



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
441 G STREET, NW  
WASHINGTON, DC 20314-1000

CECW-MVD

MAY 31 2016

MEMORANDUM FOR Commander, Mississippi Valley Division (ATTN: CEMVD-PD-L)

SUBJECT: Section 408 Approval for the Larose to Golden Meadow (LGM) Hurricane Storm Damage Risk Reduction Project, Louisiana - Highway 1 T-Wall

1. Reference is made to the Mississippi Valley Division (CEMVD) memorandum dated 27 May 2016, subject as above.
2. The subject request, which is part of the Louisiana Department of Transportation (LA DOTD) Highway 1 Improvement Project, consists of replacing 400 linear feet of the existing LGM earthen levee with a T-wall. The alteration is located in "Section A West" of the LGM Project near levee station 118+00 approximately 2 miles north of the Leon Theriot floodgate. The T-wall will be at an elevation of +13.5 (NAVD 88), maintain the required level of risk reduction associated with the LGM project, ease operations and maintenance requirements, and would be consistent with the 2% level of risk reduction at year 2085.
3. Headquarters, U.S. Army Corps of Engineers has completed a review of the field submittal package for the subject request and concurs that all issues have been resolved. The LA DOTD request to modify the LGM Project in accordance with 33 USC 408 is approved. Prior to LA DOTD issuing its contract notice to proceed, the Type II Independent External Peer Review (IEPR) must be complete. The district shall ensure that any significant concerns from the IEPR are addressed. The Findings of No Significant Impact has been executed and is enclosed.
4. The New Orleans District Commander will provide the official written approval notification to the requester. The district commander's notification may include additional special conditions as the commander determines to be appropriate.
5. Questions or concerns regarding this matter should be directed to Mr. Joseph Redican, Deputy Chief, Mississippi Valley Division Regional Integration Team, at (202) 761-4523.

A handwritten signature in black ink, appearing to read "S. L. Stockton".

STEVEN L. STOCKTON, P.E.  
Director of Civil Works



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
441 G STREET, NW  
WASHINGTON, DC 20314-1000

CECW-MVD

## ENVIRONMENTAL ASSESSMENT #551

### REQUEST FOR PERMISSION TO ALTER A U.S. ARMY CORPS OF ENGINEERS PROJECT PURSUANT TO 33 U.S.C. SECTION 408

#### T-WALL CONSTRUCTION - LAROSE TO GOLDEN MEADOW HURRICANE PROTECTION LEVEE, LOUISIANA 1 IMPROVEMENTS PROJECT LAFOURCHE PARISH, LOUISIANA

#### FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the Environmental Assessment (EA) #551 for the requested alteration to construct a T-Wall in the Larose to Golden Meadow (LGM) Hurricane Protection Levee in Lafourche Parish, Louisiana. This finding incorporates by reference all discussions and conclusions contained in the EA attached hereto.

The requested alteration under 33 USC Section 408 was submitted by Sigma Consulting Group, Inc., as agent for and on behalf of the Louisiana Department of Transportation and Development (DOTD), collectively referred to herein as the "requester." The proposed action (also called the "requester's preferred alternative") consists of constructing a T-Wall in a USACE federally authorized civil works project, the LGM Hurricane Protection Levee, to accommodate a four-lane controlled-access highway.

The requested alteration is part of DOTD's Louisiana 1 (LA-1) Improvements Project which includes construction of an elevated 17-mile four lane controlled access highway between Golden Meadow and Fourchon, Louisiana. The requested alteration would consist of replacing a portion of the LGM Hurricane Protection Levee with a T-wall supported on two rows of H-piles with a steel pile cutoff wall. The top of the T-wall base would be at elevation +13.5 NAVD 88 (2004.65) supporting a wall stem of 7.5 feet. This corresponds to an elevation of +21.0 feet and a 2% annual chance of exceedance. This elevation is above the current 14.8 feet elevation of the LGM Hurricane Protection Levee. The T-wall would be 400 feet in length and would be installed in "Section A West" near levee station 118+00 approximately 2 miles north of the Leon Theriot floodgate. The requested alteration has been designed and will be constructed to USACE Hurricane and Storm Damage Risk Reduction System Design Guideline (HSDRRSDG) standards.

The EA evaluated the requester's preferred alternative and the no action alternative. Based on information analyzed in the EA, which reflected pertinent information obtained from agencies having jurisdiction by law/or special expertise, I conclude that the

proposed action will not significantly impact the quality of the human environment and does not require an Environmental Impact Statement. Reasons for this conclusion are:

a. No significant adverse impacts were identified to wetlands, wildlife, threatened and endangered species, cultural resources, socio-economic resources, environmental justice, air quality, water quality and hydrology, aquatic resources and fisheries, essential fish habitat, aesthetics, and noise resources.

b. The Requester's proposed alteration is encompassed within the larger LA-1 Improvements Project and a permit application pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (RHA) is currently being processed by the CEMVN Regulatory Branch (MVN 2004-01455-MS). A Joint Public Notice with the Louisiana Department of Environmental Quality (DEQ) was issued on 24 October 2015. The Section 404/10 permit evaluation includes anticipated impacts to 2.2 acres of saline marsh associated with the proposed T-Wall construction (Section 408 project area of alteration). A CWA 404(b)(1) evaluation will be prepared as part of the Section 404 permit process. If granted, the Section 404/10 permit would require compensatory mitigation for anticipated impacts to 2.2 acres of wetlands associated with the construction of the floodwall in the LGM Hurricane Protection Levee. Compensatory mitigation for these marsh impacts are included in the mitigation plan currently being processed through the Sections 404/10 permitting activities.

c. Pursuant to Section 401 of the Clean Water Act, a Joint Public Notice with La. DEQ was issued on 24 October 2015. Water quality certification (WQC 151020-01) was received from the State of Louisiana, dated 23 November 2015.

d. Pursuant to the Coastal Zone Management Act, a Joint Use Permit Application (CUP number P20150558) was submitted through the Louisiana Department of Natural Resources – Coastal Management Division for a Coastal Use Permit for the LA-1 Improvements Project in accordance with the State and local regulations of the Coastal Resources Program. Construction associated with the proposed Section 408 alteration is encompassed in the application.

e. Coordination with the National Marine Fisheries Service, in accordance with the Magnuson-Stevens Act, is being conducted as part of the MVN Regulatory Permitting action of the LA-1 Improvements project (MVN 2004-01455-MS). The National Marine Fisheries Service provided the following Essential Fish Habitat Conservation Recommendation associated with the Regulatory permitting action:

*The applicant should be required to provide compensatory mitigation sufficient to fully offset all anticipated direct and indirect project impacts to marsh. The mitigation plan should be required to be developed in coordination with NMFS, made a special condition of any permit authorizing highway construction, and its implementation should be required by permit special condition to be concurrent with the construction of the causeway.*

The compensatory mitigation plan is being coordinated with the National Marine Fisheries Service, in accordance with the Magnuson-Stevens Act, as part of the MVN Regulatory Permitting action of the Phase 2 construction for the LA-1 Improvements Project (MVN 2004-01455-MS).

f. The requester's preferred alternative is located primarily within the LGM Hurricane Protection Levee and was determined to have no effect on threatened or endangered species or to designated critical habitat pursuant to the Endangered Species Act. The marsh immediately adjacent to the Larose to Golden Meadow Hurricane Protection Levee is not suitable habitat for the West Indian Manatee (*Trichechus manatus*).

Coordination pursuant to the Endangered Species Act for the larger LA-1 Improvement project footprint was processed through the CEMVN Regulatory Branch and includes a not likely to adversely affect determination for the West Indian Manatee. The U.S. Fish and Wildlife Service provided threat minimization measures for the West Indian Manatee associated with the larger LA-1 Improvement project footprint and these measures have been incorporated into the on-going Regulatory permitting action (MVN 2004-01455-MS).

g. A Phase I Site Assessment was conducted for the entire LA-1 Improvements study area in accordance with the American Society for Testing and Materials (ASTM) Standard E-1527, as described in the Final Environmental Impact Statement for the Golden Meadow to Port Fourchon, Project prepared by the U.S. Department of Transportation – Federal Highway Administration and the Louisiana DOTD, dated September 2002. There were no potential hazardous materials sites located within the Section 408 project boundaries. Proposed excavation activities within the Section 408 project footprint would be within the levee rights-of-way; thus, the risk for encountering HTRW is low. If an HTRW problem is encountered, the requester will be responsible for planning and accomplishing any HTRW response measures, and all associated costs.

h. In accordance with Executive Order 11988 Floodplain Management, it has been determined that the requester's preferred alternative would not accelerate development of the floodplain.

i. The proposed action would not result in any direct, indirect or cumulative impacts to cultural resources.

Further, pursuant to 33 U.S.C. Section 408, the EA evaluated whether the requested alteration would impair the usefulness of the USACE project and whether the requested alteration would be injurious to the public interest. Based on that evaluation, I have concluded the following:

Potential to Impair the Usefulness of the Project. The requested alteration would not limit the ability of the USACE project to function as authorized and would not compromise any authorized project conditions, purposes or outputs. The floodwall that would replace a 400 foot section of the LGM earthen levee would be higher, more resilient and more resistant to storm surges and flooding than the existing LGM earthen levee.

Potential to be Injurious to the Public Interest. I have determined that the benefits of the proposed floodwall outweigh the risks associated with degrading the earthen levee to allow construction of the T-wall and that the benefits of the T-wall outweigh any adverse impacts associated with its construction, which would be only temporary during the construction period. Further, I have determined that the benefits of construction of an elevated highway, which is the purpose of the alteration, would greatly outweigh any negative impacts associated with replacement of a 400 foot section of the LGM earthen levee with a T-wall. This elevated highway would allow local residents to travel during stormy weather and would provide an evacuation route in the event of tropical storms and hurricanes. Consequently, I have determined that the proposed alteration would not be injurious to the public interest.

Full environmental compliance for the requester's preferred alternative would be achieved upon approval of the CEMVN CWA Section 404 and RHA Section 10 permit, fulfillment of any special conditions associated with that permit, including with respect to compensatory mitigation, and receipt of all required State permits pursuant to the Clean Water Act and Coastal Zone Management Act.

Based on the evaluation contained in the EA and summarized above, I find the requested alteration will not significantly affect the human environment and that it does not require an Environmental Impact Statement. I further find that the requested alteration would not impair the usefulness of the USACE project and that it would not be injurious to the public interest.



STEVEN L. STOCKTON, P.E.  
Director of Civil Works

**ENVIRONMENTAL ASSESSMENT #551**

**Request for Permission to Alter A U.S. Army Corps of Engineers Project  
Pursuant to 33 U.S.C. Section 408**

**T-Wall Construction – Larose to Golden Meadow Hurricane Protection Levee,  
Louisiana 1 Improvements Project  
LaFourche Parish, Louisiana**



**U.S. Army Corps of Engineers  
Mississippi Valley Division  
Regional Planning and Environmental Division South**

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## **ENVIRONMENTAL ASSESSMENT #551**

### **Request for Permission to Alter A U.S. Army Corps of Engineers Project Pursuant to 33 U.S.C. Section 408**

#### **T-Wall Construction –Larose to Golden Meadow Hurricane Protection Levee, Louisiana 1 Improvements Project LaFourche Parish, LA**

### **1.0 INTRODUCTION**

The U.S. Army Corps of Engineers (USACE) has received a request for permission to alter a USACE project pursuant to Section 14 of the Rivers and Harbors Act of 1899, codified at 33 U.S.C. Section 408 (“Section 408”). The New Orleans District (CEMVN) (CEMVN) has prepared this environmental assessment (EA #551) to evaluate impacts associated with the requested alteration that would replace a 400 foot section of the Larose to Golden Meadow (LGM) Hurricane Protection Levee in Lafourche Parish, Louisiana with a T-wall (Figure 1). The requested alteration is part of the Louisiana Department of Transportation (LADOTD) Louisiana (LA 1) Improvements Project which includes construction of an elevated 17-mile four lane controlled access highway between Golden Meadow and Fourchon, Louisiana. A decision on a Section 408 request is a federal action, and therefore subject to the National Environmental Policy Act (NEPA) and other environmental compliance requirements. USACE has authority under Section 408 only over the specific activities or portions of activities that have the potential to alter, use or occupy a USACE project. Thus, the scope of analysis for this NEPA document is limited to the area of the requested alteration and those adjacent areas that could be directly or indirectly affected by the requested alteration within the USACE project boundaries, specifically the Larose to Golden Meadow Hurricane Protection Levee.

The Larose to Golden Meadow (LGM) Hurricane Protection Project was authorized by the Flood Control Act of 1965 (PL 89-298). The authorized project (formerly called Grand Isle and Vicinity) provides hurricane and storm damage risk reduction to the communities located along both banks of Bayou Lafourche between Larose and Golden Meadow in Lafourche Parish, Louisiana. The project essentially forms a ring levee approximately 48 miles long and includes levee, floodwalls, pump stations and floodgates. The system is operated and maintained by the South Lafourche Levee District.

The U.S. Department of Transportation – Federal Highway Administration and the Louisiana DOTD finalized an Environmental Impact Statement, entitled “Louisiana 1 Improvements, Golden Meadow to Port Fourchon,” dated September 2002.

Cooperating agencies included the U.S. Environmental Protection Agency, USACE-New Orleans District, U.S. Coast Guard – Eighth Coast Guard District, and U.S. Department of Commerce, National Oceanic and Atmospheric Administration – National Marine Fisheries Service. The Record of Decision (ROD) was signed in January 2003 and revised in May 2004, March 2009, and February 2011.

This EA provides sufficient information concerning the potential adverse and beneficial environmental effects to allow the District Commander, U.S. Army Corps of Engineers, New Orleans District, to make an informed decision on the appropriateness of an environmental impact statement (EIS) or a finding of no significant impact (FONSI) for the evaluation of the requested alteration. This document has been prepared in accordance with the National Environmental Policy Act of 1969 and the Council on Environmental Quality's regulations (40 CFR 1500-1508), and USACE Engineering Regulation ER 200-2-2. Additional policy and procedural guidance specific to Section 408 requests is set forth in Engineering Circular (EC) 1165-2-216.

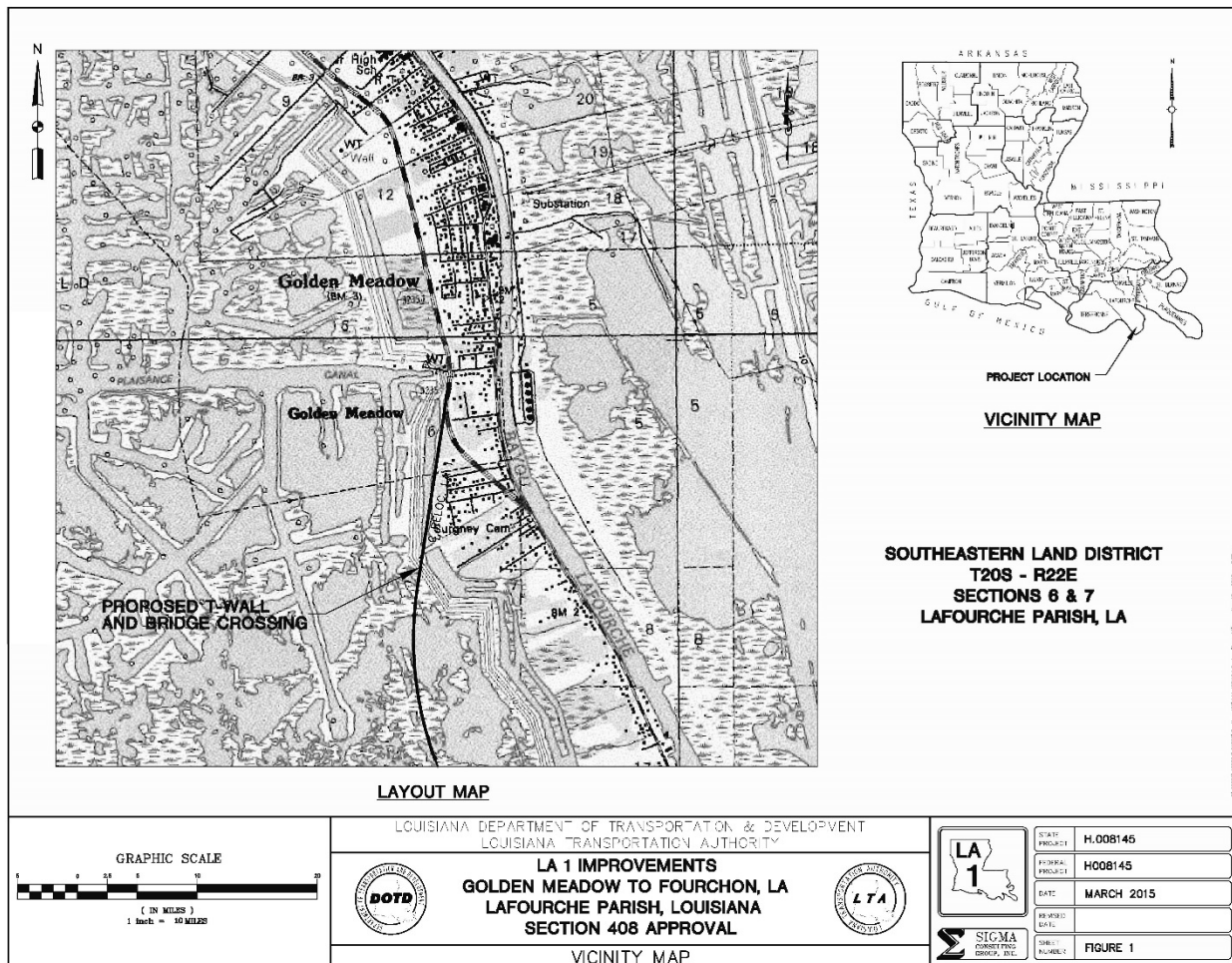


Figure 1. Section 408 Project Location of the T-Wall construction in the LGM Hurricane Protection Levee within the U.S. Army Corps of Engineers, New Orleans District Boundaries.

