency Preparedness
HMGP	Hazard Mitigation Grant
H&H	Hydrologic and Hydraulic
LDEQ	Louisiana Department of Environmental Quality
LDNR	Louisiana Department of Natural Resources
LADOTD	Louisiana Department of Transportation and Development
LDWF	Louisiana Department of Wildlife and Fisheries
LPDES	Louisiana Pollutant Discharge Elimination System
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historical Preservation Act
NO2	Nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
O3	Ozone
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
Pb	Lead
PM2.5	Particulate matter less than 2.5 microns

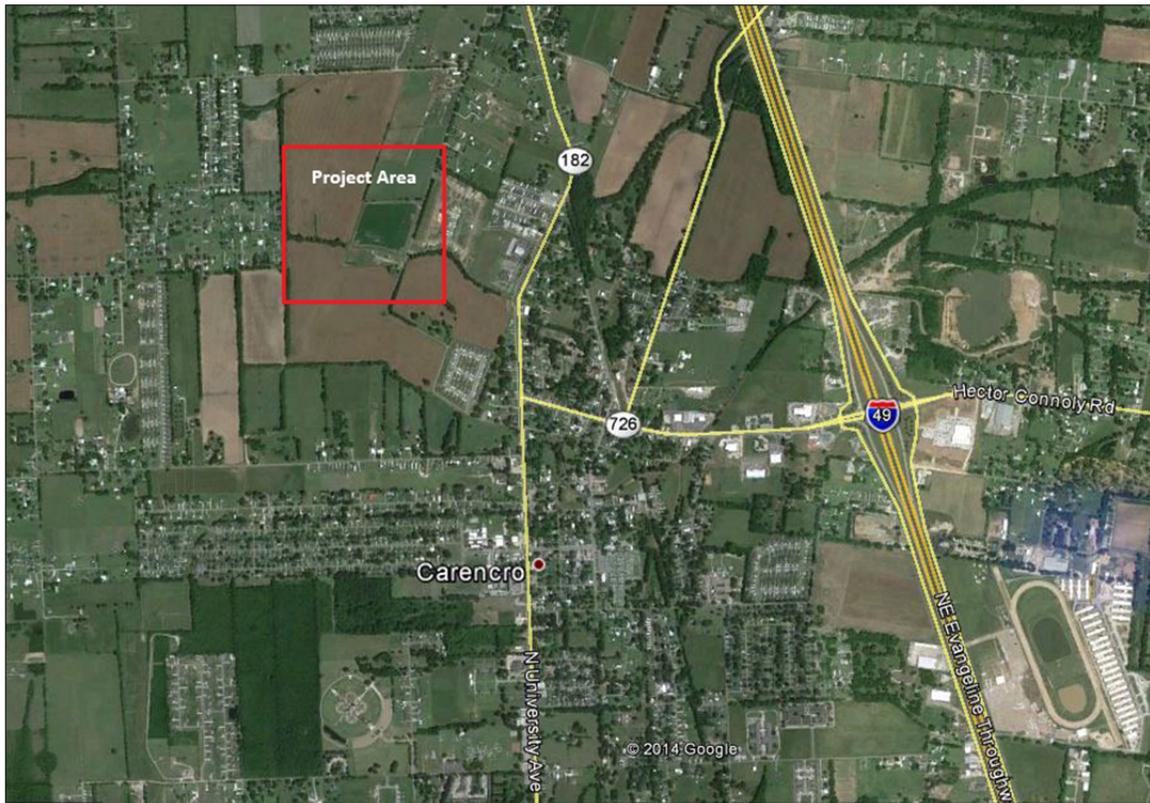
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PM10	Particulate matter less than 10 microns
RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Office
SLEMCO	Southwest Louisiana Electric Membership Company
SO2	Sulfur dioxide
SOV	Solicitation of Views
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Officer
USACE	U.S. Army Corps of Engineers
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WWTP	Wastewater Treatment Plant

## 1 INTRODUCTION

The Post Road Wastewater Treatment Plant (WWTP) is located near the City of Carencro (*Figure 1*) and has been the primary wastewater treatment facility for Carencro over the past 30 years. An unnamed drainage channel runs along the south boundary of the oxidation pond. This channel drains a western portion of Carencro and unincorporated areas of Lafayette Parish, continues east, and discharges into Beau Bassin Coulee. Beau Bassin Coulee traverses the City of Carencro, discharging into the Vermilion River just north of the City of Lafayette.



**Figure 1 - Site Location**

Noticeable erosion has occurred in the channel migrating toward the toe of the oxidation pond embankment as a result of several significant rainfall events. This erosion threatens the structural integrity of the oxidation pond embankment and continued erosion will likely initiate complete failure.

Fenstermaker, contracted by the City of Carencro, is currently in the design phase of upgrading the wastewater treatment plant to include an Activated Sludge Sequencing Batch Reactor. This project will reside adjacent to and eventually replace the existing wastewater production facilities on Post Road. Carencro has requested that erosion measures extend west where the upgrades will occur, so the entire channel along the facility is protected.

The City of Carencro applied for and was awarded funding through the Governor's Office of Homeland Security & Emergency Preparedness (GOHSEP) and the Federal Emergency Management Agency (FEMA) to improve the channel embankment. This Environmental

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Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality (CEQ) regulations to implement NEPA, 40 Code of Federal Regulations (CFR) Parts 1500-1508, and FEMA's regulations implementing NEPA, 44 CFR Part 10. FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this EA is to analyze the potential environmental impacts of the proposed channel improvements. FEMA will use the findings in this EA to determine the need for an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).



Figure 2 - Site Detail

## 2 PURPOSE AND NEED

Through the Hazard Mitigation Grant Program (HMGP), FEMA provides grants to states and local governments to implement long-term hazard mitigation measures. The purpose of HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

The focus of this EA is the portion of the natural drainage channel adjacent to the embankment of the wastewater treatment facility that runs from the western edge of the facility property to just east of Post Road (*Figure 2*).

### *Purpose*

The PURPOSE of the proposed project is to correct current erosion issues along the existing channel adjacent to the oxidation pond embankment of the existing wastewater treatment

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facility and to extend erosion protection further west near the future addition to the wastewater treatment facility.

### *Need*

The NEED of the proposed project is to provide continuous stabilization of the channel to prevent further erosion, reduce the risk of an oxidation pond embankment breach which would allow untreated wastewater to enter a natural channel, and decrease the risk of injury to City of Carencro employees who perform routine maintenance duties at the wastewater treatment facility.

