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

REPLY TO
ATTENTION OF

Regional Planning and Environment
Division South
Environmental Planning Branch

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT #537 NEW ORLEANS TO VENICE HURRICANE RISK REDUCTION PROJECT: CHANGES TO THE NON-FEDERAL LEVEES PROJECT, OAKVILLE TO ST. JUDE, PLAQUEMINES PARISH, LOUISIANA

Description of the Proposed Action (Recommended Plan): The Non-Federal Levee (NFL) project consists of approximately 32 miles of levees along the west bank of the Mississippi River. Currently, the levee heights vary throughout the NFL alignment. Authorization was granted for incorporation of replacements and modifications into the New Orleans to Venice Federal project after the NFL received extensive damage from Hurricanes Katrina and Rita.

The NFL project was documented and assessed in the Final Environmental Impact Statement ("FEIS") titled "*Final Environmental Impact Statement New Orleans to Venice, Louisiana Hurricane Risk Reduction Project: Incorporation of Non-Federal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana*" with a Record of Decision ("ROD") signed October 31, 2011. The original design features, environmental impacts, and mitigation requirements as defined in the FEIS are supplemented by Supplemental Environmental Assessment (SEA) #537 and this FONSI. The FEIS and ROD are hereby incorporated into this document by reference.

The FEIS and ROD for the NFL project included an analysis of several alternatives for the construction of the NFL levee. Among the action alternatives, Alternative B was developed to replace or modify 32 miles of the west bank NFL and construct from ground level 2 miles of earthen back levees where no NFL levees previously existed (South Section 5 - West Point a la Hache to St. Jude). In Alternative B, Sections 1-5 of the levee would be raised to an authorized 2 percent design elevation, or approximately a 50-year level of risk reduction elevation using current design criteria. Alternative C included Sections 1-3 of the NFL levee as proposed in Alternative B, but included a "cut-through" to the Mississippi River Levee at the end of Section 3. This would have resulted in Sections 4 and 5 of the NFL being designed only, and not constructed due to insufficient funding. An evaluation of available funding by the U. S. Army Corps of

Engineers in August of 2011 determined that current funding levels would not likely be sufficient to complete the NFL project as proposed in Alternative B. Therefore, the signed ROD approved Alternative C as the recommended plan for the NFL.

A risk analysis performed for the New Orleans to Venice/Non-Federal Levees project by the U. S. Army Corps of Engineers Risk Management Center in August 2015 determined that changing the level of risk reduction elevation from 50-year to approximately 25-year for NFL Sections 2 and 3 would make construction of levees possible for Sections 4 and 5 despite funding constraints. The resulting proposed action reverts back to Alternative B - which had been the preferred alternative in the 2011 FEIS due to the increased level of protection that it could provide – but modifies it to lower the levels of risk reduction in certain areas, as explained above, and to include additional right-of-way.

The proposed action as described in SEA #537 would revert the NFL project design back to Alternative B, with modifications not addressed in the FEIS. These modifications would include a reduction of the Lower Level of Risk Reduction (LORR) to the 25-year/4 percent in several of the levee reaches in NFL Sections 2 - 5. The decrease in the LORR to the 25-year/4 percent in those reaches would allow for the construction and incorporation of NFL Sections 1-5 into the Federal hurricane and storm risk reduction system, as recommended in the risk analysis. Other modifications to Alternative B as described in the FEIS would include additional areas outside of the original project right-of-way; the construction of an earthen levee across the Jefferson Lake Canal Marina; and the relocation of an existing drainage canal and lateral ditches by the Plaquemines Parish Government ("PPG"). The relocation of the existing drainage canal would be carried out by the PPG, and though the need to relocate the drainage canal is a result of the levee construction associated with the proposed action (Alternative B), it is not part of the USACE project activities.

Factors Considered in Determination: This U. S. Army Corps of Engineers, New Orleans District ("CEMVN") has assessed the impacts of the "no action" and the recommended plan on important resources including: wetlands; wildlife; threatened and endangered species; essential fish habitat; cultural resources; recreational resources; aesthetics (visual resources); socio-economics; air quality; and noise. On January 19, 2016, draft SEA #537 and the associated draft Finding of No Significant Impact were mailed out for a 30 day public review and comment period. Environmental compliance for the Federal action was achieved based upon the following actions.

Executive Order (E.O.) 11988 Floodplain Management: Executive Order 11988 directs Federal agencies to reduce flood loss risk; minimize flood impacts on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by flood plains. Agencies must consider alternatives to avoid adverse and incompatible development in the flood plain. If the only practical alternative requires action in the flood plain, agencies must design or modify their action to minimize

adverse impacts. The proposed action represents the least environmentally damaging alternative to accomplish the needed risk reduction system modifications.