**1.1 REQUESTED ALTERATION.** The requested alteration is part of the LA 1 Improvements Project which includes construction of an elevated 17-mile four lane controlled access highway between Golden Meadow and Fourchon, Louisiana. The requested alteration would be a T-wall configuration supported on two rows of H-piles with a steel pile cutoff wall. The top of the T-wall base would be at elevation +13.5 NAVD 88 (2004.65) with a wall stem of 7.5 feet. This corresponds to an elevation of +21.0 feet and a 2% annual chance of exceedance. This elevation is above the current elevation for the LGM levee of 14.8 feet (based on DOTD information). The T-wall would be 400 feet in length and would be installed in “Section A West” near levee station 118+00 approximately 2 miles north of the Leon Theriot floodgate. A more detailed description can be found in Section 2.2. The proposed plans are included in Appendix 1.

**1.2 PURPOSE AND NEED FOR THE REQUESTED ALTERATION.** LA 1 from Interstate-10 at Port Allen to LA 3090 at Port Fourchon is designated as a principal arterial of the National Highway System (NHS). LA 1 is included as part of the NHS because of its intermodal link to the nation’s energy supply. The proposed facility would complete the southernmost portion of this NHS route, connecting to LA 3235, an existing four-lane divided highway west of Golden Meadow. When completed, a four-lane divided highway facility would be available from LA 3090 just north of Port Fourchon, through Golden Meadow and on north to just above Galliano. The need for the project is because LA 1 is:

- The only highway in the area,
- Is the only transportation route for workers entering and exiting Port Fourchon,
- Is impassable during inclement weather,
- Serves as the transportation route for fish harvested in the regions waters, and
- Is the only hurricane evacuation route for thousands of people in south Lafourche Parish.

The overall purpose of the project is to sustain and improve these functions. The alignment of the proposed elevated highway requires crossing the existing LGM Hurricane Protection Levee on the west side of the ring levee in Golden Meadow. This would result in impacts to the existing levee from the proposed bridge construction.

The alignment of the proposed elevated highway requires crossing the existing LGM Hurricane Protection Levee on the west side of the ring levee system in Golden Meadow.

The NFS has current plans to raise the existing levee in the location of the proposed bridge crossing to elevation +17 NAVD88 (2004.65). In order to maintain a consistent level of protection, levees within the southeast Louisiana area require periodic levee lifts to account for settlement and subsidence. For the levee crossing two options were considered for the bridge: (1) construct the bridge over the existing levee to an elevation

in accordance with HSDRRS guidelines, or (2) replace existing levee with floodwall under the proposed LA 1 bridge crossing. Because placement of future levee material near the bridge may result in downdrag of the proposed bridge piles, the floodwall option was selected.

1.3 AUTHORITY. The authority to grant permission for temporary or permanent use, occupation or alteration of any USACE civil works project is contained in Section 14 of the Rivers and Harbors Act of 1899, codified at 33 USC 408. Specifically, 33 USC Section 408 states:

*“It shall not be lawful for any person or persons to take possession of or make use of for any purpose, or build upon, alter, deface, destroy, move, injure, obstruct by fastening vessels thereto or otherwise, or in any manner whatever impair the usefulness of any sea wall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States, or any piece of plant, floating or otherwise, used in the construction of such work under the control of the United States, in whole or in part, for the preservation and improvement of any of its navigable waters or to prevent floods, or as boundary marks, tide gauges, surveying stations, buoys, or other established marks, nor remove for ballast or other purposes any stone or other material composing such works: Provided, That the Secretary of the Army may, on the recommendation of the Chief of Engineers, grant permission for the temporary occupation or use of any of the aforementioned public works when in his judgment such occupation or use will not be injurious to the public interest: Provided further, That the Secretary may, on the recommendation of the Chief of Engineers, grant permission for the alteration or permanent occupation or use of any of the aforementioned public works when in the judgment of the Secretary such occupation or use will not be injurious to the public interest and will not impair the usefulness of such work.”*

Section 408 authorizes the Secretary of the Army to grant permission for the alteration or occupation or use of a USACE project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the authorized project.

1.4 PRIOR REPORTS.

Louisiana 1 Improvements, Golden Meadow to Port Fourchon, Final Environmental Impact Statement. The Record of Decision (ROD) was signed in January 2003 and revised in May 2004, March 2009, and February 2011. This EIS was prepared for construction of a four-lane, divided, fully controlled access elevated highway facility on a new alignment between Louisiana 3235 west of Golden Meadow, Louisiana and Louisiana 3090 at its intersection with Louisiana 1 north of Port Fourchon. The location

of the T-Wall addressed in this environmental assessment is along the same alignment addressed in this 2002 EIS. This EIS and associated RODs are incorporated herein by reference (USDOT-FHWA and LA DOTD, 2002).

Larose to Golden Meadow, Louisiana, Hurricane Protection (Formerly Grand Isle, Louisiana, and Vicinity Hurricane Protection): Environmental Impact Statement. The Statement of Findings (SOF) was signed on April 4, 1974. The EIS assesses potential impacts associated with actions required to enlarge approximately 38 miles of exterior levees and to construct approximately 5 miles of new levees, together with associated borrow pits, drainage structures, and other appurtenances, to provide risk reduction from hurricane floods along both banks of Bayou Lafourche from Larose to a point 2 miles south of Golden Meadow, Louisiana. The levee system involved is commonly referred to as the LGM levee or LGM ring levee system. The project is located entirely in Lafourche Parish, Louisiana. This EIS and its SOF are incorporated herein by reference (USACE, 1974).

Larose to Golden Meadow, Louisiana, Hurricane Protection Project, Final Supplemental EIS. The Record of Decision (ROD) was signed on May 20, 1985. This Supplemental EIS (SEIS) addresses potential impacts associated with proposed modifications of the 1974 recommended plan described above. These modifications primarily included: realignment of Section A-East of the LGM levee to exclude 1,500 acres of wetlands from the protected side of the levee; the realignment of Section D and Section E-North of the LGM levee to incorporate two previously excluded agricultural tracts within the protected side of the levee system; the realignment of floodwalls along the GIWW near Larose, and; a minor realignment of Section E-South of the LGM levee. The revised design of the LGM levee system was authorized and the subsequently constructed levee system followed this design, except for comparatively minor changes addressed in subsequent EAs. This SEIS and its ROD are incorporated herein by reference (USACE, 1985).

Environmental Assessment (EA) for the Larose to Golden Meadow, Louisiana, Hurricane Protection Project: Mitigation. The Finding of No Significant Impact (FONSI) was signed on September 18, 1986. This EA addresses potential environmental impacts associated with the implementation of a mitigation plan designed to compensate for impacts resulting from the LGM Hurricane Protection Project. The EA was accompanied by a Mitigation Report describing the proposed mitigation actions (USACE, 1987). The mitigation plan was developed as a means of mitigating direct and secondary impacts to wetlands and fish and wildlife resources that would result from construction of the LGM Hurricane Protection Project, based on the modified design of this project addressed in the 1985 SEIS discussed above.

The mitigation site identified in the approved mitigation plan encompasses 4,598 acres within the Pointeau- Chien Wildlife Management Area, located in Lafourche Parish, and situated about 5 miles west of the LGM levee system. Primary components of the mitigation plan include: (1) construction of a 7-mile long levee along the eastern

boundary of the mitigation site, and; (2) construction of 3 low-level weirs (water control structures) along the course of the constructed levee. Anticipated benefits that would be derived from the mitigation plan include: reduction of salt water intrusion; stabilization of water levels and salinity concentrations; colonization of unvegetated open water areas by desirable wetland plant species; increased submergent and emergent aquatic vegetation; increased utilization of wetlands by fish and wildlife; improved habitat conditions for various wildlife species through maintaining minimum water levels during drought conditions, stabilization of water levels, and by promoting the growth of desirable food plants.

This EA and its FONSI (USACE, 1986), together with the cited mitigation report (USACE, 1987), are incorporated herein by reference.

1.5 PUBLIC CONCERNS. A public notice soliciting comments from the public; federal, state, and local agencies and officials; Native American tribes; and other interested parties was published in the New Orleans, Baton Rouge, and Acadiana Advocate on April 19, 2016 to aid in the evaluation of potential impacts of the requested alteration on important resources. The notice of availability and public notice are included in Appendix 1. No comments were received.

## **2.0 ALTERNATIVES TO THE REQUESTED ALTERATION**

For purposes of NEPA, the no-action alternative serves as the baseline against which impacts and benefits of the action alternatives are evaluated. A description of each alternative is included below.

2.1 NO ACTION. The no-action alternative is defined as not granting Section 408 permission of the requested alteration (i.e., no proposed alterations in place).

2.2 REQUESTER'S PREFERRED ALTERNATIVE. The LADOTD requests permission to alter a Federal Project by degrading a portion of the existing levee and replacing it with a floodwall 400 feet in length in the LGM levee at "Section A West" near levee station 118+00 approximately 2 miles north of the Leon Theriot floodgate. The proposed floodwall would be a T-wall configuration supported on two rows of H-piles with a steel pile cutoff wall. The top of the T-wall base would be at elevation (EL) +13.5 feet NAVD 88 (2004.65); on top of the base would be a wall stem of 7.5 feet. This corresponds to a total EL of +21.0 feet and a 2% chance of exceedance in any given year. The proposed elevation would be above the current +14.8 feet EL. The proposed plans are included in Appendix 1.

The LGM levee would be degraded to EL 11.0 feet to accommodate a proposed 9-foot wide, 4-inch thick concrete stabilization pad. Additional 4-inch degrading is required for areas where the stabilization slab would sit. Degrading the existing levee would only be authorized outside of the June 1 to November 30 hurricane season.

In addition, a stability berm consisting of compacted fill would be constructed on the protected side of the levee along the entire floodwall length to eliminate unbalanced forces of the T-wall between these stations. Levee fill would be placed at the floodwall tie-ins to the existing levee and for construction of the stability berm on the protected side of the levee. To achieve a good bonding between placement of new fill and the existing levee, the existing levee would first be excavated and backfilled before placing the new fill. Concrete scour protection would be utilized for the levee/floodwall tie-ins, in accordance with USACE standards.

A rock berm consisting of 55-lb riprap would be constructed along the protected side of the levee toe from approximate levee station 115+89 to approximate levee station 122+00 for stability and scour protection.

Access for construction would include working from floating barges located in the canal on the protected side of the levee; material and equipment may be transported along the levee toe. The levee would be graded to provide a vehicular access ramp down the levee slope at each end of the floodwall. The ramps would be designed to approximately 1V:15H slope and a width of 14 feet. The surface would be grassed consistent with the rest of the levee crown.

A silt fence would be placed along the existing rights-of-way on both the flood and protected sides of the levee to minimize erosion and movement of soil off the construction project. All new construction and disturbed areas would be repaired and returned to design grades, or pre-construction condition, seeded and maintained until final turf is established.

### **3.0 AFFECTED ENVIRONMENT**

Detailed descriptions of the LA 1 Improvements Project Study Area, encompassing the Section 408 project footprint, are included in Section 3 of the Final EIS prepared by the U.S. Department of Transportation – Federal Highway Administration and the Louisiana DOTD, dated September 2002 (USDOT-FHWA and LA DOTD, 2002) herein referred to as the USDOT-FHWA and LADOTD, 2002 FEIS. Detailed descriptions of the LGM Hurricane Protection Levee Study Area, also encompassing the Section 408 project footprint, are included in the Affected Environment Sections of the USACE EIS and SEIS (USACE, 1974 and USACE, 1985). A summary of the affected environment is included below for reference.

**3.0.1 ENVIRONMENTAL SETTING.** The study area is located in the coastal marshes of south Louisiana's Lafourche Parish. This portion of Louisiana is characterized by extensive coastal marshes with residential and commercial development primarily limited to the communities and scattered development adjacent to Louisiana State highways LA 1, LA 3090, and LA 3235. The LGM Hurricane Protection Project provides

hurricane and storm damage risk reduction to the communities located along both banks of Bayou Lafourche between Larose and Golden Meadow in Lafourche Parish, Louisiana. The project essentially forms a ring levee approximately 48 miles long and includes levee, floodwalls, pump stations and floodgates.

**3.0.2 DESCRIPTION OF WATERSHED.** The study area lies within the Barataria-Terrebonne Estuarine System and encompasses an area of approximately 6,300 square miles in the Mississippi Deltaic Plain; it is bordered by the Mississippi and Atchafalaya Rivers. Bayou Lafourche, an abandoned distributary of the Mississippi River, is the primary waterway within the study area. The headwaters of Bayou Lafourche begin at the Mississippi River northeast of Thibodaux, Louisiana and flow southeastward through the communities of Larose, Cut Off, Galliano, Golden Meadow, and into the Gulf of Mexico. Bayou Lafourche flows through the center of the study area paralleling LA 1 until reaching about 2 miles south of the community of Leeville. An extensive network of artificial canals providing access to oil and gas wells exist within the coastal marshes. All lakes, bayous, and canals are tidally influenced.

**3.0.3 CLIMATE.** The climate of Lafourche Parish is characterized by long, humid, and hot summers, comparatively short, mild winters, and abundant rainfall. In winter, the average temperature is approximately 54 degrees Fahrenheit, and the average daily minimum temperature is 44 degrees. In summer, the average temperature is approximately 81 degrees, and the average daily maximum temperature is 90 degrees. The total annual precipitation averages approximately 60 inches. Hurricanes and tropical storms can occur from June through November. Tropical storms occur typically every 1-2 years, and hurricanes every 3-5 years. Tropical storms occur with a frequency of approximately one storm every 1.6 years and hurricanes occur once every 4.1 years within a 75 mile radius of New Orleans (U.S. National Hurricane Center, 1995). These storms can bring periods of intense rainfall and wind accompanied by storm surges from the Gulf of Mexico.

**3.0.4 GEOLOGY AND SOILS.** The proposed project area is located within the eastern portion of the Mississippi River Deltaic Plain. Principal physiographic features are natural levee ridges which mark the ancient courses of the Mississippi River and its distributary channels, and marshlands that lie between the natural levee ridges. Common soils in the area include the Scatlake series found in saline marshes that are ponded and flooded most of the time, and the Fausse series found in swamps that are adjacent to the natural levees of distributary channels.

### **3.1 RELEVANT RESOURCES**

This section contains a description of those resources that could be impacted by the Requester's proposed alteration. The important resources described in this section (Table 1) are those recognized by laws, executive orders, regulations, and other standards of national, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public. While the description



of the existing conditions of the relevant resources relies on data and information incorporated from the USDOT-FHWA and LADOTD 2002 EIS, the current conditions of the resources within the areas that will be directly or indirectly affected by the proposed alteration would not have changed in any meaningful way since the time that data was collected. The scope of the Section 408 analysis is limited to the Federal project right of way, which in this case is primarily earthen levee with some fringe wetland on the floodside of the levee. Consequently, the decision regarding the requested alteration should not be affected by reference to information provided in the 2002 EIS. The following resources have been considered and found to not be affected by the alternatives under consideration: recreational resources, prime and unique farmlands, terrestrial resources, beaches, and gulf water bottoms.

<b>Table 1: Relevant Resources</b>			
<b>Resource</b>	<b>Institutionally Important</b>	<b>Technically Important</b>	<b>Publicly Important</b>
<b>Wetlands</b>	Clean Water Act of 1977, as amended; Executive Order 11990 of 1977, Protection of Wetlands; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968., EO 11988, and Fish and Wildlife Coordination Act.	They provide necessary habitat for various species of plants, fish, and wildlife; they serve as ground water recharge areas; they provide storage areas for storm and flood waters; they serve as natural water filtration areas; they provide protection from wave action, erosion, and storm damage; and they provide various consumptive and nonconsumptive recreational opportunities.	The public places a high value on the functions and values that wetlands provide. Environmental organizations and the public support the preservation of marshes and other wetlands.
<b>Wildlife</b>	Fish and Wildlife Coordination Act of 1958, as amended; the Migratory Bird Treaty Act of 1918; and Bald and Golden Eagle Protection Act of 1940, as amended	They are a critical element of many valuable aquatic and terrestrial habitats; they are an indicator of the health of various aquatic and terrestrial habitats; and many species are important commercial resources.	The high priority that the public places on their aesthetic, recreational, and commercial value.
<b>Threatened and Endangered Species</b>	The Endangered Species Act of 1973, as amended.	Federal and state wildlife agencies cooperate to protect these species. The status of such species provides an indication of the overall health of an ecosystem.	The public supports the preservation of rare or declining species and their habitats.