## **3 ALTERNATIVES**

Two Alternatives were evaluated in this EA, the No Action Alternative and the Proposed Action Alternative. This section also summarizes other action alternatives that were considered and dismissed.

### **3.1 NO ACTION ALTERNATIVE**

The No Action Alternative would not include mitigation measures to reduce erosion to the channel and oxidation pond embankment. The citizens of the City of Carencro and Lafayette Parish would continue to be vulnerable to a storm event causing a breach in the embankment, including but not limited to untreated wastewater entering the coulee and eventually the Vermilion River, and closure of the wastewater treatment facility until the breach is repaired.

### **3.2 PROPOSED ACTION**

The Proposed Action Alternative is to install articulated block mat along the Post Road wastewater treatment facility. Articulated block (AB) revetment fabric is a form for casting in place heavy-duty, rectangular concrete blocks in a staggered joint pattern. Reinforcing cables interlock the cast-in-place concrete blocks when the AB revetment articulates due to changing soil and water conditions (Fabriform). Cost effectiveness, ease of installation, and performance characteristics make AB mat the preferred alternative.

The proposed channel would be trapezoidal shaped with a bottom width of 8 feet, a top width of 38 feet, and a height of 10 feet. The AB lined channel would begin at the western edge of the wastewater treatment facility property at 30° 19' 47.1054", -92° 3' 34.43868" and travel downstream 1,700 feet adjacent to the southern part of the oxidation pond ending on the east side of Post Road at 30° 19' 43.5936", -92° 3' 14.14692". The life span of the articulated block mat lined channel would be 40 to 60 years.

Post mitigation, the rate of erosion would drop to 0 feet per year due to the articulated block mat lining. The lined portion of the channel would then be protected from embankment erosion occurring during storm events up to and including a 500-year event. Since the channel geometry and the slope of the channel are not changing, there will be no adverse effects which may occur after the mitigation is complete. The estimated project useful life, post mitigation, would be 50 years.

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### 3.3 ALTERNATIVES CONSIDERED AND DISMISSED

A Hydrologic and Hydraulic (H&H) study was performed (Fenstermaker, July 2014) during which three additional alternatives were developed and dismissed. The first alternative examined vegetative planting. This alternative involved hydroseeding the length of the channel to increase vegetation, bolster the soil, and aid in preventing erosion. This alternative was dismissed due to significant existing vegetation along the channel, as shown by the photograph in *Figure 3*, where substantial erosion continues to occur.

The second alternative proposed a structural concrete lining for the coulee along the Post Road wastewater treatment facility. The concrete-lined channel would be trapezoidal in shape with slopes of 1.5:1, a bottom width of 10 feet, a top width of 40 feet, and a height of 10 feet. The concrete-lined channel would begin near the southwest corner of the oxidation pond and travel downstream 780 feet ending on the east side of Post Road.

As a part of the second alternative, an extension to the project was added after the initial study, which will be lined with AB mat. The cost to concrete line the 780 feet of original channel would exceed the cost of lining the 920 additional feet of channel with AB mat. It was determined that using the AB mat for the entire project length (1,700 feet) will reduce erosion along the banks of the channel as effectively as the concrete lining and will be more cost effective for both initial construction as well as lifetime maintenance.

The third alternative created a milder slope for the channel banks without having to line the channel with articulated block mat or concrete. The AB mat-lined channel has a proposed slope of 1.5:1, therefore a minimum 2:1 slope would be required for this alternative; however, as shown in *Figure 2*, a 2:1 slope would not be feasible as the channel would not fit between essential structures that currently exist as part of the wastewater treatment facility and is subsequently not recommended.



**Figure 3 - Site Photo**

The fourth alternative proposed to remove the bend in the channel near the treatment pond by straightening the channel. For this alternative to be completed, a 60-foot diameter wastewater clarifier and existing underground piping on the south side of the channel would have to be relocated. The cost to relocate this infrastructure would far exceed the cost of lining the channel with AB mat at this location and is not practicable.

The remainder of this EA will discuss the Proposed Action Alternative and No Action Alternative.

### 4 AFFECTED ENVIRONMENT AND IMPACTS

This section describes the potential impacts of the No Action Alternative and the Proposed Action Alternative. Where potential impacts exist, conditions or mitigation measures to offset these impacts are detailed. A summary table is provided in Section 4.7.

#### 4.1 GEOLOGY AND SOILS

Lafayette Parish is located in south central Louisiana and is made up of two general regions: the terrace upland and the Mississippi River Alluvial Plain. The Mississippi Alluvial Plain consists of a low floodplain and delta system formed by the Mississippi River. Surface soils consist primarily of Holocene deposits including alluvium of the Mississippi River. The alluvium consists of sandy and gravelly channel deposits mantled by sandy to muddy natural levee deposits with organic-rich muddy backswamp deposits in between; coastal marsh deposits are chiefly mud and organic matter (USGS, 1998).

According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) online web soil survey, the primary soils in the project area are mapped as Coteau silt loam, Patoutville silt loam, and Frost silt loam (USDA, 2014). The Frost silt loam, which constitutes most of the project area, consists of poorly drained soils with low infiltration rates when thoroughly wetted. Topography is relatively flat with slopes ranging from 0-1.0 percent. A review of the U.S. Geological Survey (USGS) 7.5-minute topographic map indicates that the approximate ground elevation of the proposed project site is 50 feet above sea level.

The Farmland Protection Policy Act (FPPA) is a voluntary program that helps farmers and ranchers keep their land from being converted for non-agricultural uses. The program provides matching funds to State, Tribal, or local governments and non-governmental organizations with existing farmland protection programs to purchase conservation easements or other interests in land. Frost silt loam, Coteau silt loam, and Patoutville silt loam soils, which are found in the majority of the project area, are prime farmland soils. However, the project area is in an urban area and the land has already been converted to non-agricultural use, so the FPPA does not apply.

#### NO ACTION ALTERNATIVE

Under the No Action Alternative, essential geologic resources would not be impacted; however, due to the weight of saturated soils after a large storm event, there is potential for embankment failure.

Based on the soil borings collected on various projects throughout the City of Carencro and utilizing accepted engineering formulae, the City Engineer predicts that the rate of erosion for this channel considering a 10-year storm event is approximately 0.2 feet per year. However, it should be noted that during flood events such as the one on March 12, 2012, the channel bank becomes completely saturated.