Clean Air Act of 1972: The Clean Air Act ("CAA") sets goals and standards for the quality and purity of air. It requires the Environmental Protection Agency to set National Ambient Air Quality Standards ("NAAQS") for pollutants considered harmful to public health and the environment. The proposed action project area is located in Plaquemines Parish which is currently in attainment of NAAQS. The Louisiana Department of Environmental Quality is not required by the CAA and Louisiana Administrative Code, Title 33 to grant a general conformity determination.

Clean Water Act Section 404(b)(1): A Clean Water Act Section 404(b)(1) evaluation and public notice were signed and mailed out for public and agency review and comment on January 25, 2016. The 404(b)(1) public notice is in Appendix F of SEA #537.

Clean Water Act Section 401: Coordination with the Louisiana Department of Environmental Quality determined that the State Water Quality Certification issued for the original NFL project described in the FEIS is still valid for the proposed action. On January 7, 2016, LDEQ issued an updated permit number, WQC 110520-01/AI 101235/CER20160001.

Coastal Zone Consistency: The CEMVN received coastal zone consistency determination (CZD C20100384) from the Louisiana Department of Natural Resources ("LADNR") for the FEIS on January 4, 2011. Coordination with LADNR for modification to CZD was initiated by letter dated December 30, 2015. In their letter dated March 14, 2016, the LADNR determined that the project as proposed is consistent with the Louisiana Coastal Resources Plan and issued Modification 7 to CZD C201000384.

Endangered Species Act: On December 16, 2015, the CEMVN submitted an updated threatened and endangered species concurrence to the U.S. Fish and Wildlife Service ("FWS") with a determination of "not likely to adversely affect" any federally listed threatened or endangered species for the proposed action in SEA #537. The FWS concurred with the determination on January 6, 2016.

Fish and Wildlife Coordination Act: The FWS reviewed the proposed action in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 USC 661 et seq.) and provided a final Fish and Wildlife Consolidation Act Report (FWCAR) dated March 10, 2016. This office has concurred with, or resolved, all recommendations contained in the final FWCAR, and project-specific recommendations have been addressed in SEA #537 and are incorporated into this FONSI.

Hazardous, Toxic and Radioactive Waste (HTRW): An ASTM Phase I Environmental Site Assessment (ESA) was completed for the project area, to include NFLS Sections 1

– 5, in July 2009 as part of the FEIS. An ASTM E 1527-05 Phase 1 Environmental Site Assessment (ESA), HTRW 15-11 dated October 6, 2015, has been completed for the NFL project, Section 3, and a Phase I ESA, HTRW 15-12 dated October 13, 2015, has been completed for NFL Section 5. A copy of the Phase 1 ESAs is on file at the CEMVN Headquarters. The probability of encountering HTRW for the recommended plan is low based on the initial site assessments. If a recognized environmental condition is identified in relation to the project site, the CEMVN would take the necessary measures to avoid the recognized environmental condition so that the probability of encountering or disturbing HTRW would continue to be low.

Magnuson-Stevens Fisheries Conservation and Management Act: The Magnuson-Stevens Fishery Conservation and Management Act, as amended, Public Law 104-208, addresses the authorized responsibilities for the protection of Essential Fish Habitat (EFH) by NMFS in association with regional fishery management councils. The NMFS has a "findings" with the CEMVN on the fulfillment of coordination requirements under provisions of the Magnuson-Stevens Fishery Conservation and Management Act. In those findings, the CEMVN and NMFS have agreed to complete EFH coordination requirements for federal civil works projects through the review and comment on National Environmental Policy Act documents prepared for those projects. The SEA #537 was provided to the NMFS for review and comment on January 19, 2016. Comments and EFH conservation recommendations were received from the NMFS in their letter dated February 9, 2016. The NMFS recommended that the Wetland Value Assessment methodology be expanded to assess the temporal impacts of the time lag between the initiation of construction and completion of appropriate compensatory mitigation. It was also recommended that a mitigation plan should be developed and implemented as committed to in the 2011 ROD, which fully offsets the additional temporal impacts to wetlands and water bottoms categorized as EFH, as well as the direct construction impacts.

In our letter dated March 10, 2016, the CEMVN provided a detailed response that included a description of measures to avoid, mitigate or offset the adverse impacts to EFH of the proposed action. All comments have been addressed in SEA #537 and are incorporated into this FONSI. Specific EFH conservation recommendations for the development of a mitigation plan to address impacts resulting from the proposed action is included in this FONSI as an Environmental Design Commitment and an integral part of the proposed action.