<b>Resource</b>	<b>Institutionally Important</b>	<b>Technically Important</b>	<b>Publicly Important</b>
<b>Cultural Resources</b>	National Historic Preservation Act of 1966, as amended; the Native American Graves Protection and Repatriation Act of 1990; and the Archeological Resources Protection Act of 1979	State and Federal agencies document and protect important sites because of their association or linkage to past events, to historically important persons, to design and construction values, and for their ability to yield important information about prehistory and history.	Preservation groups and private individuals support protection and enhancement of historical resources.
<b>Socio-economic Resources</b>	River and Harbor Flood Control Act of 1970 (PL 91-611); Public Law 91-605	N/A	Social concerns and items affecting area economy are of significant interest to community.
<b>Environmental Justice</b>	Executive Order 12898 and the Department of Defense's Strategy on Environmental Justice of 1995.	The social and economic welfare of minority and low-income populations may be positively or disproportionately impacted by the tentatively selected plans.	Public concerns about the fair and equitable treatment (fair treatment and meaningful involvement) of all people with respect to environmental and human health consequences of federal laws, regulations, policies, and actions.
<b>Air Quality</b>	Clean Air Act of 1963, Louisiana Environmental Quality Act of 1983.	State and Federal agencies recognize the status of ambient air quality in relation to the National Ambient Air Quality Standards (NAAQS).	Virtually all citizens express a desire for clean air.
<b>Water Quality and Hydrology</b>	Clean Water Act of 1977, Fish and Wildlife Coordination Act, Coastal Zone Management Act of 1972, and La State & Local Coastal Resources Act of 1978.	Federal and state water quality agencies recognize value of fisheries and good water quality. National and state standards are established to assess water quality.	Environmental organizations and the public support the preservation of water quality and fishery resources and the desire for clean drinking water.
<b>Aquatic Resources/ Fisheries</b>	Fish and Wildlife Coordination Act of 1958, as amended	They are a critical element of many valuable freshwater and marine habitats; they are an indicator of the health of the various freshwater and marine habitats; and many species are important commercial resources.	The public places a high priority on their aesthetic, recreational, and commercial value.

<b>Resource</b>	<b>Institutionally Important</b>	<b>Technically Important</b>	<b>Publicly Important</b>
<b>Essential Fish Habitat(EFH)</b>	Magnuson-Stevens Fishery Conservation and Management Act of 1996, Public Law 104-297	Federal and state agencies recognize the value of EFH. The Act states, EFH is "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity."	Public places a high value on seafood and the recreational and commercial opportunities EFH provides.
<b>Aesthetics</b>	USACE ER 1105-2-100, and National Environmental Policy Act of 1969, the Coastal Barrier Resources Act of 1990, Louisiana's National and Scenic Rivers Act of 1988, and the National and Local Scenic Byway Program.	Visual accessibility to unique combinations of geological, botanical, and cultural features that may be an asset to a study area. State and Federal agencies recognize the value of beaches and shore dunes.	Environmental organizations and the public support the preservation of natural pleasing vistas.
<b>Noise</b>	Noise Control Act of 1972	Excessive noise may result in the movement of animals out of an area and/or may destroy the enjoyment of otherwise esthetically pleasing area.	Public demands excessive noise be reduced.

### **3.1.1 WETLANDS**

Existing Conditions: Detailed descriptions of existing wetlands in the LA 1 Improvements Project Study Area, encompassing the Section 408 project footprint, are included in Section 3.9 of the USDOT-FHWA and LA DOTD, 2002 FEIS and in the Environmental Setting and Significant Resources Sections of the USACE EIS and SEIS, respectively (USACE, 1974 and USACE, 1985). Wetlands in the vicinity of the Requester's proposed alteration include those typical of intertidal and subtidal estuarine habitats located adjacent to the Hurricane Protection Levee. Scrub-shrub habitat exists on spoil banks created by the dredging of canals for navigation and oil and gas exploration. Emergent marsh habitat is also present in the vicinity of the Hurricane Protection Levee. Salinity levels in the marsh in the vicinity of Golden Meadow is about 4.8 parts per thousand (ppt) (USDOT-FHWA and LA DOTD, 2002). Common vegetation includes Oyster grass (*Spartina alterniflora*), saltgrass (*Distichlis spicata*), Wire grass (*Spartina patens*), and three square (*Scirpus olney*).

### **3.1.2 WILDLIFE**

Existing Conditions: Detailed descriptions of existing wildlife in the LA 1 Improvements Project Study Area, encompassing the Section 408 project footprint, are included in Section 3.10 of the USDOT-FHWA and LA DOTD, 2002 FEIS and in the Environmental

Setting and Significant Resources Sections of the USACE EIS and SEIS, respectively (USACE, 1974 and USACE, 1985). The Hurricane Protection Levee itself does not provide valuable habitat for wildlife; however, wildlife species expected to occur in the emergent marsh and canals adjacent to Requester's proposed alteration include: waterfowl, such as, mallards blue-winged teal, green-winged teal, gadwalls, American widgeons, shovelers, pintails, ring-necked ducks, lesser scaup, common moorhen, and American coots; water birds, such as, snipes, egrets, herons, ibis, bitterns, black-necked stilts, king rails, clapper rails, and soras; game mammals, such as, muskrat, nutria, otter, raccoon, and mink; and American alligators, frogs, and numerous snakes and turtles are also associated with these habitats.

### **3.1.3 THREATENED AND ENDANGERED SPECIES**

Existing Conditions: The Requester's proposed alteration is within the range of the federally endangered West Indian Manatee (*Trichechus manatus*). No other listed species or designated critical habitat occur within the project area.

The endangered West Indian manatee (*Trichechus manatus*) is known to regularly occur in Lakes Pontchartrain and Maurepas and their associated coastal waters and streams. It also can be found less regularly in other Louisiana coastal areas, most likely while the average water temperature is warm. Based on data maintained by the Louisiana Natural Heritage Program (LNHP), over 80 percent of reported manatee sightings (1999-2011) in Louisiana have occurred from the months of June through December. Manatee occurrences in Louisiana appear to be increasing and they have been regularly reported in the Amite, Blind, Tchefuncte, and Tickfaw Rivers, and in canals within the adjacent coastal marshes of southeastern Louisiana. Manatees may also infrequently be observed in the Mississippi River and coastal areas of southwestern Louisiana. Manatees are herbivores typically feeding on non-native water hyacinths and hydrilla, along with native aquatic plants such as eelgrass. Cold weather and outbreaks of red tide may adversely affect these animals. However, human activity is the primary cause for declines in species number due to collisions with boats and barges, entrapment in flood control structures, poaching, habitat loss, and pollution.

### **3.1.4 CULTURAL RESOURCES**

Existing Conditions: A literature and records review for the LA 1 Improvements Project, encompassing the area of the Requester's proposed alteration, was conducted in the vicinity of the Requester's proposed alteration during the completion of the SDOT-FHWA and LA DOTD 2002 EIS. Terrestrial and underwater (magnetometer) archaeological and historic structure surveys are being completed for the different phases of the LA 1 Improvement Project upon acquisition of rights-of-way, as detailed in agreement included in the FEIS between the FHWA, DOTD and the Louisiana State Historic Preservation Officer (SHPO) (USDOT-FHWA and LA DOTD, 2002). In August 2008, a cultural resources survey was performed on the alignment of the LA 1 Improvements Project Phase 2 northern alignment, and judgemental shovel testing and

bank line inspections did not recover any artifacts or other evidence of archaeological sites within the alignment, as referenced in the USDOT-FHWA and LA DOTD Record of Decision, dated 2009. Cultural resources surveys and associated results for the construction of the LGM Hurricane Projection Levee were conducted as detailed in the Archaeological/Historical/Cultural Elements Section and the Cultural Resources Section of the USACE EIS and SEIS, respectively (USACE, 1974 and USACE, 1985). The Requester's proposed alteration is located in Section A West of the LGM Hurricane Protection Levee. Section A West was surveyed for cultural resources in 1986 with negative findings (Poplin et al., 1986). USACE is unaware of properties listed on the National Register of Historic Places near the Requester's proposed alteration.

### **3.1.5 SOCIO-ECONOMIC RESOURCES**

Existing Conditions: Detailed descriptions of socio-economic resources in the LA 1 Improvements Project Study Area, encompassing the Section 408 project footprint, are included in Sections 3.1 and 3.2 of the USDOT-FHWA and LA DOTD, 2002 FEIS. There are no residential or commercial development in the area of the Requester's proposed alteration consisting of the Hurricane Protection Levee. The closest community is Golden Meadow located just east of the levee with approximately 2,200 residents. Commercial fishing and the oil and gas industry form the primary economic base of the LA 1 Improvements Project Study Area.

### **3.1.6 ENVIRONMENTAL JUSTICE**

Existing Conditions: The Department of Defense's Strategy on Environmental Justice of 1995, directs Federal agencies to identify and address any disproportionately high adverse human health or environmental effects of Federal actions to minority and/or low-income populations. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, and Pacific Islander. A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population. No residential, commercial, or industrial areas exist within the proposed area of alteration for the Section 408 project. An analysis of minority and low-income populations within communities associated with the overall LA 1 Improvements Project Study Area is included in Section 3.3 of the USDOT-FHWA and LA DOTD, 2002 FEIS.

### **3.1.7 AIR QUALITY**

Existing Conditions: The Clean Air Act (CAA) requires the EPA to set air quality standards, referred to as the National Ambient Air Quality Standards (NAAQS). Lafourche Parish is currently in attainment of all NAAQS. This classification is the result of area-wide air quality modeling studies.

### **3.1.8 WATER QUALITY AND HYDROLOGY**

Existing Conditions: The waterbodies adjacent to the area of the Requester's proposed alteration include the immediately adjacent marsh and associated canals on the floodside of the Hurricane Protection Levee and an immediately adjacent drainage canal on the protected side of the levee. Salinity level in the marsh in the vicinity of Golden Meadow is about 4.8 parts per thousand (ppt) (USDOT-FHWA and LA DOTD, 2002). All waterbodies are tidally influenced. The drainage canal immediately adjacent to the protected side of the Hurricane Protection Levee drains south to a pumping station near the Leon Theriot Floodgate where it empties into the marsh outside of the levee system. The waterbodies adjacent to the area of the Requester's proposed alteration are located within Louisiana Department of Environmental Quality's (LDEQ) Bully Camp Canal to Lake Raccourci subsegment (LA120706\_00) in the Terrebonne Basin. According to the latest Louisiana Water Quality Assessment Program Report, no waterbodies within or adjacent to the area of the Requester's proposed alteration are on the 2014 303d list of impaired waters for the state of Louisiana, and this subsegment fully supports the following state water use designations: primary contact recreation (swimming), secondary contact recreation (boating), fish and wildlife propagation, and oyster propagation (LDEQ, 2014).

### **3.1.9 AQUATIC RESOURCES AND FISHERIES**

Existing Conditions: Detailed descriptions of existing aquatic resources and fisheries in the LA 1 Improvements Project Study Area, encompassing the Section 408 project footprint, are included in Section 3.10 of the USDOT-FHWA and LA DOTD, 2002 FEIS and in the Environmental Setting and Significant Resources Sections of the USACE EIS and SEIS, respectively (USACE, 1974 and USACE, 1985). The aquatic community in the estuary which surrounds the area of the Requester's proposed alteration is influenced by the prevailing environmental conditions such as salinity regimes, water depth, tidal fluctuation, and vegetational communities. Common fish species would include: Bay anchovy (*Anchoa mitchilli*), channel catfish (*Ictalurus punctatus*), blue catfish (*Ictalurus furcatus*), Atlantic croaker (*Micropogonias undulatus*), alligator gar (*Lepisosteus spatula*), and Gulf menhaden (*Brevoortia patronus*). The Barataria-Terrebonne Estuary also provides habitat for spawning, post-larval, and juvenile development of aquatic invertebrates. Common aquatic invertebrates include brown shrimp (*Penaeus aztecus*), white shrimp (*Penaeus setiferus*), pink shrimp (*Penaeus duorarum*), seabob shrimp (*Xiphopenaeus kroyeri*), blue crab (*Callinectes sapidus*), eastern oyster (*Crassostrea virginica*), stone crab (*Menippe adina*), and clam (*Rangia cuneata*).

### **3.1.10 ESSENTIAL FISH HABITAT**

Existing Conditions: Detailed descriptions of essential fish habitat in the LA 1 Improvements Project Study Area, encompassing the Section 408 project footprint, are included in Section 3.11 of the USDOT-FHWA and LA DOTD, 2002 FEIS. The Barataria-Terrebonne National Estuary supports one of the most prolific and profitable fisheries in the nation. The Magnuson-Stevens Fishery Conservation and Management

Act of 1996 was passed with the intent of protecting fishery habitat and resources. Coordination with the National Marine Fisheries Service (NMFS), in accordance with the Magnuson-Stevens Act, is being conducted as part of the MVN Regulatory Permitting action of the Phase 2 construction for the LA 1 Improvements Project (MVN 2004-01455-MS). As part of this coordination effort, NMFS described the overall essential fish habitat of the Phase 2 construction, encompassing the Section 408 project footprint, as follows:

The proposed causeway is in an area designated as essential fish habitat (EFH) for various life stages of federally managed species, including post larval and juvenile stages of brown shrimp, white shrimp, lane snapper and red drum and adult gray snapper. In addition to being designated as EFH for various federally managed fishery species, wetlands and water bottoms in the area provide nursery and foraging habitats for a variety of economically important marine fishery species such as blue crab, gulf menhaden, spotted seatrout, sand seatrout, southern flounder, and striped mullet. Wetlands in the area also produce nutrients and detritus, important components of the aquatic food web, which contribute to the overall productivity of the Barataria and Timbalier Bay estuaries.

### **3.1.11 AESTHETICS**

Existing Conditions: The most notable structure in the area of the Requester's proposed alteration is the LGM Hurricane Protection Levee. Coastal marsh exists on the floodside of the Hurricane Protection Levee, while the protected side contains a canal adjacent to the residential area of Golden Meadow. The area further south to Leeville is primarily uninhabited. The Louisiana Scenic Rivers Act of 1988 was established to preserve, protect, and enhance the wilderness qualities, scenic beauties, and ecological regimes of rivers and streams in the state. There are no known, state designated scenic rivers or streams remotely near the area of the Requester's proposed alteration.

### **3.1.12 NOISE**

Existing Conditions: Detailed descriptions of existing noise in the LA 1 Improvements Project Study Area, encompassing the Section 408 project footprint, are included in Section 3.14 of the USDOT-FHWA and LA DOTD, 2002 FEIS. The determination of existing noise in the study area was determined utilizing field measurements of actual noise in the levels in accordance with DOTD Highway Traffic Noise Policy. Five short-term ambient noise measurements, 15 minutes in length, were taken at peak times using a Metrosonics dB-312 sound level meter at 110 locations between Golden Meadow and Port Fourchon. The closest measurements to the Section 408 project footprint were near two residential properties in Golden Meadow over 500 feet east of the Requester's proposed alteration, labeled R49 and R50. The measured sound levels were 53 dBA at both locations, which is below the DOTD noise abatement criteria.

## 4.0 ENVIRONMENTAL CONSEQUENCES

### 4.1 WETLANDS

Future Conditions with No Action Alternative: On the flood side of the LGM levee, the existing wetland areas are eroding as a result of saltwater intrusion and subsidence. As salinity levels gradually increase, the freshwater plant species die and the wetlands gradually convert to open water areas as tidal action and storm surges wash away the underlying organic soils. Rising sea levels further accelerate this process. It is anticipated that the existing marsh would become more saline over time and may disappear altogether with the affected areas converting to open water.

Future Conditions with the Requester's Preferred Alternative: Detailed descriptions of wetland impacts from the larger LA-1 Improvements Project, encompassing the area of alteration, are included in Section 4.8 of the USDOT-FHWA and LA DOTD, 2002 FEIS. These impacts consist of direct impacts resulting from vegetation losses due to support piles and placement of fill, and indirect impacts resulting from shading effects of an elevated highway through the marsh.

Wetland impacts from the Requester's proposed alterations are encompassed within the larger LA-1 Improvements Project. A Section 404/Section 10 permit application is currently being processed by the CEMVN Regulatory Branch (MVN 2004-01455-MS). A Joint Public Notice was issued on 24 October 2015. This evaluation includes anticipated impacts to 2.2 acres of saline marsh associated with the proposed T-Wall construction (Section 408 project area of alteration). Compensatory mitigation for these marsh impacts are included in the mitigation plan currently being processed through the Sections 404/10 permitting activities. To summarize, a total of 14.55 acres of direct impacts to wetlands and 46.05 acres of indirect wetland impacts for the Phase 2 construction of the LA-1 Improvements Project would be mitigated by marsh construction at ratios of 1.25:1 and 0.5:1, respectively. This analysis includes the 2.2 acres of wetland impact and associated mitigation due to construction of the proposed T-wall in the LGM Hurricane Protection Levee. The proposed rock berm consisting of 55-lb riprap to be constructed along the protected side of the levee toe from approximate levee station 115+89 to approximate levee station 122+00 for stability and scour protection would be processed as part of the on-going permitting action (MVN 2004-01455-MS). However, impacts from placement of rock into to open water would not require additional mitigation. Following completion of construction, the long-term local trends in wetland functions and values would remain substantially unchanged compared to the trends anticipated under the no action alternative.

### 4.2 WILDLIFE

Future Conditions with No Action Alternative: The majority of the area of the Requester's proposed alteration is within the LGM Hurricane Protection Levee footprint



which offers little habitat value to wildlife. There are no reasonably foreseeable changes to the wildlife community expected within the levee footprint compared to existing conditions due to no action. As previously discussed, it is anticipated that the adjacent marsh habitats in the general vicinity of the proposed action and situated on the flood side of the levee system would gradually become more saline over time and extensive areas would eventually be converted to open water. These long-term changes would likely result in the loss of wildlife habitat and degraded habitat functions and values.

Future Conditions with the Requester's Preferred Alternative: The majority of the area of the Requester's proposed alteration is within the LGM Hurricane Protection Levee footprint which offers little habitat value to wildlife. Approximately 2.2 acres of marsh and associated wildlife habitat adjacent to the LGM Hurricane Protection Levee would be impacted by the Requester's proposed alteration; however, the loss of these functions and values would be fully mitigated under the proposed action as described in the Wetland and Mitigation Sections. Wildlife in the marsh adjacent to the LGM Hurricane Protection Levee would be temporarily impacted due to construction activities (e.g., noise and vibration). The area of disturbance would be a relatively small part of the local habitat and mobile species would likely find refuge in other areas until construction disturbance is complete. Following completion of construction, the long-term local trends in wildlife abundance and diversity would remain substantially unchanged compared to the trends anticipated under the no action alternative.