As the flood waters subside, the channel bank cannot support the weight of the saturated soil and as a result large masses of soil slough from the channel walls. During the March 2012 flood event, a particularly large area sloughed off resulting in approximately 2 to 3 feet of erosion and is placing an immediate threat on the oxidation pond levee.

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As a result of the erosion which occurred on March 12, 2012 at the most narrow location, the top bank of the channel is approximately 4 feet from the toe of the levee. Again, using soil information in the vicinity of this project along with field measurements of the levee and channel wall, a factor of safety against failure has been calculated as 1.32 for the channel wall and 1.51 for the global stability. Standard engineering practice achieves a minimum 1.3 and 1.5 factor of safety respectively for each condition.

If an additional 1 foot of erosion occurs, the factors of safety will decrease to 1.23 and 1.5, which are below conventional practice and indicate a higher probability of failure. Continued erosion coupled with another significant storm event resulting in a similar rate of erosion will likely initiate a complete failure of the levee at this location.

### **PROPOSED ACTION ALTERNATIVE**

Under the Proposed Action Alternative, construction events would not be deep enough to impact essential geologic resources, but will reinforce the channel to ensure embankment stability and lower risk of failure.

Design and construction activities will incorporate Best Management Practices (BMPs) to prevent future erosion. BMPs used during construction and development activities include temporary soil erosion control measures, permanent control measures, and low-impact land use practices. Temporary control measures are included in the planning phase of the project and contain such things as limiting the amounts of impervious surfaces created, preservation of stream buffers and sensitive areas such as riparian corridors, limiting disturbance of soil and vegetation, and maintaining the natural infiltrative capacity of an area.

Excavated soils and waste materials would be managed and disposed in accordance with applicable local, State, and Federal regulations. If contaminated materials are discovered during construction, the work would terminate until the appropriate procedures can be implemented and permits obtained. The applicant would be required to obtain a Louisiana Pollutant Discharge Elimination System (LPDES) permit and prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to construction which must include BMPs to minimize impacts to geology and soils.

## **4.2 WATER RESOURCES**

### **4.2.1 Surface Water**

The Clean Water Act (CWA) established the basic structure for regulating discharges of pollutants into the waters of the United States and regulated quality standards for surface waters. As authorized by the CWA, the National Pollutant Discharge Elimination System (NPDES) permit program was established to control water pollution by regulating point sources that discharge pollutants into waters of the United States. In Louisiana, the Louisiana Department of Environmental Quality (LDEQ) is responsible for overseeing this program on behalf of the Environmental Protection Agency (EPA) under their LPDES permit program.

### **NO ACTION ALTERNATIVE**

As described in Section 4.1 Geology and Soils, Proposed Action Alternative, additional erosion of the levee will likely initiate a complete failure of the levee at wastewater treatment oxidation pond.

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Should this levee fail, almost 16 million gallons of raw sewerage will be discharged into the coulee and flow through the City of Carencro, into the Vermilion River and then eventually through the City of Lafayette. In addition to the significant environmental impacts of the levee breach, the plant will not be operational until the breach is repaired. A breach of this magnitude could take several weeks to repair resulting in a complete loss of sanitary sewer service for over half of the residents of Carencro as well as the commercial and public service centers within the City.

### **PROPOSED ACTION ALTERNATIVE**

Under the Proposed Action Alternative, the articulated block mat lined portion of the channel along the Post Road Treatment Facility would be 1,700 feet in length. The total channel length is 9,110 feet, meaning construction would occur over 18 percent of the entire channel length. At such a minimal percentage, the lined channel would have a negligible effect on the overall drainage within the channel. The AB mat will reinforce the channel, ensuring embankment stability and lower risk of failure.

Construction activities may require dredging and excavation within the channel. This could cause temporary short-term impacts to downstream surface waters due to soil erosion. In compliance with EPA's Stormwater quality guidelines, BMPs for soil erosion and sediment control would be implemented to reduce impacts caused by construction of the project. These measures may include the use of sediment barriers, temporary and permanent vegetative cover for soil stabilization, dust control, and the use of riprap for the protection of soils from the erosive forces of water.

NPDES guidelines will be followed during construction and a site specific SWPPP will be developed for the project. Any water quality degradation that may occur during construction activities will be localized and short-term.

A consultation letter requesting project review and comment was sent to the LDEQ on May 21, 2014 (Appendix A). The City of Carencro received a response by email (Appendix A) on July 24, 2014, stating the Department has no objections based on the information provided. Comments included taking necessary steps to obtain necessary approvals and permits; potential need for LPDES application; and determination of stormwater general permits. An amendment to the project extents initiated another consultation letter to LDEQ on February 3, 2015. No response to the second letter was received; however, the original comments will be applied moving forward.

### **4.2.2 Groundwater**

The primary aquifers underlying Lafayette Parish include the Chicot and the Atchafalaya aquifers (USGS, 2011). The Chicot aquifer is the main source of fresh water for Lafayette Parish. The proposed location is in the Chicot aquifer system, which consists of fining upward sequences of gravels, sands, silts, and clays. The base of fresh groundwater generally ranges from 700 to 999 feet below sea level, with depths greater than 1,000 feet in central Lafayette Parish. The aquifers are recharged by rainfall, infiltration from the Atchafalaya River into the Atchafalaya aquifer, vertical leakage through surficial clays, and upward leakage from the underlying Evangeline aquifer. Discharge from the aquifers occurs through natural flow into rivers, leakage into underlying aquifers, and withdrawal from wells.

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Groundwater protection measures are essential for ensuring the storage, handling, or use of fertilizers, pesticides, or hazardous products do not contaminate groundwater.

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### NO ACTION ALTERNATIVE

No impacts to groundwater would occur under the No Action Alternative.

### PROPOSED ACTION ALTERNATIVE

Under the Proposed Action Alternative, construction activities are not anticipated to reach a depth to directly impact groundwater. The applicant must consult with the EPA and the LDEQ to implement appropriate mitigation if excavation reaches groundwater depths.

Conversion of natural stream channels to articulated block mat lined channels confines water transfer between the surface water, the hyporheic zone, and shallow ground water. The hyporheic zone is a region beneath a stream bed where mixing of groundwater and surface water occurs. It is vital for mixing to occur in this region because the geochemical and microbial properties present significant opportunities for pollutant attenuation that may reduce the impacts of polluted groundwater on certain ecosystems. The proposed project would convert approximately 1,700 feet of natural stream to an articulated block mat lined channel, preventing water transfer.