Migratory Bird Treaty Act: The bald eagle was removed from the List of Endangered and Threatened Species in August 2007 but continues to be protected under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act of 1918, as amended (MBTA). Three active bald eagle nests exist in close proximity to the project area. The Corps currently holds a Federal Fish and Wildlife Permit for eagle take associated with, but not the purpose of, the activities discussed in the previously approved EIS. The permit includes avoidance, minimization and mitigation measures

that the Corps must comply with. The measures are included in this FONSI as Environmental Design Commitments as an integral part of the proposed action. The measures include bi-weekly monitoring of active bald eagle nests and maintaining buffers between construction related activities and active nests.

National Historic Preservation Act: Section 106 consultation was conducted with the Louisiana State Historic Preservation Officer ("SHPO") and federally recognized Indian Tribes for the FEIS with a finding of no adverse effect in April 2010. The SHPO concurred with the finding of no adverse effect for the FEIS in a letter dated May 11, 2010. The Alabama-Coushatta Tribe of Texas concurred in their letter dated May 4, 2010, and the Choctaw Nation of Oklahoma concurred in their letter dated June 15, 2010. Consultation with the SHPO and federally recognized Indian Tribes for the proposed action as described in SEA #537 was initiated on January 15 and January 26, 2016 respectively, and has been completed. The SHPO concurred with the determination of *no adverse effect to historic properties* on February 15, 2015, and concurrence for the determination was received in emails from the Caddo Nation of Oklahoma (March 3, 2016) and the Jena Band of Choctaw Indians (March 1, 2016) .

Environmental Design Commitments: The following commitments are an integral part of the proposed action:

1. The Corps currently holds a Federal Fish and Wildlife Permit for eagle take associated with, but not the purpose of, the activities discussed in the previously approved EIS. The permit includes avoidance, minimization and mitigation measures that the Corps must comply with which include:

    a. Bi-weekly monitoring of all nests during nesting season.

    b. Maintaining a specified distance between the activity and the nest (buffer area).

    c. Maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers).

    d. Avoiding certain activities during the breeding season.

    e. Construction activity is prohibited within 660 feet of an active nest during the nesting season (October 1 – May 15), work cannot damage any part of a nesting tree, and no tree clearing should occur within 330 feet of a nest tree.

2. A site-specific plan for specific mitigation sites and methods will be coordinated in a supplemental Environmental Assessment (EA #543) as committed to in the ROD dated 31 October 2011 for the *New Orleans to Venice Hurricane Risk Reduction Project*

Incorporation of Non-Federal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana and subsequent to this Finding of No Significant Impact. The EA #543 finalizing specific mitigation plans will be coordinated with the public and agencies for a 45-day comment period. Full compensatory mitigation for the selected alternatives impacts will be implemented following the completion of EA #543.

Public Involvement: The recommended plan has been coordinated with appropriate Federal, state, and local agencies and businesses, organizations, and individuals through distribution of SEA #537 for a 30-day public review and comment period. Comments on the Draft SEA #537 and FONSI were received from the National Marine Fisheries Service, the Federal Emergency Management Agency, the Louisiana Department of Wildlife and Fisheries, the Louisiana Department of Environmental Quality, and ELOS Environmental LLC on behalf of the Plaquemines Parish Government. All comments received have been addressed and responses have been provided (Appendix A of the SEA #537).

Decision: CEMVN has assessed the environmental impacts of the recommended plan on relevant resources in SEA #537. The recommended plan would have only temporary short term impacts on air quality from heavy equipment operations during construction; short term temporary impacts to adjacent areas from construction noise; temporary transportation impacts from transporting of construction equipment and hauling of borrow materials and scrap materials to/from the construction site.

The recommended plan would directly impact 422.1-acres (221.9 AAHUs) of bottomland hardwoods and wetlands. Impacts to wet pasture resulting from the relocation of the drainage canal in Sections 2 and 4 would result in temporary impacts to 59.7-acres (20.8 AAHUs), that would be expected to re-establish within one year following completion of construction. Details of these impacts and mitigation will be described in the separate supplemental Environmental Assessment #543 that is being developed to address mitigation and will include the wetland impacts of the New Orleans to Venice and Non-Federal Levees projects as a large scale mitigation plan.