#### **4.3 THREATENED AND ENDANGERED SPECIES**

Future Conditions with No Action Alternative: With no action, there would likely be no significant changes to threatened and endangered species and their habitats compared to current conditions.

Future Conditions with the Requester's Preferred Alternative: The majority of the proposed area of alteration is within the levee footprint, and was determined to have no effect on threatened or endangered species or to designated critical habitat pursuant to the Endangered Species Act. The marsh adjacent to the Larose to Golden Meadow Hurricane Protection Levee is not suitable habitat for the West Indian Manatee (*Trichechus manatus*).

Coordination pursuant to the Endangered Species Act for Phase 2 construction of the larger LA-1 Improvement Project footprint was processed through the CEMVN Regulatory Branch and includes a not likely to adversely affect determination for the West Indian Manatee. The U.S. Fish and Wildlife Service provided the following minimization measures to the West Indian Manatee associated with the larger LA-1 Improvement project footprint being processed through the CEMVN Regulatory Branch, and these measures have been incorporated into the on-going Regulatory permitting action (MVN 2004-01455-MS).

*During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should 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 should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable.*

- All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). We recommend the following to minimize potential impacts to manatees in areas of their potential presence:*
- All work, equipment, and vessel operation should 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 should 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 should follow routes of deep water whenever possible.*
- If used, siltation or turbidity barriers should 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 should be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities should 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 CONSRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT”. A second temporary sign measuring 8½ " X 11" should be posted at a location prominently visible to all personnel engaged in water-related activities and should 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 should be immediately reported to the 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.*

#### **4.4 CULTURAL RESOURCES**

Future Conditions with No Action Alternative: With no action, there would be no anticipated direct, indirect, or cumulative impacts to cultural resources.

Future Conditions with the Requester’s Preferred Alternative: Cultural resources surveys and associated results for the construction of the LGM Hurricane Projection Levee were conducted as detailed in the Archaeological/Historical/Cultural Elements Section and the Cultural Resources Section of the USACE EIS and SEIS, respectively (USACE, 1974 and USACE, 1985). The Requester’s proposed alteration is located in Section A West of the LGM Hurricane Protection Levee. Section A West was surveyed for cultural resources in 1986 with negative findings (Poplin et al., 1986). Additionally, a cultural resources survey was performed on the alignment of the LA 1 Improvements Project Phase 2 northern alignment, encompassing the Section 408 project limits, in August 2008 and judgemental shovel testing and bank line inspections did not recover any artifacts or other evidence of archaeological sites within the alignment, as referenced in the USDOT-FHWA and LA DOTD Record of Decision, dated 2009. The SHPO concurred with the determination on February 12, 2009. USACE is unaware of properties listed on the National Register of Historic Places near the Requester’s proposed alteration. Input was requested from the State Archeologist and State Historic Preservation Officer during the public comment period for the Section 404 permit application also encompassing the Section 408 project limits; however, no response was received. Tribal Coordination was conducted during the completion of the SDOT-FHWA and LA DOTD 2002 EIS, and no correspondence was received that identified specific concerns (USDOT-FHWA and LA DOTD, 2002).

#### **4.5 SOCIO-ECONOMIC RESOURCES**

Future Conditions with No Action Alternative: No residential or commercial development exist in the area of the Requester’s proposed alteration for the Section 408 Project as it consists of the Hurricane Protection Levee; thus, there would be no significant changes expected with no action. In the overall LA-1 Improvements Project Study area, there would be no major changes expected to the socio-economics of the

study area other than a slight increase in travel and vehicle operating costs through a decreasing level of service on area roadways with no action, as referenced in Sections 4.1 and 4.3 of the USDOT-FHWA and LA DOTD, 2002 FEIS. The current height of the levee is 14.8-feet NAVD88 (2004.65). At this time, USACE has no authority or plans to construct levee lifts into the future.

Future Conditions with the Requester's Preferred Alternative: There is no residential or commercial development in the area of the Requester's proposed alteration as it consists of the Hurricane Protection Levee. Detailed descriptions of socio-economic effects from the larger LA-1 Improvements Project are included in Sections 4.1 and 4.3 of the USDOT-FHWA and LA DOTD, 2002 FEIS. Social impacts generally included: some direct conversion of land currently in coastal marsh and open water to a transportation use, limited secondary development within the protected side of the LGM Hurricane Protection Levee, improved community service accessibility and improved emergency response time between communities, positive impact on highway and overall public safety, and relocations of one house, one mobile home, and one business with the proposed alignment. Mitigation of short-term negative construction impacts on local communities would include the provision of appropriate construction detours, informative signing, and maintenance of access to residences and businesses where applicable. Economic impacts generally included a temporary increase in construction employment, a reduction in travel costs, and additional local and regional income from sources such as transportation related taxes. During construction, degrading the existing levee would only be authorized outside of the June 1 to November 30 hurricane season minimizing risk to communities protected by the LGM Hurricane Protection Levee. There would be some residual risk due to the possibility of post-season storms. Although construction would require degrading the levee to 11 feet, that height would likely be sufficient to withstand any tidal events outside of hurricane season.

#### **4.6 ENVIRONMENTAL JUSTICE**

Future Conditions with No Action Alternative: The no action Alternative would have no direct disproportionately high or adverse human health or environmental effects on any minority and/or low-income populations as per Executive Order (E.O.) 12898.

Future Conditions with the Requester's Preferred Alternative: The requester's preferred alternative would have no direct disproportionately high or adverse human health or environmental effects on any minority and/or low-income populations as related to the area of the Requester's proposed alteration for the Section 408 project. During construction, degrading the existing levee would only be authorized outside of the June 1 to November 30 hurricane season, minimizing risk to communities protected by the LGM Hurricane Protection Levee. There would be some residual risk due to the possibility of post-season storms. Detailed descriptions of the environmental justice evaluation from completion of the larger LA-1 Improvements Project is included in Section 4.2 of the USDOT-FHWA and LA DOTD, 2002 FEIS.

## 4.7 AIR QUALITY

Future Conditions with No Action Alternative: The no action alternative would have no direct effects on Air Quality. Current trends would be expected to continue into the future.

Future Conditions with the Requester's Preferred Alternative: Any impacts to ambient air quality due to emissions from equipment used for construction operations would be localized, temporary and minor. Lafourche Parish is currently classified as in attainment of all NAAQS.

Detailed descriptions of effects to air quality from completion of the larger LA 1 Improvements Project, encompassing the Section 408 project footprint, are included in Section 4.16 of the USDOT-FHWA and LA DOTD, 2002 FEIS. To summarize that discussion, it is unlikely that O<sub>3</sub> will be impacted due to the following reasons: there is no expected change to the area's travel demand volumes other than some minor recirculation. It is unlikely that CO will be an impact due to the following reasons: the project is not expected to change the local travel patterns other than minor relocations; there are no signalized intersections that could generate measurable idling emissions; the subtropical climate is not conducive to notable CO levels; and the predicted Design Year traffic volumes are relatively low in regard to air quality.

## 4.8 WATER QUALITY AND HYDROLOGY

Future Conditions with No Action Alternative: Adjacent marsh habitats in the general vicinity of the proposed action and situated on the flood side of the levee system would gradually become more saline over time and extensive areas would eventually be converted to open water. The drainage canal immediately adjacent to the protected side of the Hurricane Protection Levee drains south to a pumping station near the Leon Theriot Floodgate where it empties into the marsh outside of the levee system. Without implementation of the proposed action, no significant changes to water quality and hydrology within this waterbody would likely occur due to current regulatory mechanisms and the existing management of the surface waters.

Future Conditions with the Requester's Preferred Alternative: Detailed descriptions of water quality impacts from the larger LA-1 Improvements Project, encompassing the area of alteration, are included in Section 4.6 of the USDOT-FHWA and LA DOTD, 2002 FEIS. Water quality impacts from the Requester's proposed alteration are encompassed within the larger LA-1 Improvements Project and a Section 404/Section 10 permit application is currently being processed by the CEMVN Regulatory Branch (MVN 2004-01455-MS). A Joint Public Notice was issued on 24 October 2015. Water quality certification (WQC 151020-01) was received from the state of Louisiana, dated 23 November 2015, and is included in the appendix. A 404(b)(1) evaluation will be completed as part of the Section 404 permit application process.

The proposed rock berm consisting of 55-lb riprap to be constructed along the protected side of the levee toe from approximate levee station 115+89 to approximate levee station 122+00 for stability and scour protection will be processed as part of the on-going permitting action (MVN 2004-01455-MS). However, impacts from placement of rock into to open water would not affect hydrology of the drainage canal or require additional mitigation. The proposed T-wall within the LGM Hurricane Protection Levee will be 4 feet higher than the adjacent levee section. Storm surges will overtop the existing levee before the proposed floodwall as water will go around the wall. The proposed action will not generate any new or increased flows. Flooding in the area is based on storm surges and overtopping. The change in floodplain storage by the installation of the floodwall is insignificant and will not affect flood elevations.

Construction impacts would include turbidity in the project area during the construction period. This impact is expected to be temporary and water quality would return to pre-project conditions after construction is complete. A silt fence would be placed along the existing rights-of-way on both the flood and protected sides of the levee to minimize erosion and movement of soil off the construction project. All new construction and disturbed areas would be repaired and returned to design grades, or pre-construction condition, seeded and maintained until final turf is established. A Stormwater Pollution Prevention Plan will be prepared in conjunction with the National Pollutant Discharge Elimination System (NPDES) permitting process prior to construction. The DOTD will minimize non-point discharge water quality impacts and will comply with all requirements of the Clean Water Act, as amended, for the construction of this proposed highway, and will include all specifications and best management practices (BMPs) necessary for control of erosion and sedimentation due to construction related activities.

A Joint Use Permit Application (CUP number P20150558) was submitted through the Louisiana Department of Natural Resources – Coastal Management Division for a Coastal Use Permit for the LA-1 Improvements Project, as part of the Section 404/Section 10 permitting activities conducted by the CEMVN Regulatory Branch (MVN 2004-01455-MS), in accordance with the State and local regulations of the Coastal Resources Program. Construction associated with the proposed Section 408 alteration is encompassed in the application.

#### **4.9 AQUATIC RESOURCES AND FISHERIES**

Future Conditions with No Action Alternative: Adjacent marsh habitats in the general vicinity of the proposed action and situated on the flood side of the levee system would gradually become more saline over time and extensive areas would eventually be converted to open water. These long-term changes would likely result in a reduction of aquatic habitat and degraded habitat functions and values to fisheries and the aquatic environment.

Future Conditions with the Requester's Preferred Alternative: The majority of the area of the Requester's proposed alteration is within the LGM Hurricane Protection Levee

footprint which comprises little habitat value to aquatic resources and fisheries. Approximately 2.2 acres of marsh adjacent to the LGM Hurricane Protection Levee would be impacted by the Requester's proposed alteration; however, the loss of these functions and values would be required to be mitigated by the Section 404 permit special conditions. Aquatic resources and fisheries in the marsh and adjacent waterbodies to the LGM Hurricane Protection Levee would be temporarily impacted due to construction activities (e.g., turbidity, noise and vibration). The area of disturbance would be a relatively small part of the local habitat and mobile species would likely find refuge in other areas until construction disturbance is complete. Following completion of construction, the long-term local trends in aquatic resource and fisheries abundance and diversity would remain substantially unchanged compared to the trends anticipated under the no action alternative.

#### **4.10 ESSENTIAL FISH HABITAT**

Future Conditions with No Action Alternative: The diversity and quality of essential fish habitat associated with estuarine areas are expected to continue to decrease as the remaining marsh converts to open-water. Only open-water essential fish habitat, which is not in short supply, would increase.

Future Conditions with the Requester's Preferred Alternative: Detailed descriptions of impacts to essential fish habitat from the larger LA-1 Improvements Project, encompassing the area of alteration, are included in Section 4.10 of the USDOT-FHWA and LA DOTD, 2002 FEIS. Coordination with the National Marine Fisheries Service, in accordance with the Magnuson-Stevens Act, is being conducted as part of the MVN Regulatory Permitting action of the LA-1 Improvements project (MVN 2004-01455-MS). The National Marine Fisheries Service provided the following Essential Fish Habitat Conservation Recommendation associated with the Regulatory permitting action:

*The applicant should be required to provide compensatory mitigation sufficient to fully offset all anticipated direct and indirect project impacts to marsh. The mitigation plan should be required to be developed in coordination with NMFS, made a special condition of any permit authorizing highway construction, and its implementation should be required by permit special condition to be concurrent with the construction of the causeway.*

Impacts to the 2.2 acres of marsh from the Requester's proposed alteration are encompassed within the larger LA-1 Improvements Project, and a Section 404/Section 10 permit application is currently being processed by the CEMVN Regulatory Branch (MVN 2004-01455-MS). Compensatory mitigation for these marsh impacts are included in the mitigation plan being prepared and coordinated as part of the on-going Sections 404/10 permitting activities. Compensatory mitigation includes marsh construction at ratios of 1.25:1 for direct impacts and 0.5:1 for indirect impacts, respectively. The mitigation plan is being coordinated with the National Marine Fisheries Service, in

accordance with the Magnuson-Stevens Act, as part of the MVN Regulatory Permitting action of the LA-1 Improvements project (MVN 2004-01455-MS).

#### **4.11 AESTHETICS**

Future Conditions with No Action Alternative: Without implementation of the proposed action, there would be no considerable alterations to the existing visual resources.

Future Conditions with the Requester's Preferred Alternative: Detailed descriptions of the visual changes attributable to the overall LA 1 Improvements Project, encompassing the Section 408 project footprint, are included in Section 4.4 of the USDOT-FHWA and LA DOTD, 2002 FEIS. Visual changes that are attributable to the proposed highway generally takes two forms: views of the proposed highway and views from the proposed highway. In terms of views of the proposed highway, residents in Golden Meadow area in close proximity to the proposed highway would be visually impacted. The Hurricane Protection Levee would serve to shield the highway as it moves southward beyond the Leon Theriot Floodgate. The views of the surrounding landscape from the proposed highway could be considered beneficial and would predominantly be a rural vista marked by fishing and petroleum activities and adjacent marsh and open water. Numerous opportunities would exist, particularly at the high-level bridges, for motorist views across the expansive coastal marsh areas, active fishing vessels, offshore oil production facilities, and views of distant rural communities.

#### **4.12 NOISE**

Future Conditions with No Action Alternative: Noise determinations were conducted during completion of the 2002 FEIS conducted by the U.S. Department of Transportation – Federal Highway Administration and the Louisiana DOTD. The closest measurements to the Section 408 project footprint were near two residential properties in Golden Meadow over 500 feet east of the proposed T-Wall location, labeled R49 and R50. The measured sound levels were 53 dBA at both locations and were not expected to change with no action.

Future Conditions with the Requester's Preferred Alternative: Detailed descriptions of the noise impacts attributable to the overall LA 1 Improvements Project, encompassing the Section 408 project footprint, are included in Section 4.17 of the USDOT-FHWA and LA DOTD, 2002 FEIS. The noise analysis for the closest measurements to the Section 408 project footprint were near two residential properties in Golden Meadow over 500 feet east of the proposed T-Wall location, labeled R49 and R50. According to the USDOT-FHWA and LADOTD, 2002 FEIS analysis, noise abatement must be considered if, as a result of the proposed action, the noise level at a particular site increases by 10 or more decibels over the existing condition of 53 dBA at both locations. Their analysis indicated that expected sound levels for the future with- project scenario were 56 dBA at R49 and 54 dBA at R50. However, based on our analysis, pile driving will be required during the construction of the T-wall. The expected sound levels



for pile driving at the 50-ft, 100-ft, 200-ft; 500-ft and 1000-ft range is 101 dBA; 95 dBA; 89 dBA; 81 dBA and 76 dBA respectively. Based on this and in accordance to DOTD policy, noise abatement considerations may be warranted if the two residential properties are within 1000-ft of the proposed construction.

The construction activities would be expected to create temporary noise impacts above 53 dBA (the existing noise readings) on the limited number of sensitive receptors within 1,000 ft of the project corridor. The opportunities for noise mitigation would be limited because much of the construction activity would occur on top of the existing levee, which is the highest point in elevation in the area, or at floodwall and drainage structure locations. However, noise emission from construction activities on the flood side would be attenuated to some degree by the existing levee. In addition to noise created by construction equipment, there would also be impacts from noise generated by construction vehicles and personal vehicles for laborers that may use public roads and highways for access to constructions sites. Following construction, noise levels would return to existing conditions.

#### **4.13 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)**

A Phase I Site Assessment was conducted for the entire Louisiana 1 Improvements study area in accordance with the American Society for Testing and Materials (ASTM) Standard E-1527, as described in the Final Environmental Impact Statement for the Golden Meadow to Port Fourchon, Project prepared by the U.S. Department of Transportation – Federal Highway Administration and the Louisiana DOTD, dated September 2002. There were no potential hazardous materials sites located within the Section 408 project boundaries. Proposed excavation activities within the Section 408 project footprint would be within the levee rights-of-way; thus, the risk for encountering HTRW is low.