To reduce impacts to groundwater, the applicant would identify any possible sources of construction site pollutants that can affect the groundwater and implement appropriate BMPs such as setting up a designated wash station for concrete and other equipment trucks, dewatering devices, and designating an appropriate staging area.

A consultation letter requesting project review and comment were sent to the LDEQ on May 21, 2014 (Appendix A). The City of Carencro received a response by email on July 24, 2014, stating the Department has no objections based on the information provided. Comments included taking precautions to protect groundwater in the region and to determine need for LDEQ water permits. An amendment to the project extents initiated another consultation letter to LDEQ on February 3, 2015. No response to the second letter was received; however, the original comments will be applied moving forward.

### 4.2.3 Floodplains

Floodplains are geographic areas FEMA has defined according to varying levels of flood risk and type of flooding. These zones are depicted in the Flood Insurance Rate Map (FIRM) or the Flood Hazard Boundary Map (FHBM) for all communities participating in the National Flood Insurance Program (NFIP). The 100-year floodplain designates the area flooded during a storm having a 1.0 percent chance of occurring in any given year.

Executive Order (EO) 11988: Floodplain Management, “requires Federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modifications of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.” Consistent with EO 11988, FIRMs were examined during the preparation of this EA. The effective FIRM panel 22055C00106 dated January 19, 1996, shows the project area is located within Zone X500 and is not in the Base Floodplain (100-year floodplain).

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### NO ACTION ALTERNATIVE

Under the No Action Alternative, floodplains and downstream communities would continue to be subjected to the potential risk of the embankment failure.

### PROPOSED ACTION ALTERNATIVE

The proposed action alternative is not located within the 100-year floodplain. Zone X500 is the area inundated during the 0.2 percent annual chance (or 500-year) flood, which means it is an area subjected to minimal flood hazard. Under the Proposed Action, improvements to the channel are not anticipated to have impacts on flood elevations in the project area. The model showed no rise and lowered the water surface elevation downstream of Post Road at a maximum of 0.16 feet (approximately 2 inches). By grading and armoring the channel with AB mat, the project will create a larger storage area, thus lowering the flood levels in the adjacent neighborhood to the west and protecting the channel from eroding the toe of the wastewater treatment oxidation pond.

#### 4.2.4 Waters of the U.S. Including Wetlands

Activities in Waters of the United States, including wetlands, rivers, streams, creeks, lakes, and other water bodies, are regulated by two statutes, the Rivers and Harbors Act of 1899 (Section 10) and the Federal Water Pollution Control Act (Section 404). The principal agency responsible for enforcing these acts is the U.S. Army Corps of Engineers (USACE).

A wetland determination was conducted on the proposed project site on May 14, 2014, by C.H. Fenstermaker & Associates, L.L.C. The wetland determination found no wetlands in the vicinity of the proposed project.

The area below the Ordinary High Water Mark (OHWM) of the channel will likely be jurisdictional due to the indirect connectivity to the Vermilion River. According to field survey, the channel is approximately 20 feet wide, 8 feet deep, and the OHWM is approximately 11 feet wide and 2.5 feet deep. It is Fenstermaker's opinion that a Department of the Army Permit should be obtained prior to mechanized land clearing activities, dredging, or the deposition of fill material within the boundaries of the coulee.

### NO ACTION ALTERNATIVE

Under the No Action Alternative, waters of the U.S., including wetlands, would continue to be subjected to the potential risk of the embankment failure.

### PROPOSED ACTION ALTERNATIVE

This proposed alternative takes into account input from the USACE. A consultation letter dated May 21, 2014, was submitted to the Department of the Army, New Orleans District, Corps of Engineers, Regulatory Branch (Appendix A). USACE does not anticipate any adverse impacts to Corps of Engineers projects. They determined that the project is likely encompassed by an existing valid jurisdictional determination and a Department of the Army permit under Section 404 of the Clean Water Act will be required. The permit application process was initiated by the City of Carencro in June 2014. The Section 404 permit was received April 6, 2015. Coordination with the USACE is included in Appendix A and E.

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### 4.3 COASTAL RESOURCES

Subpart C, Section 214.24 of the Louisiana Coastal Wetlands, Conservation, Restoration, and Management Act of 1976, as amended (LRS 49:214.24), delineates the Coastal Zone Boundary of the State of Louisiana. The area of Lafayette Parish in which this project is located lies outside of the Coastal Zone boundary. This project should have no impact on coastal waters; therefore, a Coastal Use permit or a Consistency Determination is not required.

#### NO ACTION ALTERNATIVE

Under the No Action Alternative, no impacts to coastal resources are anticipated.

#### PROPOSED ACTION ALTERNATIVE

Under the Proposed Action Alternative, no impacts to coastal resources are anticipated. A Solicitation of Views was filed online with the Louisiana Department of Natural Resources (LDNR). The project was determined to be outside of the Louisiana Coastal Zone and will not require a Coastal Use permit (Appendix A).

### 4.4 BIOLOGICAL RESOURCES

The Endangered Species Act of 1973 provides for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend.

The proposed project area consists of 9,110 feet of a drainage channel that divides the Post Road wastewater treatment facility and continues east, discharging into the Beau Bassin Coulee. The property of the proposed action is a wastewater treatment facility, surrounded by farmland and residential areas, and provides limited wildlife for common, urban species. The site does not provide habitat for animals requiring forested or wetland habitats.

The U.S. Fish and Wildlife Service (USFWS) lists the federally threatened and endangered species for Lafayette Parish shown in Table 1. According to the online self-assessment tool, no critical habitat for these species is located in the project area and the project will have “no effect (USFWS, 2014).”

**Table 1 – Federally Threatened and Endangered Species in Lafayette Parish**

Group	Name	Status
Birds	Sprague's pipit ( <i>Anthus spragueii</i> )	Candidate
Mammals	Louisiana black bear ( <i>Ursus americanus luteolus</i> )	Threatened

Source: Environmental Conservation Online System (ECOS)

#### NO ACTION ALTERNATIVE

Under the No Action Alternative, biological resources would continue to be subjected to the potential risk of the embankment failure. No threatened or endangered species are located in the project area.

#### PROPOSED ACTION ALTERNATIVE

Under the Proposed Action Alternative, approximately 1,700 feet of channel would be converted from natural vegetated material and soil to articulated block mat and embankments. There is no suitable habitat for federally protected species at the proposed site; therefore, no

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federally protected species are likely to occur on the site and no impacts to federally protected species are anticipated (LDFW, 2014).