The expansion of the levee footprint would cause moderate permanent impacts to the Essential Fish Habitat ("EFH") in the project area. Anticipated adverse, long-term impacts on marsh and open water EFH resulting from the implementation of the proposed action includes approximately 0.6 acre of intermediate marsh, 18.7 acres of freshwater marsh, 18.7 acres of brackish marsh, and 15.3 acres of open water. Approximately 53.3 acres of existing EFH marsh and open water bodies would be permanently impacted. As a result of these actions, the CEMVN believes that adverse impacts on some types of EFH may occur, but marsh creation would compensate for these impacts, and the overall productivity of federally managed species would be benefitted. Therefore, the implementation of the recommended plan would have a moderate impact on EFH in the region.

Implementation of the recommended plan would result in the direct loss of 182.2-acres of prime farmland soils as a result of levee and floodwall construction and related activities. The construction of the new drainage canal, lateral ditches, and associated activities would result in the direct loss of 749.2-acres of prime farmland soils. The loss of soils resulting from levee and floodwall construction would not be significant to agricultural production locally or regionally, as those soils are not currently under cultivation.

I have reviewed the SEA #537 and have considered public and agency comments and recommendations. Based on the assessment conducted in SEA #537 which is attached hereto and made a part hereof, and the implementation of the environmental design commitments listed above, I have determined that the recommended plan would have no significant impact on the human environment that was not already addressed in the Final Environmental Impact Statement and Record of Decision dated 31 October 2011. Therefore, an Environmental Impact Statement will not be prepared.

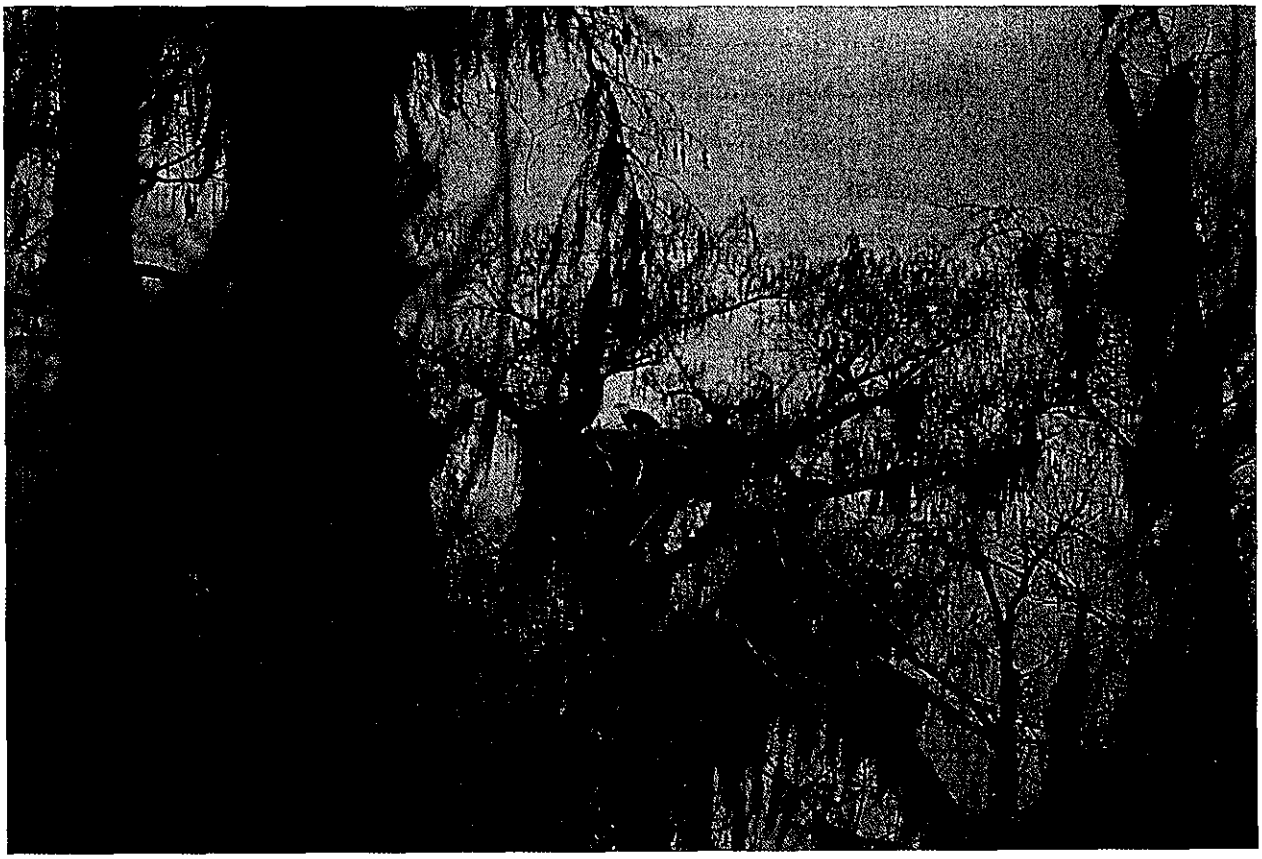
25 March 2016
Date

Richard L. Hansen
Colonel, U. S. Army
District Commander

FINAL SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT #537

NEW ORLEANS TO VENICE HURRICANE RISK REDUCTION PROJECT: CHANGES TO THE NON-FEDERAL LEVEES PROJECT, OAKVILLE TO ST. JUDE, PLAQUEMINES PARISH, LOUISIANA