#### **4.14 CUMULATIVE IMPACTS**

The Council on Environmental Quality's regulations (40 CFR 1500-1508) implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 et seq.) define cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR 1508.7)." Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

The direct, indirect, and cumulative impacts associated with the overall Larose to Golden Meadow Hurricane Protection Project were previously addressed in the 1974 LGM EIS (USACE, 1974), the 1985 LGM SEIS (USACE, 1985), the 1986 LGM Mitigation EA (USACE, 1986), and the LGM Mitigation Report (USACE, 1987). The LGM Hurricane Protection Project has directly (levee and borrow rights-of-way) and

indirectly destroyed or modified 1,938 acres of marsh, 1,022 acres of forest, and 1,368 acres of open water and 217 acres of agricultural land (USACE, 1986). As discussed in the 1985 LGM SEIS (USACE, 1985), the 1986 LGM Mitigation EA (USACE, 1986), and the 1987 Mitigation Report (USACE, 1987), the mitigation program previously implemented for the overall LGM Hurricane Protection Project fully compensated for various direct and indirect impacts associated with construction of the LGM levee system. Impacts included those to fresh/intermediate marsh and brackish/saline marsh wetlands, wooded swamp (fresh swamp forests/wetlands), and bottomland hardwoods (bottomland hardwood forests/wetlands). In determining the mitigation necessary, it was assumed that all such habitats present within the existing LGM right-of-way (i.e. the current right-of-way encompassing the floodwall and other features) would be eliminated by the direct impacts associated with project construction. In addition, all such habitats present on the protected side of the LGM levee system were assumed to be completely lost over time as a result of indirect impacts associated with project construction. The authorized and implemented mitigation program compensated for all these direct and indirect impacts.

Detailed descriptions of the cumulative impacts attributable to the overall LA 1 Improvements Project, encompassing the Section 408 project footprint, are included in Section 4.24 of the USDOT-FHWA and LA DOTD, 2002 FEIS. The existing LA Hwy 1 runs through the middle of the hurricane protection system from Larose through the southern end of Golden Meadow at which point it exits the hurricane protection system where it continues at grade to Port Fourchon. In 1991 the Intermodal Surface Transportation Efficiency Act (ISTEA) designated certain highway corridors of national significance. In 2002 ISTEA was amended adding LA 1 from Grand Isle to its intersection with US 90 as a principal arterial of the National Highway System (NHS). It is considered part of the NHS because of its intermodal link to the nations' energy supply. Studies have indicated that LA 1 does not adequately serve the area including inability to handle increased traffic due to offshore oil and gas activities in the Gulf of Mexico through Port Fourchon and physical deterioration from increased truck traffic. The proposed highway facility would complete the southernmost portion of this NHS route and provide a four lane divided highway from LA 3090 north of Port Fourchon to north of Galliano, LA. As previously indicated, the current highway is the only evacuation route for thousands in south Lafourche Parish. It currently is impassable during inclement weather in the area that is south of Golden Meadow and outside the flood protection system. The proposed plan will elevate the structure such that it will be passable during inclement weather and extreme storm conditions.

As identified in the EIS, funding allocations would determine the sequence and scheduling of the construction stages. Construction has been separated into various phases. Phase 1 consisted of construction of a two lane elevated highway from the junction of LA 1 and LA 3090 in Fourchon to the North Connector in Leeville to which opened in December 2011, and a fixed-span, two-lane overpass over Bayou Lafourche at Leeville, toll facility, and associated interchanges which opened in July 2009. Phase 2 is the next phase of construction proposed to begin in 2016 and consisting of

construction of a two lane elevated highway from the North Connector in Leeville to Golden Meadow. Phase 2 includes the proposed floodwall in the LGM Hurricane Protection Levee described in this EA.

Phases 1 and 2 include the use of end-on construction to minimize direct impacts to the environment by constructing the bridge in a span by span progression with each new span being built from the previously constructed span. End-on bridge construction techniques were used for over 5 miles of Phase 1 construction between Fourchon and Leeville. It is planned to construct an additional 7 miles of bridge with end-on construction in Phase 2 between Leeville and Golden Meadow. Impacts from Phase 1 consisted of 30.0 acres of direct wetland impacts and 18.3 acres of indirect wetland impacts requiring 46.7 acres of compensatory mitigation. All mitigation for Phase 1 wetland impacts is complete and was performed under the mitigation permit P20041053 (DNR) and MVN-2004-1455 (COE). Impacts from Phase 2 are included in the on-going Section 404 MVN Regulatory Permit MVN-2001-1455. Impacts from Phase 2 tentatively consist of 14.55 acres of direct wetland impacts and 46.05 acres of indirect wetland impacts, requiring a total of 41.22 acres of compensatory mitigation. The mitigation plan is currently being coordinated through the Section 404 permitting process.

Phase 3 construction is proposed to consist of a four-lane highway from U.S. 90 to Larose, a distance of approximately 19.5 miles, and there is no current schedule for this phase of construction. Phase 4 consists of proposed construction of additional two lanes of elevated highway from Golden Meadow to Port Fourchon, including the Leeville Overpass, and upgrades to LA 1 from Fourchon to Grand Isle. There is no schedule for this phase of construction.

Overall, the requester's preferred alternative, in comparison to past, present, and reasonably foreseeable future projects, will not incrementally contribute adversely to the general project area. It would however contribute beneficially to improvement in transportation infrastructure and would increase the local population's ability to travel via Highway 1 in stormy conditions and its ability to evacuate in the face of oncoming tropical storms and hurricanes.

## **5.0 COORDINATION**

A public notice soliciting comments from the public; federal, state, and local agencies and officials; Native American tribes; and other interested parties was published in the New Orleans Advocate, the Baton Rouge Advocate, and the Acadiana Advocate on April 19, 2016. No comments were received.

The area of the Requester's proposed alteration for the 33 U.S.C. Section 408 Permission Evaluation is also encompassed in the Section 404/Section 10 permit application currently being processed by the CEMVN Regulatory Branch (MVN 2004-

01455-MS). Coordination applicable to the Section 408 area of alteration was received from the following agencies and is included in Appendix 1.

Louisiana Department of Environmental Quality  
Environmental Protection Agency, Region VI  
Department of the Interior, U.S. Fish and Wildlife Service  
National Oceanic and Atmospheric Administration, National Marine Fisheries Service  
Louisiana Department of Wildlife and Fisheries

## **6.0 MITIGATION**

The Council on Environmental Quality's regulations (40 CFR 1508.20) implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 et seq.) define "mitigation" as including a) avoiding the impact altogether by not taking a certain action or parts of an action; b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and e) compensating for the impact by replacing or providing substitute resources or environments.

As previously stated, the area of the Requester's proposed alteration is encompassed within the Phase 2 footprint of the larger LA-1 Improvements Project. End-on construction was used to minimize direct impacts to the environment for the Phase 2 construction as much as possible. The remaining wetland impacts from Phase 2 requiring compensatory mitigation consist of 14.55 acres of direct wetland impacts and 46.05 acres of indirect wetland impacts, which would be mitigated at ratios of 1.25:1 and 0.5:1, respectively via wetland creation. This results in a total requirement of 41.22 acres of compensatory mitigation for Phase 2 construction impacts. These totals include the 2.2 acres of wetland (marsh) impacts from the proposed construction of the T-wall in the LGM Hurricane Protection Levee (Section 408 area of alteration). All wetland analyses and the associated mitigation plan for Phase 2 construction, which includes the Section 408 project, are currently being processed by the CEMVN Regulatory Branch (MVN 2004-01455-MS). If granted, the Section 404 permit would require compensatory mitigation for the authorized impacts to wetlands, including the 2.2 acres of wetland impacts due to the requested alteration of the LGM federal project.

## **7.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS**

Full environmental compliance for the requester's preferred alternative would be achieved upon: approval of the CEMVN Section 404/10 Permit, fulfillment of any special conditions associated with that permit, including with respect to compensatory

mitigation and receipt of all required State permits pursuant to the Clean Water Act and Coastal Zone Management Act.

*Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbor Act.* The Requester's proposed alteration is encompassed within the larger LA-1 Improvements Project and a Section 404/Section 10 permit application is currently being processed by the CEMVN Regulatory Branch (MVN 2004-01455-MS). A Joint Public Notice with the Louisiana Department of Environmental Quality was issued on 24 October 2015. A 404(b)(1) evaluation will be completed as part of the Section 404 permit process.

*Section 401 of the Clean Water Act.* A Joint Public Notice was issued on 24 October 2015. Water quality certification (WQC 151020-01) was received from the state of Louisiana, dated 23 November 2015, and is included in the appendix.

*Section 402 of the Clean Water Act.* A Stormwater Pollution Prevention Plan will be prepared in conjunction with the National Pollutant Discharge Elimination System (NPDES) permitting process prior to construction. The DOTD will minimize non-point discharge water quality impacts and will comply with all requirements of the Clean Water Act, as amended, for the construction of this proposed highway, and will include all specifications and best management practices (BMPs) necessary for control of erosion and sedimentation due to construction related activities.

*Coastal Zone Management Act.* A Joint Use Permit Application (CUP number P20150558) was submitted through the Louisiana Department of Natural Resources – Coastal Management Division for a Coastal Use Permit for the LA-1 Improvements Project in accordance with the State and local regulations of the Coastal Resources Program. Construction associated with the proposed Section 408 alteration is encompassed in the application. The Section 10/404 regulatory permit would not be approved without receipt of the approved CUP.

*Section 106 of the National Historic Preservation Act.* The proposed section 408 alteration is within the LGM Hurricane Protection Levee footprint; thus, no known historic properties would be affected. This section of levee was surveyed for cultural resources in 1986 with negative findings (Poplin et al., 1986). Additionally, a cultural resources survey was performed on the alignment of the LA 1 Improvements Project Phase 2 northern alignment, encompassing the Section 408 project limits, in August 2008 and judgemental shovel testing and bank line inspections did not recover any artifacts or other evidence of archaeological sites within the alignment, as referenced in the USDOT-FHWA and LA DOTD Record of Decision, dated 2009. The SHPO concurred with the determination on February 12, 2009. USACE is unaware of properties listed on the National Register of Historic Places near the Requester's proposed alteration. Input was requested from the State Archeologist and State Historic Preservation Officer during the public comment period for the Section 404 permit application; however, no response was received.

*Endangered Species Act.* The proposed Section 408 alteration is within the levee footprint, and was determined to have no effect on threatened or endangered species or to designated critical habitat pursuant to the Endangered Species Act. The marsh adjacent to the Larose to Golden Meadow Hurricane Protection Levee is not suitable habitat for the West Indian Manatee (*Trichechus manatus*).

Coordination pursuant to the Endangered Species Act for the larger LA-1 Improvement project footprint was processed through the CEMVN Regulatory Branch and includes a not likely to adversely affect determination for the West Indian Manatee. The U.S. Fish and Wildlife Service provided threat minimization measures for the West Indian Manatee associated with the larger LA-1 Improvement project footprint being processed through the CEMVN Regulatory Branch, and these measures have been incorporated into the on-going Regulatory permitting action (MVN 2004-01455-MS).

*Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act):* Coordination with the National Marine Fisheries Service, in accordance with the Magnuson-Stevens Act, is being conducted as part of the MVN Regulatory Permitting action of the LA-1 Improvements project (MVN 2004-01455-MS). The National Marine Fisheries Service provided the following Essential Fish Habitat Conservation Recommendation associated with the Regulatory permitting action:

*The applicant should be required to provide compensatory mitigation sufficient to fully offset all anticipated direct and indirect project impacts to marsh. The mitigation plan should be required to be developed in coordination with NMFS, made a special condition of any permit authorizing highway construction, and its implementation should be required by permit special condition to be concurrent with the construction of the causeway.*

The compensatory mitigation plan is being coordinated with the National Marine Fisheries Service, in accordance with the Magnuson-Stevens Act, as part of the MVN Regulatory Permitting action of the Phase 2 construction for the LA-1 Improvements Project (MVN 2004-01455-MS).

## **8.0 SECTION 408 STANDARDS AND EVALUATION**

Section 408 authorizes the Secretary of the Army to grant permission for the alteration or occupation or use of a USACE project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project. Requested alterations are reviewed pursuant to Section 408 and USACE Engineering Circular (EC) 1165-2-216, which provides policy and procedural guidance for processing requests to alter US Army Corps of Engineers civil works projects.

### **8.0.1 POTENTIAL TO BE INJURIOUS TO THE PUBLIC INTEREST EVALUATION**

As set forth above, CEMVN has assessed the environmental impacts of the proposed alteration. No significant impacts to wetlands, wildlife, threatened and endangered species, cultural resources, socio-economic resources, environmental justice, air quality, water quality and hydrology, aquatic resources and fisheries, essential fish habitat, aesthetics, and HTRW are expected. Temporary noise impacts may result to residences within 1000 feet of the construction area. Noise abatement measures are warranted for residential development within 1000-ft of construction.

The proposed alteration was designed in accordance with HSDRRS design criteria and it meets USACE requirements for robustness and resiliency. The proposed alteration would not change the footprint of the authorized LGM project and it would not restrict flood flows or tidal exchange more than the existing LGM earthen levee. The floodwall would not generate any new or increased storm-water flows or flooding. The change in floodplain storage by the installation of the floodwall would be de minimus and would not be expected to affect flood elevations. The proposed alteration would not induce any damages to the public as it provides the same, if not more, risk reduction to the communities behind the LGM project.

The Louisiana Hwy 1 project has significant potential to benefit the local communities and visitors to the area. The elevated, four lane highway would allow travel during stormy conditions, whereas the highway in its current condition sometimes becomes impassable in inclement weather. The improved highway would likewise offer a safer means of evacuation in the face of oncoming tropical storms and hurricanes, reducing the threat these events pose to resident populations.

There are no foreseen cumulative impacts that would have a negative impact on the human environment. The probable impacts of the proposed T-wall and La 1 improvements are, on the whole, beneficial. Because the benefits of the proposed alteration outweigh any potential detriments, the requested alteration would not be injurious to the public interest.

#### 8.0.2 POTENTIAL TO IMPAIR THE USEFULNESS OF THE AUTHORIZED PROJECT EVALUATION

The requester's preferred alternative would not impair the usefulness of or affect the LGM Hurricane Protection Levee's ability to meet its authorized purpose. The new floodwall and transitions have been designed and would be constructed to USACE Hurricane and Storm Damage Risk Reduction System Design Guidelines (HSDRRSDG) and would meet requirements for robustness and resiliency. Resiliency would be provided by concrete transition slope paving at the floodwall/earthen levee transitions. The proposed alteration would not introduce residual risk to the LGM Hurricane Protection Levee or to the public that relies on it. The risk of slope failure, seepage or settlement for the new floodwall is less than for the existing adjacent LGM earthen levee. Further, the proposed floodwall is only a short segment of the overall LGM levee

system length. The proposed floodwall would be at least 4 feet higher than the adjacent levee section if the NFS performs a planned levee lift and would be at least 6 feet higher than the levee's current elevation. Storm surges would overtop the existing levee before overtopping the proposed floodwall. Storm-surge would be expected to flow around the floodwall and threaten the levee before threatening the floodwall. The tie-ins between the floodwall and the levee would have scour protection to prevent erosion at these transition points.

Since construction of the t-wall would occur outside of hurricane season, there is minimal risk of flooding resulting from a tidal event as the degrading of the levee is to 11-foot elevation NAVD88 (2004.65). The proposed alteration would not introduce additional risks during the construction period.

CEMVN has determined that the proposed action would not have a significant impact on the human or natural environment. Therefore, an environmental impact statement is not warranted. A finding of no significant impact (FONSI) has been prepared for signature.

## **9.0 PREPARERS**

This EA and the associated FONSI were prepared by Mike Thron, biologist. Technical review was conducted by Sandra Stiles, Supervisory Biologist, and Stephen Pfeffer, Regulatory Biologist. The address of the preparer is: U.S. Army Corps of Engineers, New Orleans District, Environmental Compliance Branch, Regional Planning and Environmental Division South, Attn: Mike Thron, 167 North Main St., B202, Memphis, TN 38103-1894.

## **10.0 REFERENCES**

- Louisiana Department of Environmental Quality (LDEQ). 2014. 2014 Louisiana Water Quality Inventory: Integrated Report, Fulfilling Requirements of the Federal Clean Water Act, Sections 305(b) and 303(d). Louisiana Department of Environmental Quality, Baton Rouge, Louisiana.
- Poplin, E.C., K.G. Kelly, D. Bascle, and R.C. Goodwin. 1986. A Cultural Resources Survey of the Western Sections of the Larose to Golden Meadow Hurricane Protection Project, Lafourche Parish, Louisiana. Prepared for U.S. Army Corps of Engineers, New Orleans District.
- U.S. Army Corps of Engineers (USACE). 1974. Larose to Golden Meadow, Louisiana, Hurricane Protection (Formerly Grand Isle and Vicinity, Louisiana, Hurricane Protection): Environmental Impact Statement. USACE, Mississippi Valley Division, New Orleans District.



U.S. Army Corps of Engineers (USACE). 1985. Larose to Golden Meadow, Louisiana, Hurricane Protection Project: Final Supplemental Environmental Impact Statement. USACE, Mississippi Valley Division, New Orleans District.

U.S. Army Corps of Engineers (USACE). 1986. Larose to Golden Meadow, Louisiana, Hurricane Protection Project, Mitigation: Environmental Assessment. USACE, Mississippi Valley Division, New Orleans District.

U.S. Army Corps of Engineers (USACE). 1987. Larose to Golden Meadow, Louisiana, Hurricane Protection Project, Mitigation Report. USACE, Mississippi Valley Division, New Orleans District.

U.S. Department of Transportation – Federal Highway Administration (USDOT-FHWA) and Louisiana Department of Transportation and Development (LA DOTD). 2002. Louisiana 1 Improvements Golden Meadow to Port Fourchon: Final Environmental Impact Statement. FHWA, Louisiana Division Office, Baton Rouge, Louisiana.

U.S. National Hurricane Center. 1995. Facsimile of hurricane risk analysis figures sent to Robert Martinson, Chief Environmental Planning and Restoration Section, U.S. Army Corps of Engineers, New Orleans District.