Articulated block mat channels reduce natural habitats to fish and other organisms. The proposed project would convert approximately 1,700 feet of natural stream channel to an AB mat lined channel. These areas would provide minimal habitat for aquatic organisms; therefore, the project would negatively impact these organisms in the immediate area of the proposed improvements due to habitat loss. However, the affected organisms in the newly improved portion of the channel would likely relocate further downstream where suitable habitat would still be accessible.

Consultation letters dated May 21, 2014, were submitted to State of Louisiana Department of Wildlife and Fisheries (LDWF)–Office of Wildlife and the USFWS requesting agency review and comments regarding the proposed project.

A response letter from LDWF–Office of Wildlife dated June 20, 2014, states that according to their database, “no impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state or federal parks, wildlife refuges, scenic streams, or wildlife management areas are known at the specified site within Louisiana’s boundaries.” An amendment to the project extents initiated another consultation letter to LDEQ on February 3, 2015. No response to the second letter was received; however, the original comments will be applied moving forward.

### **4.5 CULTURAL RESOURCES**

#### **4.5.1 Historic Properties**

Section 106 of the National Historic Preservation Act (NHPA) of 1966 “requires federal agencies to consider the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. Historic Properties are those included in the National Register of Historic Places (NRHP) or that meet the criteria for the National Register.”

#### **NO ACTION ALTERNATIVE**

Under the No Action Alternative, there would be no impacts to historical properties.

#### **PROPOSED ACTION ALTERNATIVE**

A preliminary look into the Federal archaeology database showed no historic sites in the vicinity, because the area has not been surveyed. On May 21, 2014, a solicitation of views letter was sent to the Louisiana Office of Cultural Development – Department of Culture, Recreation, and Tourism, State Historic Preservation Officer (SHPO). The SHPO responded on June 3, 2014, that under the Proposed Action Alternative, no impacts to historical properties are anticipated. An amendment to the project extents initiated another consultation letter to the SHPO on February 3, 2015. A response was received on February 6, 2015, that under the Proposed Action Alternative, no impacts to historical properties are anticipated.

#### **4.5.2 American Indian, Cultural, Religious Sites**

The ACHP has issued the regulations implementing Section 106, 36 CFR Part 800 “Protection of Historic Properties.” The NHPA requires that, in carrying out the Section 106 review process,

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federal agency must consult with any Indian tribe that attaches religious and cultural significance to historic properties that may be affected by the agency's undertakings.

### **NO ACTION ALTERNATIVE**

Under the No Action Alternative, there would be no impacts to American Indian, cultural, or religious sites.

### **PROPOSED ACTION ALTERNATIVE**

Under the Proposed Action Alternative, there would be no impacts to American Indian, cultural, or religious sites. In a GeoSearch Radius Report, completed May 22, 2014, there were no Indian Reservations found within the one mile search radius.

In the event that archeological deposits, including any Native American pottery, stone tools, bones, or human remains, are uncovered, the project would be halted and the City of Carencro would stop all work immediately in the vicinity of the discovery and take reasonable measures to avoid or minimize harm to the finds. All archaeological findings would be secured and access to the sensitive area restricted. The City of Carencro would inform FEMA immediately and FEMA would consult with the SHPO or Tribal Historic Preservation Office (THPO) and Tribes. Work in sensitive areas cannot resume until consultation is completed and appropriate measures have been taken to ensure that the project is in compliance with the NHPA.

## **SOCIOECONOMIC RESOURCES**

### **4.5.3 Environmental Justice**

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," was issued to focus attention on the environmental and human health conditions of minority and low-income populations with the goal of achieving environmental protection for all communities. The Federal Highway Administration (FHWA) has developed an environmental justice strategy to assess the benefits and adverse effects of transportation activities among different population groups. The proposed action has been reviewed for compliance with the FHWA strategy and Executive Order 12898, and there is no known disproportionately high or adverse human health or environmental effects borne by minority and/or low-income populations' resultants from any of the alternatives.

The project would occur in Lafayette Parish, within Carencro, Louisiana. According to the 2010 United States Census Bureau (USCB), Carencro has a population of 7,526 individuals. The median household income in 2010 was \$39,350, with 12.4 percent of individuals living below the poverty level. The median household income in the State of Louisiana was \$44,673, with 18.7 percent of individuals living below the poverty level (USCB 2010).

Minorities represented 46.6 percent, 30.6 percent, 37.4 percent, respectively, of Carencro, Lafayette Parish, and the State of Louisiana. Further details are given in Table 2.

**Table 2 – Minority Populations within the Study Area and Surrounding Locations**

<b>Race</b>	<b>Carencro</b>	<b>Lafayette Parish</b>	<b>Louisiana</b>
White	53.5%	69.4%	62.6%
Black or African American	41.7%	25.8%	32.0%
American Indian and Alaska Native	0.6%	0.3%	0.7%
Asian	0.7%	1.5%	1.5%
Native Hawaiian and Other Pacific Islander	0.0%	0.0%	0.0%
Some Other Race	2.4%	1.4%	1.6%
Two or More Races	1.2%	1.6%	1.6%
Hispanic or Latino (of any race)	5.1%	3.9%	4.2%

Source: USCB 2010

**NO ACTION ALTERNATIVE**

Under the No Action Alternative, there would be no disproportionately high or adverse impact on minority or low-income portions of the population—all populations would continue to be subjected to the potential risk of the embankment failure.

**PROPOSED ACTION ALTERNATIVE**

The proposed channel modifications would not adversely affect any low-income or minority populations. Long-term, it would positively affect all segments of the population nearby, by preventing potential failure of the embankment, which would ultimately cause a hazard to the population.

Based on the above discussion and analysis, the Proposed Action Alternative will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of EO 12898 and FHWA Order 6640.23.

**4.5.4 Hazardous Materials**

The Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulate hazardous materials and waste sites. Hazardous waste is generally defined as any material that has, or will have when combined with other materials, a deleterious effect on humans or the natural environment. Hazardous wastes are characterized as reactive, toxic, infectious, flammable, explosive, corrosive, or radioactive; they may occur as solids, liquids, or gases. Potential hazardous waste sites include landfills, dumps, pits, lagoons, salvage yards, and industrial sites, as well as above and below ground storage tanks.

**NO ACTION ALTERNATIVE**

Under the No Action Alternative, the wastewater treatment facility would continue to be subjected to the potential risk of the embankment failure, with potential for almost 16 million gallons of raw sewerage being discharged into the coulee and flowing through the City of Carencro, into the Vermilion River and then eventually through the City of Lafayette.