3/22/2016



U.S. Army Corps of Engineers
Mississippi Valley Division
New Orleans District
Regional Planning and Environment Division South

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HURRICANE RISK REDUCTION PROJECT:
CHANGES TO THE NON-FEDERAL LEVEES PROJECT,
OAKVILLE TO ST. JUDE,
PLAQUEMINES PARISH, LOUISIANA

1.0 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Regional Planning and Environment Division South (RPEDS), New Orleans District (MVN), has prepared this Supplemental Environmental Assessment (SEA #537) to evaluate the potential impacts associated with proposed modifications to the New Orleans to Venice Non-Federal Levees ("NFL"). The proposed project includes additional work areas identified outside of the original project right-of-way consisting of proposed changes to the levee and floodwall alignments; additional access corridors, ramps, staging areas, and other temporary work easements; changes to the level of risk reduction ("LORR") from the 50-year (2%) to the 25-year (4%) in several portions of the NFL; improvements to and enlargement of an existing drainage canal; and the construction of an earthen levee across the Jefferson Lake Canal Marina.

The NFL project was documented and assessed in the Final Environmental Impact Statement ("FEIS") titled "*Final Environmental Impact Statement New Orleans to Venice, Louisiana Hurricane Risk Reduction Project: Incorporation of Non-Federal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana*" with a Record of Decision ("ROD") signed October 31, 2011. The original design features, environmental impacts, and mitigation requirements as defined in the FEIS are supplemented by this SSEA #537. The FEIS and ROD are hereby incorporated into this document by reference.

The NFL project consists of approximately 32 miles of levees along the west bank of the Mississippi River. Currently, the levee heights vary throughout the NFL alignment. Authorization was granted for incorporation of replacements and modifications into the New Orleans to Venice Federal project after the NFL received extensive damage from Hurricanes Katrina and Rita.

The NFL system is operated and maintained by private landowners and the Plaquemines Parish Government ("PPG"), as the governing authority of the Plaquemines Parish West Bank Levee District ("PPWBLD"). The PPWBLD is also responsible for some of the pump stations, floodgates, control structures, canals, and a

number of freshwater siphons within the Plaquemines Parish protected area. The NFL project is divided into five distinct levee sections, for planning purposes, and a detailed description of each section is provided below.

NFL Section 1 – Oakville to La Reussite. This section begins at Oakville and extends south to La Reussite. The beginning point is south of the Hero Canal west of Highway (LA-23). The section runs 8 miles south to the end point near the outfall canal of the Mississippi siphon pipes at La Reussite.

NFL Section 2 – La Reussite to Myrtle Grove. This section begins where Section 1 ends near the outfall canal of the Mississippi River siphon pipes at La Reussite and runs south 11.8 miles ending to the south of Marina Road at Myrtle Grove.

NFL Section 3 – Myrtle Grove to Citrus Lands. This section begins where Section 2 ends near Marina Road in Myrtle Grove and runs 3.1 miles south ending south of Lake Hermitage Road referred to as Citrus Lands.

NFL Section 4 – Citrus Lands to Pointe Celeste. This section begins at the end of Section 3 near Lake Hermitage Road at Citrus Lands and runs south 9.0 miles ending south of Pointe Celeste approximately 1,500 feet north and west of the West Pointe a la Hache pump station and siphon. This endpoint is where the existing NFL approaches LA-23 from the south and makes a right turn to parallel the highway.

NFL Section 5 – Pointe Celeste to St. Jude. The section begins at the end of Section 4 and runs 3.1 miles south ending at St. Jude Road where the north end of the existing St. Jude to City Price Federal back levee begins. There are 1.1 miles of existing NFL in the upper or northern portion of this section. In the lower portion of Section 5, there is no existing non-Federal back levee along the gulf side of LA-23 for a distance of approximately 2 miles.