## **APPENDIX 1**

Plan Sheets

Notice of Availability and Public Notice

Coordination Letters

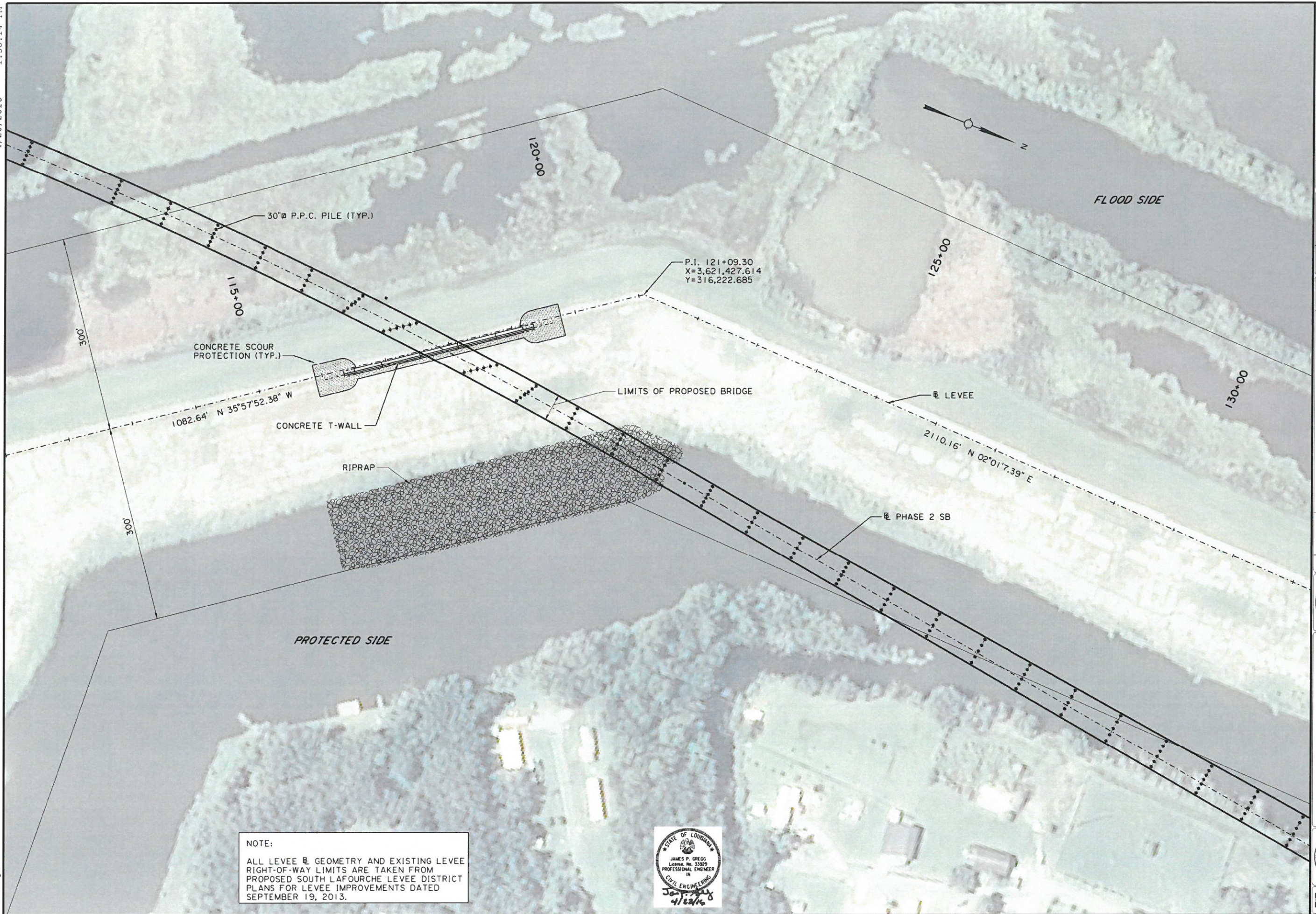
## PLAN SHEETS

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FINAL PLANS

332.dgn



NOTE:  
 ALL LEVEE  $\square$  GEOMETRY AND EXISTING LEVEE RIGHT-OF-WAY LIMITS ARE TAKEN FROM PROPOSED SOUTH LAFOURCHE LEVEE DISTRICT PLANS FOR LEVEE IMPROVEMENTS DATED SEPTEMBER 19, 2013.



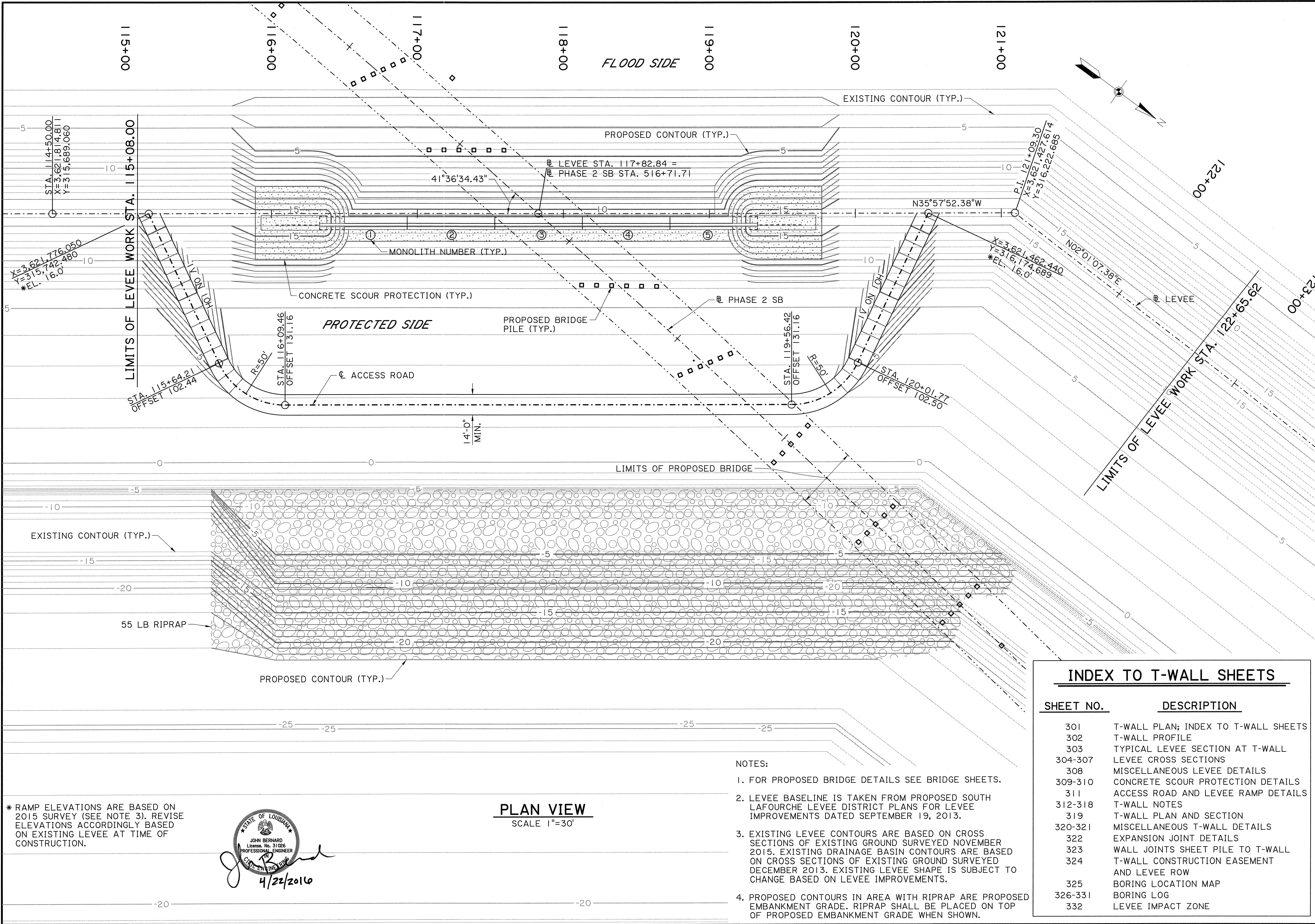
SHEET NUMBER		332
DESIGNED	B. GOODNER	PARISH
CHECKED	J. GREGG	LAFOURCHE
DATE		
DESIGNED	B. GAUTREAU	CONTROL SECTION
CHECKED	J. SOMMERS	829-32
DATE		
DESIGNED	J. SHORTESS	STATE
CHECKED		H.008145
DATE		
REVISION OR CHANGE		PROJECT
NO.	DATE	BY
		
<b>LEVEE IMPACT ZONE</b>		
LEEVILLE TO GOLDEN MEADOW (PHASE 2C)		
		
		

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FINAL PLANS

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\* RAMP ELEVATIONS ARE BASED ON 2015 SURVEY (SEE NOTE 3). REVISE ELEVATIONS ACCORDINGLY BASED ON EXISTING LEVEE AT TIME OF CONSTRUCTION.

JOHN BERNARD  
 License No. 31026  
 PROFESSIONAL ENGINEER  
 4/22/2016

**PLAN VIEW**  
 SCALE 1"=30'

- NOTES:
- FOR PROPOSED BRIDGE DETAILS SEE BRIDGE SHEETS.
  - LEVEE BASELINE IS TAKEN FROM PROPOSED SOUTH LAFOURCHE LEVEE DISTRICT PLANS FOR LEVEE IMPROVEMENTS DATED SEPTEMBER 19, 2013.
  - EXISTING LEVEE CONTOURS ARE BASED ON CROSS SECTIONS OF EXISTING GROUND SURVEYED NOVEMBER 2015. EXISTING DRAINAGE BASIN CONTOURS ARE BASED ON CROSS SECTIONS OF EXISTING GROUND SURVEYED DECEMBER 2013. EXISTING LEVEE SHAPE IS SUBJECT TO CHANGE BASED ON LEVEE IMPROVEMENTS.
  - PROPOSED CONTOURS IN AREA WITH RIPRAP ARE PROPOSED EMBANKMENT GRADE. RIPRAP SHALL BE PLACED ON TOP OF PROPOSED EMBANKMENT GRADE WHEN SHOWN.

INDEX TO T-WALL SHEETS	
SHEET NO.	DESCRIPTION
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302	T-WALL PROFILE
303	TYPICAL LEVEE SECTION AT T-WALL
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308	MISCELLANEOUS LEVEE DETAILS
309-310	CONCRETE SCOUR PROTECTION DETAILS
311	ACCESS ROAD AND LEVEE RAMP DETAILS
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324	T-WALL CONSTRUCTION EASEMENT AND LEVEE ROW
325	BORING LOCATION MAP
326-331	BORING LOG
332	LEVEE IMPACT ZONE

DESIGNED BY	B. GOODNER	PARISH	LAFOURCHE
CHECKED BY	J. BERNARD	CONTROL SECTION	829-32
REVIEWED BY	D. BASTION	STATE PROJECT	H-008145
DATE		NO.	
REVISION OR CHANGE ORDER DESCRIPTION		BY	

LAKE CHARLES  
 MISSISSIPPI  
 MISSISSIPPI  
 MISSISSIPPI

T-WALL PLAN  
 INDEX TO T-WALL SHEETS

LEVEE TO GOLDEN MEADOW (PHASE 2C)

DOTD  
 MISSISSIPPI  
 MISSISSIPPI

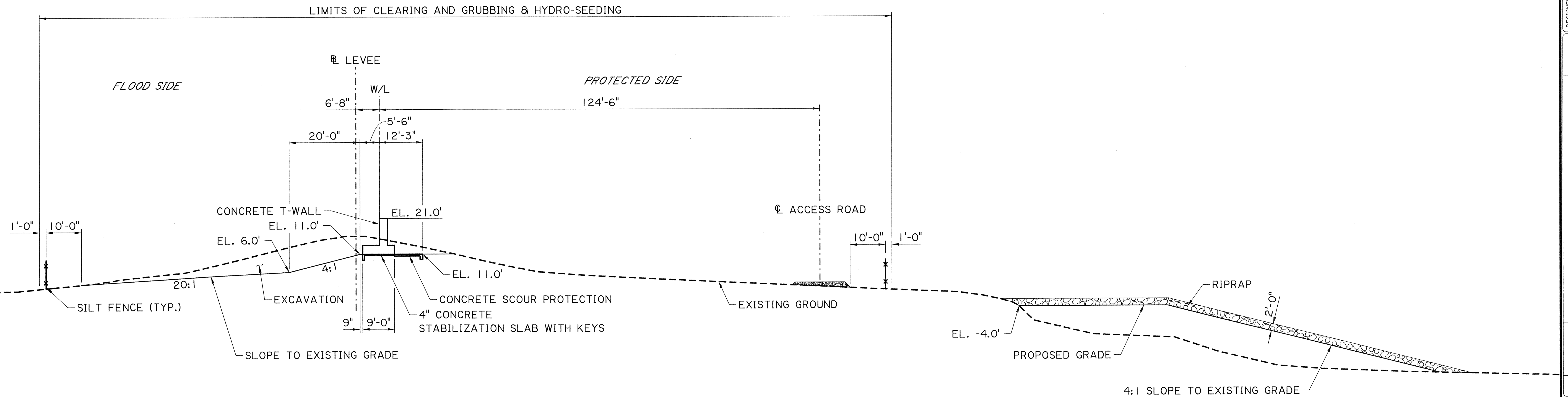
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FINAL PLANS

303.dgn



### TYPICAL LEVEE SECTION AT T-WALL

STA. 116+62.28 TO STA. 119+03.72  
N.T.S.

NOTES:

1. T-WALL SHEET PILE AND HP PILES NOT SHOWN FOR CLARITY.
2. SLOPES SHOWN ARE HORIZ : VERT.

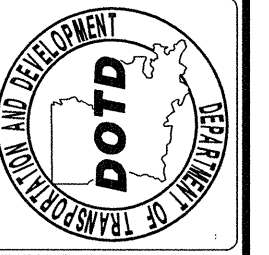
JOHN BERNARD  
 License No. 31026  
 PROFESSIONAL ENGINEER  
 4/22/2016

SHEET NUMBER	303
DESIGNED BY	B. GODNER
CHECKED BY	J. BERNARD
PARISH	LAFOURCHE
CONTROL SECTION	829-32
STATE PROJECT	H.008145
REVIEWED BY	D. BASTION
SERIES #	

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY



TYPICAL LEVEE SECTION  
 AT T-WALL  
 LEEVILLE TO GOLDEN MEADOW (PHASE 2C)



**SECTION 408 NOTICE OF AVAILABILITY**

**SECTION 408 PUBLIC NOTICE**











REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT  
P.O. BOX 60267  
NEW ORLEANS LA 70160-0267

April 19, 2016

Regional Planning and  
Environment Division South

## PUBLIC NOTICE

### 33 U.S.C. SECTION 408 PERMISSION EVALUATION OF A REQUEST TO ALTER A UNITED STATES ARMY CORPS OF ENGINEERS PROJECT

**TITLE:** Proposed T-Wall Construction – Larose to Golden Meadow Hurricane Protection Levee, LA 1 Improvements Project

**COMMENT PERIOD FOR THIS PUBLIC NOTICE EXPIRES:** 4 May 2016

**INTRODUCTION:** Sigma Consulting Group, Inc., as an agent for and on behalf of the Louisiana Department of Transportation and Development (LaDOTD, the requester), has requested permission to alter the Larose to Golden Meadow Hurricane Protection Levee near Golden Meadow in Lafourche Parish, Louisiana. Based upon information provided by Sigma Consulting Group, Inc, the United States Army Corps of Engineers (USACE), Mississippi Valley Division, New Orleans District (CEMVN) is soliciting the public's input regarding the proposed alteration. USACE is preparing an Environmental Assessment (EA), based upon information provided by the requester, to analyze the potential impacts of altering the Larose to Golden Meadow Hurricane Protection Levee by replacing a portion of the levee with a T-wall near Golden Meadow in Lafourche Parish. The Larose to Golden Meadow Hurricane Protection Project was authorized by the Flood Control Act of 1965 (PL-89-298). The authorized project (formerly called Grand Isle and Vicinity) provides hurricane and storm damage risk reduction to the communities located along both banks of Bayou Lafourche between Larose and Golden Meadow in Lafourche Parish, Louisiana. The project essentially forms a ring levee approximately 48 miles long and includes levee, floodwalls, pump stations and floodgates. The system is operated and maintained by the South Lafourche Levee District. The EA will not be published for public comment. Any comments regarding the proposed alteration should be submitted during the current public review period.

**REQUESTED PERMISSION AUTHORITY:** The authority to grant permission for temporary or permanent use, occupation or alteration of any US Army Corps of Engineers (USACE) civil works project is contained in Section 14 of the Rivers and Harbors Act of 1899, as amended, codified at 33 USC 408 ("Section 408"). Section 408 authorizes the Secretary of the Army to grant permission for the alteration or occupation

or use of a USACE project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project.

**REQUESTERS PROPOSED ACTION:** The LaDOTD proposes to degrade a portion of the existing levee and to replace it with a floodwall 400 feet in length in the Larose to Golden Meadow levee at “Section A West” near levee station 118+00 approximately 2 miles north of the Leon Theriot floodgate. The floodwall is part of the overall LA 1 Improvements Project which includes construction of an elevated 17-mile four lane controlled access highway between Golden Meadow and Fourchon Louisiana. The proposed floodwall would be a T-wall configuration supported on two rows of H-piles with a steel pile cutoff wall. The top of the T-wall base would be at elevation (EL) +13.5 feet NAVD 88 (2004.65); on top of the base would be a wall stem of 7.5 feet. This corresponds to a total EL of +21.0 feet and a 2% chance of exceedance in any given year. The proposed elevation would be above the current +14.8 feet EL. A vicinity map and proposed plans are attached.

The Larose to Golden Meadow levee would be degraded to EL 11.0 feet to accommodate a proposed 9-foot wide, 4-inch thick concrete stabilization pad. Additional 4-inch degrading is required for areas where the stabilization slab would sit. Degrading the existing levee would only be authorized outside of the June 1 to November 30 hurricane season.