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### PROPOSED ACTION ALTERNATIVE

Under the Proposed Action Alternative, no hazardous materials or waste impacts are anticipated. There would be no adverse impact to the wastewater treatment facility. Contaminated soils are not expected to be encountered in the vicinity of the wastewater treatment facility due to the facility passing all validation checks. In the event significant substances are discovered during construction, the applicant would dispose of such wastes in accordance with the governing local, State, and Federal agencies. The contractor would take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction staging areas.

A GeoSearch Radius Report (Appendix F) was conducted May 22, 2014. The report was reviewed to determine the proximity of known sites to the Post Road wastewater treatment facility. The report indicated the following findings at the target and adjacent property: Facility Registry System, Integrated Compliance Information System, Integrated Compliance Information System National Pollutant Discharge Elimination System, and Approved Hurricane Debris Dump Site.

Over the long-term, channel modifications are anticipated to have a positive impact on preventing hazardous materials from being unconstrained. The proposed improvement to the channel would reduce the risk of an embankment breach, preventing untreated wastewater to enter a natural channel.

#### 4.5.5 Air Quality

The Clean Air Act (CAA) is “the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants” (EPA,2014). The EPA has set NAAQS for the following six criteria pollutants: Ozone (O<sub>3</sub>), particulate matter (PM<sub>2.5</sub>, PM<sub>10</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). Currently, Lafayette Parish is classified as an attainment area with the National Ambient Air Quality Standards and has no general conformity determination obligations.

### NO ACTION ALTERNATIVE

Under the No Action Alternative, no construction would occur and there would be no impacts to air quality.

### PROPOSED ACTION ALTERNATIVE

Under the Proposed Action Alternative, no long-term impacts to air quality would occur. Temporary impacts to air quality may occur during construction, which generally has short-term effects that terminate upon completion of the project or shortly thereafter.

Short-term decreases in air quality due to construction can be controlled by Best Available Control Technology (BACT) measures such as functioning catalytic converters and mufflers of construction equipment and construction area water sprinkling to minimize dust generated by heavy machinery traffic.

Standard erosion control strategies include the transport of materials in tarpaulin-covered trucks and selected wetting of soils within the construction zone to minimize airborne particulate matter. Any burning of material would be undertaken according to relevant local

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laws and ordinances. Appropriate traffic control plans may serve to limit localized concentrations of emissions during construction.

### **4.5.6 Noise**

According to the EPA, “The traditional definition of noise is ‘unwanted or disturbing sound’. The Noise Control Act of 1972 establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare (2014). The Act also serves to (1) establish a means for effective coordination of Federal research and activities in noise control; (2) authorize the establishment of Federal noise emission standards for products distributed in commerce; and (3) provide information to the public respecting the noise emission and noise reduction characteristics of such products.”

#### **NO ACTION ALTERNATIVE**

Under the No Action Alternative, no construction would occur and there would be no impact to noise levels.

#### **PROPOSED ACTION ALTERNATIVE**

Under the Proposed Action Alternative, temporary increases in noise levels are anticipated during construction activities. However, this noise increase has generally short-term effects which terminate upon completion of the project or shortly thereafter. To reduce noise levels during construction, activities would take place during normal business hours and equipment engines would be well-maintained and meet all local, State, and Federal noise regulations. Potential long-term noise level impacts from the Proposed Action Alternative are not expected.

### **4.5.7 Transportation**

The proposed project site is located west of Louisiana Highway 182. Only neighborhood roadways are located within the proposed project area. Post Road provides access to residential neighborhoods in the area as well as the proposed location. A gravel road leads to the wastewater treatment facility and runs parallel to the drainage channel.

#### **NO ACTION ALTERNATIVE**

Under the No Action Alternative, no construction would occur and there would be no impacts to transportation.

#### **PROPOSED ACTION ALTERNATIVE**

Under the Proposed Action Alternative, there would be a minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed action. This increase in traffic will affect the area with “slowdowns” throughout the area, but is predicted not to have any existing roads shut down for a length of time. To mitigate for potential delays, construction equipment would be stored on site during project construction and appropriate signage would be posted on affected roadways. No long-term impacts to transportation are anticipated as a result of the proposed action.

### **4.5.8 Public Service and Utilities**

Public services include fire, police, schools, parks and recreational facilities, transit, and maintenance services. Utilities include municipal agencies, special utility districts, and private

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companies that provide services such as electricity, natural gas, water, wastewater or stormwater collection, and telecommunications.

Several entities provide public services to the communities within the study area, including police and fire and emergency medical services.

The City of Carencro operates water, sewer, and natural gas services, and contracts with Browning-Ferris Industries (BFI) Waste Management for waste disposal. In addition to the Carencro Gas Company, other local energy providers are Entergy, Southwest Louisiana Electric Membership Company (SLEMCO), and Trans Louisiana Gas Company. Wastewater generated in the City is conveyed to the Carencro WWTP, which is where the proposed project area is located off of Post Road. The City of Carencro operates the 500,000 gallons per day capacity wastewater treatment facility.

Utilities adjacent to the project site include overhead power lines and the Wastewater Treatment Plant facilities on which the project is located.

### **NO ACTION ALTERNATIVE**

Under the No Action Alternative, the wastewater treatment plant would continue to be subjected to the potential risk of the embankment failure.

### **PROPOSED ACTION ALTERNATIVE**

Under the Proposed Action Alternative, long-term maintenance of public service and utilities would be improved. Annual maintenance requirements of an AB lined channel are generally limited to the removal of debris and sediment deposits. Periodic surface patching and repair of cables should be performed on an as-needed basis. It also would decrease the risk of injury to City of Carencro employees who perform routine maintenance duties at the wastewater treatment facility.

Construction activities may have minor short-term effects on public services and utilities in the project area. Services that depend on public roads such as school buses, solid waste collection, and emergency services may experience some minor, temporary delays during some construction phases due to increased truck traffic near the project area. To reduce the effects on traffic, the duration of activities would be minimized and construction would occur during normal working hours.

### **4.5.9 Public Health and Safety**

With the arrival of new technology and implementation in construction, the potential unintended consequences to public health and safety that may accompany the new construction technologies should be considered. Evaluating the potential harms help to identify, prevent, and abate the environmental conditions that adversely impact public health and safety. Safety issues considered in this EA include the health and safety of the residents in the vicinity and the protection of laborers involved in construction related to the proposed construction of the Post Road Channel Improvements project. Protection of Children (EO 13045), requires federal agencies to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children.