The FEIS and ROD for the project included an analysis of several alternatives for the construction of the NFL levee. Among the action alternatives, Alternative B was developed to replace or modify 32 miles of the west bank NFL and construct from ground level 2 miles of earthen back levees where no NFL levees previously existed (South Section 5 - West Point a la Hache to St. Jude). In Alternative B, Sections 1-5 of the levees would be raised to an authorized 2 percent design elevation, or approximately a 50-year level of risk reduction elevation using current design criteria. Alternative C included Sections 1-3 of the NFL levee as proposed in Alternative B, but included a "cut-through" to the Mississippi River Levee at the end of Section 3. This would have resulted in Sections 4 and 5 of the NFL being designed only, and not constructed due to insufficient funding.

The draft EIS was released for public comment in May 2011. At the time of public review, the Tentatively Selected Plan was Alternative B, In August of 2011, an internal

re-evaluation of funding by the USACE for the NFL project determined that the then-current funding levels would most likely not be sufficient to complete the NFL project as proposed in Alternative B. Therefore, the signed ROD approved Alternative C as the Recommended Plan.

A risk analysis performed for the New Orleans to Venice/Non-Federal Levees project by the U.S. Army Corps of Engineers Risk Management Center in August 2015 determined that changing the level of risk reduction elevation from 50-year to approximately 25-year for NFL Sections 2 and 3 would make construction of levees possible for Sections 4 and 5 despite funding constraints. The resulting proposed action reverts back to Alternative B - which had been the preferred alternative in the 2011 FEIS due to the increased level of protection that it could provide – but modifies it to lower the levels of risk reduction in certain areas, as explained above, and to include additional right-of-way.

This SEA is prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality's Regulations (40 CFR §1500-1508), as reflected in USACE Engineer Regulation (ER) 200-2-2. In accordance with the Procedures for Implementing NEPA, 40 CFR Part 1502.20, this EA provides sufficient information on the potential adverse and beneficial environmental effects of the proposed action to allow the District Commander to make an informed decision on the appropriateness of a Supplemental Environmental Impact Statement (SEIS) or Finding of No Significant Impact (FONSI).

1.1 Project Name and Location

Project Name: New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana.

Project Location: The project is located on the west bank of the Mississippi River in Plaquemines Parish between Oakville and St. Jude (Figure 1). This area lies in the delta of the Mississippi River approximately 15 miles south of downtown New Orleans. Barataria Bay, an estuary of the Gulf of Mexico, lies on the west side of the Mississippi River delta. The project area consists of a narrow strip of land enclosed by the NFL to the west and by the Federal Mississippi River Levee to the east along the Mississippi River's west bank. The northern and southern bounds of the project area are the communities of Oakville and St. Jude, respectively. The project area extends on the flood-side of the NFL into the coastal marshes along the northeastern perimeter of Barataria Bay. On the Mississippi River, the northern and southern project area limits correspond approximately to River Miles 70 and 46, respectively. Louisiana State Highway LA-23 parallels the Mississippi River along the west bank and traverses the levee-protected area.