In addition, a stability berm consisting of compacted fill would be constructed on the protected side of the levee along the entire floodwall length to eliminate unbalanced forces of the T-wall between these stations. Levee fill would be placed at the floodwall tie-ins to the existing levee and for construction of the stability berm on the protected side of the levee. To achieve a good bonding between placement of new fill and the existing levee, the existing levee would first be excavated and backfilled before placing the new fill. Concrete scour protection would be utilized for the levee/floodwall tie-ins, in accordance with USACE standards.

A rock berm consisting of 55-lb riprap would be constructed along the protected side of the levee toe from approximate levee station 115+89 to approximate levee station 122+00 for stability and scour protection.

Access for construction would include working from floating barges located in the canal on the protected side of the levee; material and equipment may be transported along the levee toe. The levee would be graded to provide a vehicular access ramp down the levee slope at each end of the floodwall. The ramps would be designed to approximately 1V:15H slope and a width of 14 feet. The surface would be grassed consistent with the rest of the levee crown.

A silt fence would be placed along the existing rights-of-way on both the flood and protected sides of the levee to minimize erosion and movement of soil off the construction project. All new construction and disturbed areas would be repaired and

returned to design grades, or pre-construction condition, seeded and maintained until final turf is established.

**ENVIRONMENTAL COMPLIANCE:** Applicable environmental compliance documentation for the requesters proposed alteration is summarized below:

*Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbor Act.* The proposed alterations are encompassed within the larger LA-1 Improvements Project and a Section 404/Section 10 permit application is currently being processed by the CEMVN Regulatory Branch (MVN 2004-01455-MS). A Joint Public Notice was issued on 24 October 2015. This evaluation includes anticipated impacts to 2.2 acres of saline marsh associated with the proposed T-Wall construction. If authorized, compensatory mitigation for these marsh impacts will be required in the Sections 404/10 permit. The proposed rock berm consisting of 55-lb riprap to be constructed along the protected side of the levee toe from approximate levee station 115+89 to approximate levee station 122+00 for stability and scour protection will be processed as part of the on-going permitting action (MVN 2004-01455-MS).

*Section 401 of the Clean Water Act.* An application for Water Quality Certification (WQC Number 151020-01) was submitted to the Louisiana Department of Environmental Quality for the LA 1 Improvements Project, in accordance with Section 401 of the Clean Water Act. Construction associated with the proposed Section 408 alteration is encompassed in the application.

*Section 402 of the Clean Water Act.* A Stormwater Pollution Prevention Plan will be prepared in conjunction with the National Pollutant Discharge Elimination System (NPDES) permitting process prior to construction. The DOTD will minimize non-point discharge water quality impacts and will comply with all requirements of the Clean Water Act, as amended, for the construction of this proposed highway, and will include all specifications and best management practices (BMPs) necessary for control of erosion and sedimentation due to construction related activities.

*Coastal Zone Management Act.* A Joint Use Permit Application (CUP number P20150558) was submitted through the Louisiana Department of Natural Resources – Coastal Management Division for a Coastal Use Permit for the LA-1 Improvements Project in accordance with the State and local regulations of the Coastal Resources Program. Construction associated with the proposed Section 408 alteration is encompassed in the application.

*Section 106 of the National Historic Preservation Act.* The proposed section 408 alteration is within the existing levee footprint; thus, no known historic properties would be affected. Intensive cultural resources surveys for the larger LA-1 Improvements project were conducted in September 2003 and August 2008, and these surveys did not reveal historic resources within the Section 408 project footprint. USACE is unaware of properties listed on the National Register of Historic Places near the proposed alteration. Input was requested from the State Archeologist and State Historic

Preservation Officer during the public comment period for the Section 404 permit application; however, no response was received.

*Endangered Species Act.* The proposed Section 408 alteration is within the levee footprint, and was determined to have no effect on threatened or endangered species or to designated critical habitat pursuant to the Endangered Species Act. The marsh adjacent to the Larose to Golden Meadow Hurricane Protection Levee is not suitable habitat for the West Indian Manatee (*Trichechus manatus*).

The U.S. Fish and Wildlife Service provided threat minimization measures for the West Indian Manatee for the LA-1 Improvement project. If the project is authorized, these measures will be incorporated into the Regulatory permit (MVN 2004-01455-MS).

*Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act):* Coordination with the National Marine Fisheries Service, in accordance with the Magnuson-Stevens Act, is being conducted as part of the MVN Regulatory Permitting action of the LA-1 Improvements project (MVN 2004-01455-MS). The National Marine Fisheries Service provided the following Essential Fish Habitat Conservation Recommendation associated with the Regulatory permitting action:

*The applicant should be required to provide compensatory mitigation sufficient to fully offset all anticipated direct and indirect project impacts to marsh. The mitigation plan should be required to be developed in coordination with NMFS, made a special condition of any permit authorizing highway construction, and its implementation should be required by permit special condition to be concurrent with the construction of the causeway.*

*Hazardous, Toxic, and Radioactive Waste (HTRW) Assessment:* A Phase I Site Assessment was conducted for the entire Louisiana 1 Improvements study area in accordance with the American Society for Testing and Materials (ASTM) Standard E-1527, as described in the Final Environmental Impact Statement for the Golden Meadow to Port Fourchon Project prepared by the U.S. Department of Transportation – Federal Highway Administration and the Louisiana DOTD, dated September 2002. There were no potential hazardous materials sites located within the Section 408 project boundaries. Proposed excavation activities within the Section 408 project footprint would be within the existing levee rights-of-way; thus, the risk for encountering HTRW is low.

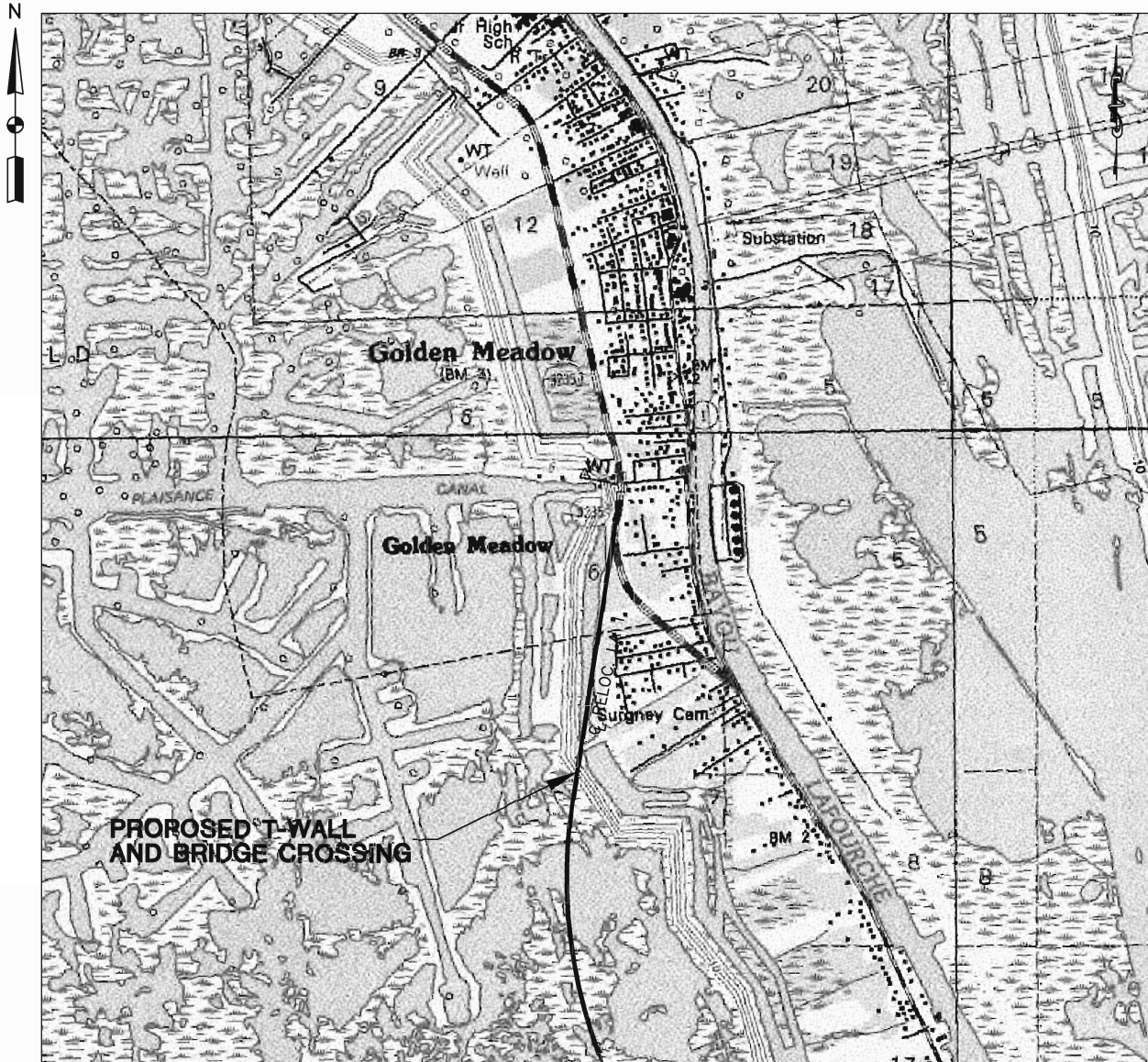
*National Environmental Policy Act.* A Final Environmental Impact Statement (EIS) for the Louisiana 1 Improvements, Golden Meadow to Port Fourchon, Project was prepared by the U.S. Department of Transportation – Federal Highway Administration and the Louisiana DOTD, dated September 2002. Cooperating agencies included the U.S. Environmental Protection Agency, USACE- New Orleans District, U.S. Coast Guard – Eighth Coast Guard District, and U.S. Department of Commerce, National Oceanic and Atmospheric Administration – National Marine Fisheries Service. The Record of

Decision was signed in January 2003 and revised in May 2004, March 2009, and February 2011. The proposed highway alignment was evaluated in this EIS. The EIS for the Larose to Golden Meadow, Louisiana, Hurricane Protection Levee (formerly called Grand Isle, Louisiana, and Vicinity Hurricane Protection) was prepared by USACE in 1974; the Statement of Findings for the EIS was signed on April 4, 1974. Additionally, USACE is preparing an environmental assessment specific to the Section 408 request pursuant to NEPA. Comments received on this public notice will be used in the evaluation of potential impacts of the proposed alteration on important resources. The EA will not be published for public comment as this notice fulfills NEPA requirements for public participation.

**PUBLIC INVOLVEMENT:** The purpose of this notice is to solicit comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties regarding the proposed alteration to the USACE project. Comments received within 15 days of this publication will be used in the evaluation of potential impacts of the proposed action on important resources and in the evaluation of whether the proposed alteration would be injurious to the public interest and/or would impair the usefulness of the authorized project. All comments will be considered in preparing an environmental assessment pursuant to NEPA. This request will be evaluated pursuant to the standards set forth in 33 USC 408 and HQUSACE guidance pertaining thereto. Only the specific activities that have the potential to occupy, use or alter existing USACE projects will be evaluated. Please limit comments to the area of the alteration and those adjacent areas that would be directly or indirectly affected by the alteration to the federally authorized civil works project described herein. **Comments may be submitted to [john.m.thron@usace.army.mil](mailto:john.m.thron@usace.army.mil) and should be received by 4 May 2016.**

Sandra Stiles  
Acting Chief, Environmental Planning Branch

Enclosures

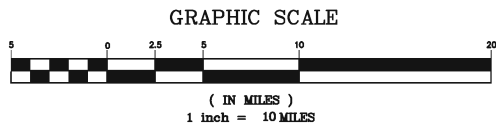


LAYOUT MAP



PROJECT LOCATION  
VICINITY MAP

**SOUTHEASTERN LAND DISTRICT  
T20S - R22E  
SECTIONS 6 & 7  
LAFOURCHE PARISH, LA**



LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT  
LOUISIANA TRANSPORTATION AUTHORITY



**LA 1 IMPROVEMENTS  
GOLDEN MEADOW TO FOURCHON, LA  
LAFOURCHE PARISH, LOUISIANA  
SECTION 408 APPROVAL**

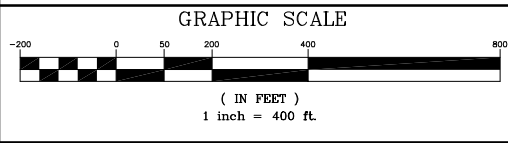


STATE PROJECT	H.008145
FEDERAL PROJECT	H008145
DATE	MARCH 2015
REVISED DATE	
SHEET NUMBER	FIGURE 1

VICINITY MAP




© 2020AUGUST 15/2020 Construction Permit/fig. 18 - T-Wall Location/fig. 18 - T-Wall




**PRELIMINARY** - THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, RECORDATION, CONVEYANCE OR SALES.  
 ROBERT J. LEAR JR, PE, LSI      LA PE NO. 29394


LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT  
 LOUISIANA TRANSPORTATION AUTHORITY




**LA 1 IMPROVEMENTS**  
**GOLDEN MEADOW TO FOURCHON, LA**  
**LAFORCHE PARISH, LOUISIANA**  
**CONSTRUCTION PERMIT APPLICATION**

T-WALL LOCATION



	STATE PROJECT	H.008145
	FEDERAL PROJECT	H008145
	DATE	APRIL 2015
	REVISED DATE	
	SHEET NUMBER	FIGURE 18


**SIGMA CONSULTING GROUP, INC.**

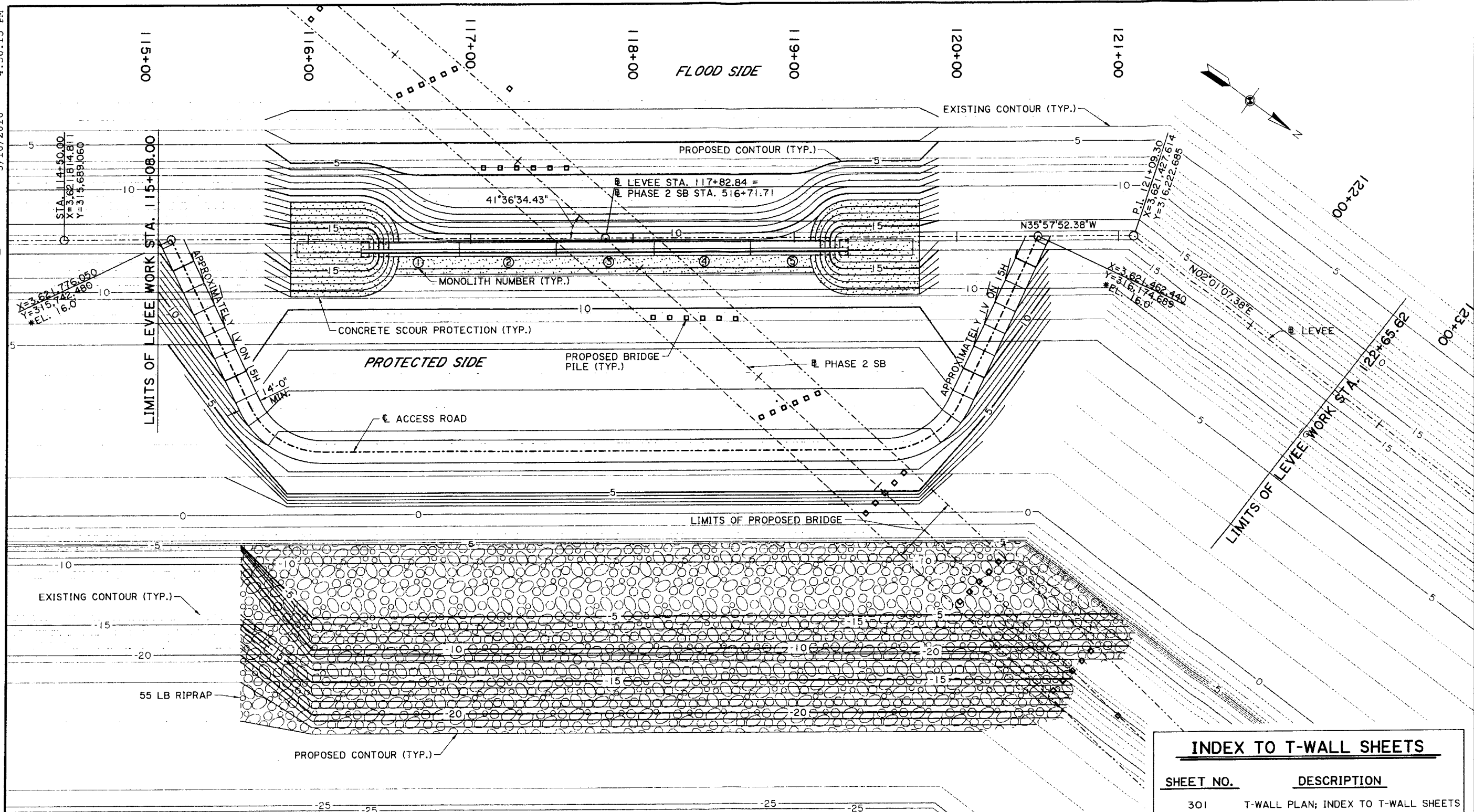


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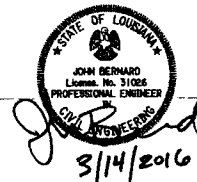
FINAL PLANS

301 Plan.dgn



**PLANS ARE FOR  
INFORMATIONAL PURPOSES  
ONLY AND ARE NOT  
INTENDED FOR BIDDING.**

\* RAMP ELEVATIONS ARE BASED ON 2015 SURVEY (SEE NOTE 3). REVISE ELEVATIONS ACCORDINGLY BASED ON EXISTING LEVEE AT TIME OF CONSTRUCTION.