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### **NO ACTION ALTERNATIVE**

Under the No Action Alternative, no construction would occur and there would be no impacts to public health and safety. The citizens of the City of Carencro and Lafayette Parish would continue to be vulnerable to a storm event causing a breach in the embankment, including but not limited to untreated wastewater entering the channel and eventually the Vermilion River and closure of the wastewater treatment facility until the breach is repaired.

### **PROPOSED ACTION ALTERNATIVE**

Under the Proposed Action Alternative, improving the Post Road channel would prevent the channel from eroding and causing failure of the embankment of the oxidation pond. The health and safety risks to area residents would be reduced by the proposed project. Additionally, channel improvements would decrease the water surface elevation, which ultimately would decrease the risk of waters overtopping Post Road and preventing emergency services from reaching homes south of the Post Road channel.

During the construction phase of the proposed Post Road channel improvements, activities could present safety risks to those performing the actions, citizens, and other pedestrians adjacent to the study area. All appropriate safety precautions would be taken to minimize risks to public health and safety. All activities would be completed abiding by the standards set in the Occupational Safety and Health Administration (OSHA) regulations. Appropriate signage is to be in place prior to construction activities to inform the pedestrians and motorists of the project construction. There would be no health and safety risks to children.

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### 4.6 SUMMARY TABLE

Table 3 summarizes the potential impacts of the Proposed Action Alternative and conditions or mitigation measures to offset those impacts.

**Table 3 – Summary of Impacts and Mitigation Measures**

Geology and Soils	No impacts to geology are anticipated. Soils in the project area would be disturbed during construction	A LPDES permit must be obtained and a SWPPP prepared prior to construction	<p>Implementation of appropriate BMPs would include installation of silt fencing and revegetation of disturbed soils</p> <p>Excavated waste materials would be managed and disposed of in accordance with applicable local, State, and Federal regulations</p> <p>If contaminated materials are discovered during construction activities, the work would terminate until the appropriate procedures can be implemented and permits obtained</p>
Surface Water	Temporary short-term impacts to downstream surface waters are possible during construction activities	The applicant must prepare a SWPPP and obtain an NPDES permit prior to construction	<p>The SWPPP would include erosion and sediment controls that would be implemented as part of the construction activity to control pollutants in storm water discharges</p> <p>Appropriate BMPs, such as installing silt fences and revegetating disturbed soils would minimize runoff</p>

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Groundwater	<p>No impacts to groundwater are anticipated</p> <p>Conversion of natural stream channels to AB mat lined channels confines water transfer between surface water and shallow groundwater, which may impact water quality</p>	<p>If the proposed project requires additional excavation to groundwater depths, the applicant must consult with the EPA and LDEQ to identify and implement appropriate mitigation</p>	<p>To reduce impacts to groundwater, the applicant would identify any possible sources of construction site pollutants that can affect the groundwater and implement appropriate BMPs such as setting up a designated wash station for concrete and other equipment trucks, dewatering devices, and having a designated staging area, if necessary</p>
Floodplains	<p>No impacts to the floodplain is anticipated</p>	<p>The applicant must comply with the appropriate local floodplain management ordinance and FEMA</p>	<p>No mitigation/BMPs are required</p>
Waters of the U.S. Including Wetlands	<p>No impacts to wetlands or waters of the US are anticipated</p>	<p>Agency coordination has occurred with the USACE</p>	<p>USACE Section 404 Permit</p>
Coastal Resources	<p>No impacts to coastal resources are anticipated</p>	<p>No agency coordination/permits are required</p>	<p>No mitigation/BMPs are required</p>
Biological Resources	<p>No impacts to any federally protected species are anticipated</p> <p>Negative impacts to aquatic organisms whose habitat is within the channel are anticipated</p>	<p>No anticipated impacts to rare, threatened, or endangered species or critical habitats</p> <p>No known state or federal parks, wildlife refuges, scenic streams, or wildlife management areas are adjacent to the project</p>	<p>BMPs would be in place to prevent erosion and to revegetate disturbed areas</p> <p>The affected aquatic populations in the newly improved portion of the stream would likely relocate further downstream where appropriate habitat would still be accessible</p>
Historic Properties	<p>No impacts to historic properties are anticipated</p>	<p>No agency coordination/permits are required</p>	<p>No mitigation/BMPs are required</p>

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<p>American Indian, Cultural, Religious Sites</p>	<p>No impacts to American Indian, cultural, or religious sites are anticipated</p>	<p>No agency coordination/permits are required</p>	<p>In the event that archeological deposits are uncovered, the project would be halted and the City of Carencro would inform FEMA immediately; FEMA would consult with the SHPO or THPO and Tribes</p> <p>Work in sensitive areas cannot resume until consultation is completed and appropriate measures have been taken to ensure that the project is in compliance with the NHPA</p>
<p>Environmental Justice</p>	<p>All populations would benefit from the Proposed Action including minority and low-income populations</p>	<p>No agency coordination/permits are required</p>	<p>No mitigation/BMPs are required</p>
<p>Hazardous Materials</p>	<p>There are no known hazardous material sites that would be affected by the Proposed Action</p> <p>Channel modifications should have a positive long-term impact on preventing hazardous materials from being unconstrained</p>	<p>No agency coordination/permits are required</p>	<p>In the event significant hazardous materials are discovered during implementation of the project, the applicant would dispose of such wastes in accordance to the requirements of the governing local, State, and Federal agencies</p>

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Air Quality	Short-term impacts to air quality would occur during the construction period	No agency coordination/permits are required	Short-term decreases in air quality due to construction can be controlled by BACT measures such as functioning catalytic converters and mufflers of construction equipment, and construction area water sprinkling to minimize dust generated by heavy machinery traffic
Noise	Short-term impacts to noise levels would occur during the construction period	No agency coordination/permits are required	Construction activities would take place during normal business hours; equipment and machinery used during construction must meet all local, State, and Federal noise regulations
Transportation	Minor temporary increases in the volume of construction traffic on the roads in the immediate vicinity of the Proposed Action is anticipated	No agency coordination/permits are required	To mitigate for potential delays, construction vehicles and equipment would be stored on site during project construction and appropriate signage would be posted on affected roadways

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<p>Public Service and Utilities</p>	<p>Under the Proposed Action Alternative, long-term maintenance of public service and utilities would be improved</p> <p>Services that depend on public roads such as school buses, solid waste collection, and emergency services may experience some minor, temporary delays during some construction phases due to increased truck traffic near the project area</p>	<p>City of Carencro</p>	<p>To reduce the effects on traffic, the duration of activities would be minimized and construction would occur during normal working hours</p>
<p>Public Health and Safety</p>	<p>Positive impacts to public safety are anticipated, because the risk of embankment failure would be reduced</p> <p>Short-term, minor safety impacts would result from construction activities</p> <p>Long-term, minor safety impacts would result from the conversion of the existing channel to a AB mat lined channel</p>	<p>No agency coordination/permits are required</p>	<p>All construction activities would be performed using qualified safety personnel trained in the proper use of the appropriate equipment, including all appropriate safety precautions</p> <p>All activities would be conducted according to the standards set in the OSHA regulations</p> <p>Appropriate signage is to be in place prior to construction to inform citizens of the activities</p>

### 5 CUMULATIVE IMPACTS

Cumulative impacts are those that result from the incremental consequences of an action when added to past and reasonably foreseeable future actions. These impacts are incremental, not easily quantifiable, and less-defined than secondary impacts. In accordance with NEPA and to the extent reasonable and practicable, this EA considered the combined effect of the Proposed Action Alternative and other actions occurring or proposed in the vicinity of the proposed action.

The majority of the project area consists of residential use and farmland. The proposed project is designed to protect these land uses from the effects of potential pond embankment failure. No cumulative impacts are anticipated.

The project site is a channel improvement that traverses a wastewater treatment plant. The City is improving the facilities with an expansion project that will consist of dewatering and treating sewerage sludge from the Post Road oxidation pond as well as sludge from another treatment plant. The expansion will include a 0.5 million gallon sludge holding tank, sludge dewatering and treatment building, grease trap, and two lift stations. This expansion will take place in the Fall of 2015, pending USDA funding, and will take approximately one year.

#### 5.1 MITIGATION MEASURES

##### 5.1.1 General

Noise, air, and water pollution associated with the construction activities of the project are generally short-term effects which terminate upon completion of the project or shortly thereafter. As a result, short-term mitigation measures, as specified below, need to be employed.

The Louisiana Standard Specifications for Roads and Bridges, 2006 edition, requires contractors to take preventative measures for minimizing and mitigating environmental damages. These measures are detailed in, but not limited to, the following sections of the specifications:

- Scope of Work - Section 104
- Control of Work - Section 105
- Legal Relations and Responsibility to Public - Section 107
- Clearing and Grubbing - Section 201
- Removal of Structures and Obstructions - Section 202
- Excavation and Embankment - Section 203
- Temporary Erosion Control - Section 204
- Erosion Control Systems - Section 720

These sections of the specifications require measures such as revegetation for long-term erosion control and silt fencing for short-term erosion control in protection of soils, surface water, and groundwater.

### 5.1.2 Geology and Soils

Excavated soils and waste materials would be managed and disposed of in accordance with applicable local, State, and Federal regulations. If contaminated materials are discovered during construction activities, the work would cease until the appropriate procedures can be implemented and permits obtained. Implementation of appropriate BMPs would include installation of silt fencing and revegetation of disturbed soils.

### 5.1.3 Water Resources

The SWPPP would include erosion and sediment controls that would be implemented as part of the construction activity to control pollutants in storm water discharges. Appropriate BMPs, such as installing silt fences and revegetating disturbed soils, would minimize runoff.

To reduce impacts to groundwater, the applicant would identify any possible sources of construction site pollutants that can affect the groundwater and implement appropriate BMPs such as setting up a designated wash station for concrete and other equipment trucks, dewatering devices, and having a designated staging area, if necessary.

### 5.1.4 Coastal Resources

No mitigation measures are required since there would be no impacts to coastal resources in the project area.

### 5.1.5 Biological Resources

BMPs would be in place to prevent erosion and to re-vegetate disturbed areas.

### 5.1.6 Cultural Resources

In the event that archaeological deposits, including any Native American pottery, stone tools, bones, or human remains, are uncovered, the project would be halted and the City of Carencro would stop all work immediately in the vicinity of the discovery and take reasonable measures to avoid or minimize harm to the finds. All archaeological findings would be secured and access to the sensitive area restricted. The City of Carencro would inform FEMA immediately and FEMA would consult with the SHPO or THPO and Tribes. Work in sensitive areas cannot resume until consultation is completed and appropriate measures have been taken to ensure that the project is in compliance with the NHPA.

### 5.1.7 Socioeconomic Resources

In the event significant hazardous materials are discovered during implementation of the project, the applicant would handle, manage, and dispose of such wastes in accordance to the requirements and to the satisfaction of the governing local, State, and Federal agencies.

Construction contractors would be required to water down construction areas when necessary. Fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained to reduce impacts to air quality and noise.

To mitigate for potential traffic delays, construction vehicles and equipment would be stored on-site during project construction and appropriate signage would be posted on affected roadways.

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To mitigate for public health and safety, all construction activities would be performed using qualified safety personnel trained in the proper use of the appropriate equipment including all appropriate safety precautions. All activities would be conducted according to the standards set in the OSHA regulations. Appropriate signage and barriers are to be in place prior to construction activities to alert and inform the pedestrians and motorists of the project activities.

### 6 AGENCY COORDINATION AND PERMITS

Table 4 lists the resource agencies that were contacted by letter requesting project review during the preparation of the EA. Coordination letters and responses received are included in Appendix A.

**Table 4 – Summary of Agency Coordination**

Agency	Description of Correspondence	Date Sent	Description of Response	Date Received
LDEQ	Solicitation of views, Amendment to SOV	5/21/2014, 2/3/2015	No objections, recommends precautions to protect groundwater in the region and to determine need for LDEQ water permits	7/24/2014
USACE	Solicitation of views, Amendment to SOV	5/21/2014, 2/3/2015	No anticipated adverse impacts to Corps projects; must file for a Section 404 permit	6/17/2014 Permit received 4/6/2015
USFWS	Solicitation of views, Amendment to SOV	5/21/2014, 2/3/2015	Filled out ESA form on USFWS-Lafayette website and received no impact response (USFWS, 2015)	2/10/2015
LDWF	Solicitation of views, Amendment to SOV	5/21/2014, 2/3/2015	No anticipated adverse impacts to rare, threatened, or endangered species or critical habitats  No known state or federal parks, wildlife refuges, scenic streams, or wildlife management areas adjacent to project site	6/20/2014 2/13/2015
SHPO	Solicitation of views, Amendment to SOV	5/21/2014, 2/3/2015	No impacts to historical properties is anticipated	6/4/2014 2/6/2015

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