**PLAN VIEW**  
SCALE 1"=30'

**NOTES:**

1. FOR PROPOSED BRIDGE DETAILS SEE BRIDGE SHEETS.
2. LEVEE BASELINE IS TAKEN FROM PROPOSED SOUTH LAFOURCHE LEVEE DISTRICT PLANS FOR LEVEE IMPROVEMENTS DATED SEPTEMBER 19, 2013.
3. EXISTING LEVEE CONTOURS ARE BASED ON CROSS SECTIONS OF EXISTING GROUND SURVEYED NOVEMBER 2015. EXISTING DRAINAGE BASIN CONTOURS ARE BASED ON CROSS SECTIONS OF EXISTING GROUND SURVEYED DECEMBER 2013. EXISTING LEVEE SHAPE IS SUBJECT TO CHANGE BASED ON LEVEE IMPROVEMENTS.
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SHEET NUMBER 301

DESIGNED BY: B. GOODNER  
 CHECKED BY: J. BERNARD  
 PARISH: LAFOURCHE  
 CONTROL SECTION: 829-32  
 CHECKED BY: J. BERNARD  
 REVIEWED BY: D. BASTION  
 PROJECT: H.008145  
 SERIES: 1

REVISION OR CHANGE ORDER DESCRIPTION  
 NO. DATE BY



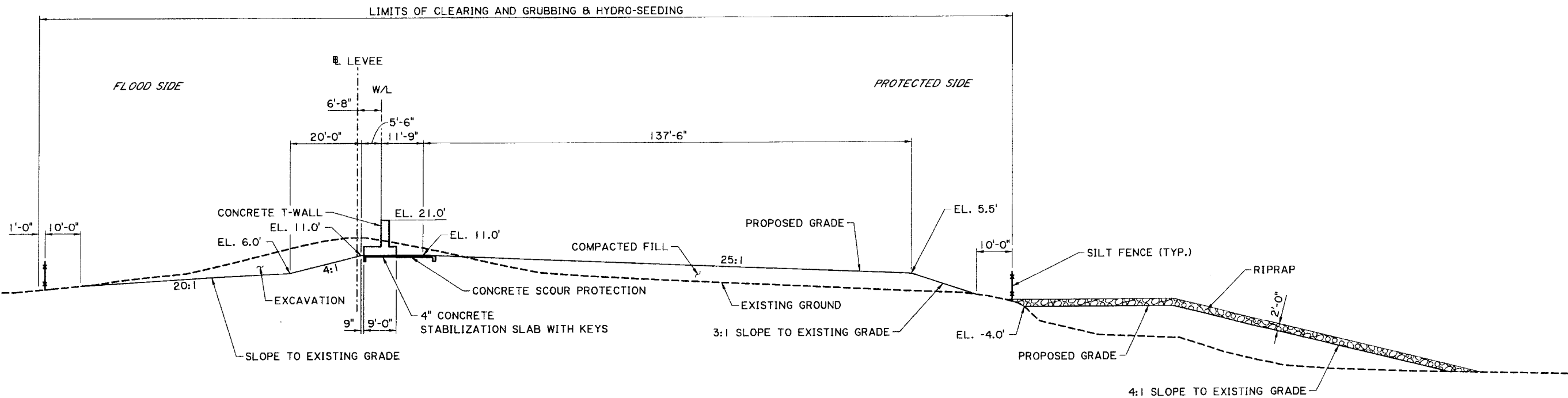
T-WALL PLAN  
 INDEX TO T-WALL SHEETS  
 LEEVILLE TO GOLDEN MEADOW (PHASE 2C)



**HNTB**



FINAL PLANS



**TYPICAL LEVEL SECTION AT T-WALL**

STA. 116+94.15 TO STA. 118+71.85  
N.T.S.

NOTES:

1. T-WALL SHEET PILE AND HP PILES NOT SHOWN FOR CLARITY.
2. SLOPES SHOWN ARE HORIZ : VERT.

**PLANS ARE FOR  
INFORMATIONAL PURPOSES  
ONLY AND ARE NOT  
INTENDED FOR BIDDING.**

JOHN BERNARD  
LOUISIANA PROFESSIONAL ENGINEER  
3/14/2016

DESIGNED	B. GOODNER	PARISH	LAFOURCHE
CHECKED	J. BERNARD	CONTROL SECTION	829-32
DATE		STATE PROJECT	H.008145
NO.		REVISION OR CHANGE ORDER DESCRIPTION	



TYPICAL LEVEL SECTION  
AT T-WALL  
LEEVILLE TO GOLDEN MEADOW (PHASE 2C)



**APPLICABLE COORDINATION LETTERS  
FROM CEMVN REGULATORY PERMIT MVN 2004-01455-MS**

*Stephen*

DEC 01 2015

BOBBY JINDAL  
GOVERNOR



PEGGY M. HATCH  
SECRETARY

# State of Louisiana

## DEPARTMENT OF ENVIRONMENTAL QUALITY ENVIRONMENTAL SERVICES

November 23, 2015

Mr. Robert J. Lear, Jr. P.E.  
10305 Airline Highway  
Baton Rouge, Louisiana 70816

AI No.: 121329  
Activity No.: CER20150001

RE: Louisiana Department of Transportation and Development – LA Hwy 1 Improvements Project (Golden Meadow – Fourchon)  
Water Quality Certification WQC 151020-01  
Corps of Engineers Permit MVN-2004-01455-MS  
Coastal Management Permit P20150558  
Lafourche Parish

Dear Mr. Lear:

The Louisiana Department of Environmental Quality, Water Permits Division (LDEQ), has reviewed the application to excavate and place fill to construct approximately 17 miles of new elevated highway for improvements to LA Hwy. 1 from its intersection with LA 3090 to its intersection with LA 3235 in Golden Meadow, Lafourche Parish.

The information provided in the application and the additional information received June 8, 2015, has been reviewed in terms of compliance with State Water Quality Standards, the approved Water Quality Management Plan and applicable state water laws, rules and regulations. LDEQ determined that the requirements for a Water Quality Certification have been met. LDEQ concludes the discharge of fill material will not violate water quality standards as provided for in LAC 33:IX.Chapter 11. Therefore, LDEQ hereby issues Louisiana Department of Transportation and Development – LA Hwy 1 Improvements Project (Golden Meadow – Fourchon) Water Quality Certification, WQC 151020-01.

Should you have any questions concerning any part of this certification, please contact Karen Latuso at (225) 219-3526 or by email at karen.latuso@la.gov. To ensure all correspondence regarding this certification is properly filed into the Department’s Electronic Document Management System, please reference Agency Interest (AI) number 121329 on all future correspondence to this Department.

Sincerely,

Scott Guilliams  
Administrator  
Water Permits Division

c: IO-W  
Corps of Engineers – New Orleans District  
Coastal Management Division

**From:** [Gutierrez, Raul](#)  
**To:** [Pfeffer, Stephen D MVN](#)  
**Cc:** [Kitto, Alison](#); [Soileau, David](#); [zchain@wlf.la.gov](mailto:zchain@wlf.la.gov); [Elizabeth Johnson \(DEO\)](#)  
**Subject:** [EXTERNAL] MVN-2004-1455; LA Dept of Transportation (LA Hwy 1)  
**Date:** Monday, November 16, 2015 3:23:24 PM

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Stephen,

The Environmental Protection Agency (EPA) has reviewed the Public Notice dated October 24, 2015, concerning Department of the Army Permit Application Number MVN-2004-1455, submitted by the Louisiana Department of Transportation and Development. The applicant is proposing to construct a new elevated portion of Louisiana Highway 1. The proposed project is located between Fourchon and Golden Meadow, Lafourche Parish, Louisiana, and would affect approximately 185 acres of non-vegetated water bottom and vegetated wetland habitat. The comments that follow are being provided for use in reaching a decision relative to compliance with the EPA's 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 CFR Part 230).

The jurisdictional wetlands that would be impacted by this project are tidally-influenced marsh, providing substantial habitat values for sport and commercial marine and estuarine fishery species and resident and migratory avian species. Additionally, these wetlands perform natural water quality maintenance functions. It is well documented that wetland areas such as these have experienced a tremendous decline in coastal Louisiana due to both natural causes and cumulative piecemeal development.

At this time, the EPA does not object to the project as proposed provided that the applicant has satisfied the requirements of the 404(b)(1) Guidelines. This should include providing compensatory mitigation within the project watershed for all unavoidable impacts that should fully offset all lost functions and values. We are interested in reviewing the final compensatory mitigation plan when it is made available, and recommend that implementation of compensatory mitigation occur in advance of, or concurrently with, construction of the proposed project, as required in 40 CFR Part 230.93(m). During the implementation of the project, all available best management practices should be utilized to minimize any impacts to water quality. Thank you for the opportunity to review and comment on the proposed project.

Raul Gutierrez, Ph.D.

Wetlands Section (6WQ-EM)

US EPA Region 6

(504) 862-2371

Office:

US Army Corps of Engineers

New Orleans District

CEMVN-OD-SC

Post Office Box 60267

New Orleans, Louisiana 70160-0267

Stephen,

The Service has reviewed Public Notice MVN-2004-01455-MS. We recommend that the following guidance be incorporated into the applicant's 404 permit.

#### West Indian Manatee

The endangered West Indian manatee (*Trichechus manatus*) is known to regularly occur in Lakes Pontchartrain and Maurepas and their associated coastal waters and streams. It also can be found less regularly in other Louisiana coastal areas, most likely while the average water temperature is warm. Based on data maintained by the Louisiana Natural Heritage Program (LNHP), over 80 percent of reported manatee sightings (1999-2011) in Louisiana have occurred from the months of June through December. Manatee occurrences in Louisiana appear to be increasing and they have been regularly reported in the Amite, Blind, Tchefuncte, and Tickfaw Rivers, and in canals within the adjacent coastal marshes of southeastern Louisiana. Manatees may also infrequently be observed in the Mississippi River and coastal areas of southwestern Louisiana. Cold weather and outbreaks of red tide may adversely affect these animals. However, human activity is the primary cause for declines in species number due to collisions with boats and barges, entrapment in flood control structures, poaching, habitat loss, and pollution.

During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should 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 should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable.

- All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). We recommend the following to minimize potential impacts to manatees in areas of their potential presence:
- All work, equipment, and vessel operation should 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 should 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 should follow routes of deep water whenever possible.
- If used, siltation or turbidity barriers should 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 should be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities should 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" should be posted at a location prominently visible to all personnel engaged in water-related activities and should 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 should be immediately reported to the 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.

Thanks,

Joshua Marceaux  
U.S. Fish and Wildlife Service  
Fish and Wildlife Biologist  
Southwest Louisiana National Wildlife Refuge Complex  
Lacassine National Wildlife Refuge  
209 Nature Road  
Lake Arthur, LA 70549





**UNITED STATES DEPARTMENT OF COMMERCE**

National Oceanic and Atmospheric Administration

**NATIONAL MARINE FISHERIES SERVICE**

Southeast Regional Office

263 13th Avenue South

St. Petersburg, Florida 33701-5505

<http://sero.nmfs.noaa.gov>

November 17, 2015 F/SER46/RH:jk  
225/389-0508

Colonel Richard L. Hansen  
District Commander, New Orleans District  
Department of the Army, Corps of Engineers  
Post Office Box 60267  
New Orleans, Louisiana 70160-0267

Dear Colonel Hansen:

NOAA's National Marine Fisheries Service (NMFS) has reviewed Joint Public Notice (JPN) **MVN-2004-01455-MS** dated October 24, 2015. The Louisiana Department of Transportation and Development (LDOTD) proposes to construct 17 miles of elevated causeway in Lafourche Parish, Louisiana as part of Phase 2 replacement of Louisiana Highway (LA) 1. The elevated causeway is intended to replace a section of on-grade portion of LA 1 and serve as an evacuation and transportation route when other sections of the highway are in danger of becoming flooded. This section of causeway would stretch from the community of Golden Meadow to Leeville and connect to an existing elevated roadway constructed as Phase 1 of the project.

Wetlands in the project area consist of brackish to saline marsh vegetated primarily with marshhay cordgrass, smooth cordgrass and saltgrass. The proposed causeway is in an area designated as essential fish habitat (EFH) for various life stages of federally managed species, including postlarval and juvenile stages of brown shrimp, white shrimp, lane snapper and red drum and adult gray snapper. The primary categories of EFH which would be affected by project implementation are estuarine emergent wetlands, estuarine water bottoms, and estuarine water column. Detailed information on federally managed fisheries and their EFH is provided in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico prepared by the Gulf of Mexico Fishery Management Council. The generic amendment was prepared as required by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act; P.L. 104-297).

In addition to being designated as EFH for various federally managed fishery species, wetlands and water bottoms in the project area provide nursery and foraging habitats for a variety of economically important marine fishery species such as blue crab, gulf menhaden, spotted seatrout, sand seatrout, southern flounder, and striped mullet. Some of these species serve as prey for other fish species managed under the Magnuson-Stevens Act by the Gulf of Mexico Fishery Management Council (e.g., mackerels, snappers, and groupers) and highly migratory species managed by NMFS (e.g., billfishes and sharks). Wetlands in the project area also produce nutrients and detritus, important components of the aquatic food web, which contribute to the overall productivity of the Barataria and Timbalier Bay estuaries.

The NMFS is concerned with the direct and indirect impacts expected to occur with construction of this reach of elevated causeway. According to information provided in the JPN, as well as



information provided by Robbie Lear in emails dated November 4 and 5, 2015, causeway construction would result in the direct destruction of 14.5 acres of wetlands. In addition, based on a shading assessment methodology developed in association with Phase 1 implementation, causeway construction would indirectly impact 46 acres of wetlands through continuous shading after construction. While the JPN identifies a number of potential mitigation sites where dredged material could be used beneficially to create marsh, critical details required of mitigation plans are missing.

Section 305(b)(4)(A) of the Magnuson-Stevens Act requires NMFS to provide EFH conservation recommendations for any federal action or permit which may result in adverse impacts to EFH. Therefore, NMFS recommends the following to ensure the conservation of EFH and associated marine fishery resources:

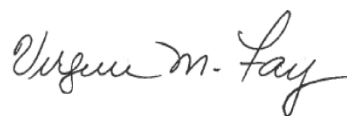
### **EFH Conservation Recommendation**

The applicant should be required to provide compensatory mitigation sufficient to fully offset all anticipated direct and indirect project impacts to marsh. The mitigation plan should be required to be developed in coordination with NMFS, made a special condition of any permit authorizing highway construction, and its implementation should be required by permit special condition to be concurrent with the construction of the causeway.

Consistent with Section 305(b)(4)(B) of the Magnuson-Stevens Act and NMFS' implementing regulation at 50 CFR 600.920(k), your office is required to provide a written response to our EFH conservation recommendation within 30 days of receipt. Your response must include a description of measures to be required to avoid, mitigate, or offset the adverse impacts of the proposed activity. If your response is inconsistent with our EFH conservation recommendation, you must provide a substantive discussion justifying the reasons for not implementing the recommendation. If it is not possible to provide a substantive response within 30 days, the New Orleans District should provide an interim response to NMFS, to be followed by the detailed response. The detailed response should be provided in a manner to ensure that it is received by NMFS at least 10 days prior to the final approval of the action.

We appreciate your consideration of our comments. If you wish discuss this project further or have questions concerning our recommendations, please contact Richard Hartman at (225) 389-0508, extension 203.

Sincerely,



Virginia M. Fay  
Assistant Regional Administrator  
Habitat Conservation Division

c:

FWS, Lafayette, Soileau

EPA, Dallas, Gutierrez

LA DWF, Balkum

LA DNR, Dunn

F/SER46, Swafford

F/SER4, Dale, Rolfes

Files



BOBBY JINDAL  
GOVERNOR

## State of Louisiana

ROBERT J. BARHAM  
SECRETARY

DEPARTMENT OF WILDLIFE AND FISHERIES  
OFFICE OF WILDLIFE

JIMMY L. ANTHONY  
ASSISTANT SECRETARY

November 9, 2015

Mr. Martin S. Mayer, Chief  
Regulatory Branch  
United States Army Corps of Engineers  
P. O. Box 60267  
New Orleans, LA 70160-0267

RE: *Application Number: MVN-2004-01455-MS*  
*Applicant: Louisiana Department of Transportation and Development*  
*Notice Date: October 26, 2015*

Dear Mr. Mayer:

The professional staff of the Louisiana Department of Wildlife and Fisheries (LDWF) has reviewed the above referenced notice for the proposed construction of a new elevated portion of LA-1, directly impacting approximately 31 acres of wetlands, between Golden Meadow and Leeville, in Lafourche Parish, Louisiana. Based upon this review, the following has been determined:

The applicant proposes to mitigate for project related wetland impacts by creating marsh via the beneficial use of dredge material. LDWF supports this plan provided that all mitigation sites created as a result of this project are held to the same standards and requirements as recently established marsh mitigation banks in the New Orleans District of the U.S. Army Corps of Engineers.

Additionally, Figure 10a of the application plats indicates that dredged material used to create marsh will be held in place with containment berms. In an effort to promote natural hydrologic exchange, LDWF recommends that, if they do not degrade naturally, those berms be manually breached or degraded to marsh elevation after one complete growing season.

The Louisiana Department of Wildlife and Fisheries submits these recommendations to the U.S. Army Corps of Engineers in accordance with provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.). Please do not hesitate to contact Habitat Section biologist Zachary Chain at 225-763-3587 should you need further assistance.

Sincerely,

  
Jimmy L. Anthony  
Assistant Secretary

zc

c: EPA, Marine & Wetlands Section  
USFWS Ecological Services