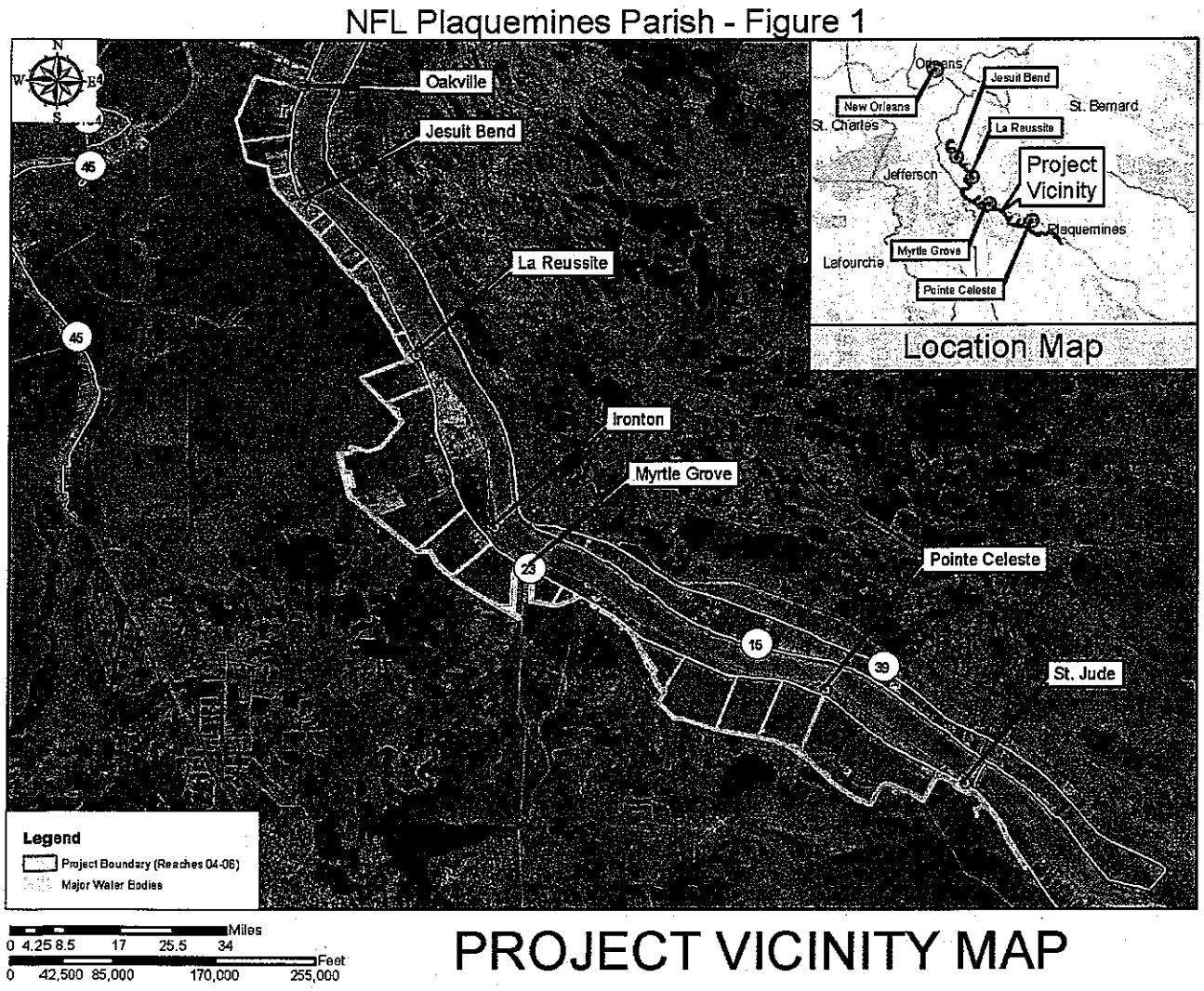


Figure 1. Plaquemines NFL project area.

1.2 Purpose and Need for the Proposed Action

On 29 August 2005, Hurricane Katrina caused major damage to the Federal and non-Federal flood control projects in southeast Louisiana. Hurricane Rita followed this storm on 24 September 2005, made landfall on the Louisiana-Texas state border, and also caused damage to Federal and non-Federal flood control projects in southern Louisiana. Subsequent to the storms, the Corps, working with state and local officials, undertook emergency repairs to Federal and non-Federal flood control projects and related works in the affected area.

The existing back levee was constructed with non-Federal funds on the west side of the Mississippi River to provide hurricane flood risk reduction to the communities from Oakville to St. Jude. The levee has settled and degraded to various degrees, with the northern portion in better condition and at higher elevations than the southern portion. The average grade elevation of the existing levee varies from approximately 8 feet on the northern end to approximately 3 feet in some NFL Sections on the southern end. Because the grade elevation varies by as much as 5 feet and recent hurricanes have further degraded certain Sections, the current level of risk reduction is of low reliability.

The NFL, as previously noted, has received only emergency repairs from hurricane-related damages. This condition exposes residents and businesses in several west bank communities and the hurricane evacuation route (Louisiana Highway 23 (LA 23)), to a higher potential for flooding in the event of a storm or hurricane. The majority of the existing NFL is below the authorized 50-year level of risk reduction (2% LORR). This deficiency creates a 64 percent chance that homes would be inundated during a hurricane event that produces a 50-year flood level.

1.3 Project Authority

Congress approved a series of supplemental appropriations acts following Hurricanes Katrina and Rita to repair or improve Federal and non-Federal flood control projects and related works in the affected area. The USACE, New Orleans and Vicksburg Districts, conducted the study described in this document under the authorities described below.

Under these authorities, a total of $671,000,000 was allocated for construction at full Federal expense to replace or modify the NFL on the west bank in Plaquemines Parish from Oakville to St. Jude, and to incorporate the levees into the Federal levee system for the purpose of providing enhanced storm surge risk reduction and protection of the evacuation route.

The Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery of 2006 (4th Supplemental - Public Law 109-234, Title II, Chapter 3, Flood Control and Coastal Emergencies [120 STAT. 454-455]) provides: "For an additional amount for 'Flood Control and Coastal Emergencies,' as authorized

by section 5 of the Act of August 18, 1941 (33 U.S.C. 701n), for necessary expenses relating to the consequences of Hurricane Katrina and other hurricanes, $3,145,024,000, to remain available until expended: Provided, that the Secretary of the Army is directed to use the funds appropriated under this heading to modify, at full Federal expense, authorized projects in southeast Louisiana to provide hurricane and storm damage reduction and flood damage reduction in the greater New Orleans and surrounding areas; . . . *$215,000,000 shall be used to replace or modify certain non-Federal levees in Plaquemines Parish to incorporate the levees into the existing New Orleans to Venice hurricane protection project*; . . . ." The Flood Control and Coastal Emergencies Section of Title II, Chapter 3, of the Joint Explanatory Statement of the Committee of Conference, page 115, states: "Funds totaling $3,145,024,000 are recommended to continue repairs to flood and storm damage reduction projects . . . *These projects are to be funded at full Federal expense* . . . Additionally, the Conferees include: . . . *$215,000,000 for incorporation of non-Federal levees on the west bank of the Mississippi River in Plaquemines Parish in order to provide improved storm surge protection and to protect evacuations routes*; . . . ."

The U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (5th Supplemental - Public Law 110-28, Title IV, Chapter 3, Flood Control and Coastal Emergencies [121 STAT. 153-154]) provides: "For an additional amount for 'Flood Control and Coastal Emergencies,' as authorized by section 5 of the Act of August 18, 1941 (33 U.S.C. 701n), for necessary expenses relating to the consequences of Hurricanes Katrina and Rita and for other purposes, $1,407,700,000, to remain available until expended:

Provided, . . . *The Secretary of the Army is . . . to prosecute these projects in a manner which promotes the goal of continuing work at an optimal pace, while maximizing, to the greatest extent practicable, levels of protection to reduce the risk of storm damage to people and property* . . . ."

The Supplemental Appropriations Act, 2008 (6th Supplemental – Public Law 110-252, Title III, Chapter 3, Flood Control and Coastal Emergencies [122 STAT. 2349-2350]) provides: "For an additional amount for 'Flood Control and Coastal Emergencies,' as authorized by section 5 of the Act of August 18, 1941 (33 U.S.C. 701n), for necessary expenses relating to the consequences of Hurricane Katrina and other hurricanes of the 2005 season, $2,926,000,000, to become available on October 1, 2008, and to remain available until expended: *Provided*, That funds provided herein shall be used to reduce the risk of hurricane and storm damages to the greater New Orleans metropolitan area, at full Federal expense, for the following: . . . *$456,000,000 shall be used to replace or modify certain non-Federal levees in Plaquemines Parish to incorporate the levees into the existing New Orleans to Venice hurricane protection project*; . . . ."

1.4 Prior Reports

Information and data on previous and existing floodwall and levee conditions associated with the proposed action were derived from the following reports and are incorporated herein by reference:

SEA #537 builds upon the 2011 FEIS and other earlier documents prepared by CEMVN for the NOV Hurricane Protection Project. These documents are described below and are incorporated herein by reference:

1974, *Final EIS, New Orleans to Venice, Louisiana, Hurricane Protection, U.S. Army Engineer District, New Orleans.* This document discussed the enlargement of the west bank back levee from City Price to Venice (Reaches A, B1, and B2) and construction of a new levee from Phoenix to Bohemia on the east bank of the Mississippi River (Reach C). Barrier levees from Bohemia to 10 miles Above Head of Passes (AHP) on the east bank and Fort Jackson to Venice on the west bank were also discussed in the EIS. The ROD was signed on December 9, 1974.

1985, *Final Supplement I to the EIS, New Orleans to Venice Hurricane Protection Project.* This document discussed the deficiencies of the 1974 Final EIS and also the enlargement of the locally constructed west bank back levee from City Price to Venice, Reaches A (City Price to Tropical Bend), B1 (Tropical Bend to Fort Jackson), and B2 (Fort Jackson to Venice). The ROD was signed on June 27, 1985.

1985, *Mitigation Report, New Orleans to Venice Hurricane Protection Project.* This document discussed the mitigation for the levees from Tropical Bend to Venice – Reaches B1 and B2. This mitigation was accomplished with the creation of 300 acres of marsh in the Delta National Wildlife Refuge (NWR) by breaching the existing Main Pass bank resulting in accretion of marsh by natural deposition of sediments.

1987, *Final Supplement II to the EIS, New Orleans to Venice Hurricane Protection Project.* This document discussed additional impacts for the east bank (Reach C) and west bank Mississippi River Levee (MRL). The east bank barrier levee (1974 EIS, from Bohemia to 10 miles AHP) was dropped from further consideration. The ROD was signed on January 25, 1988.

2010, *Final SEIS, New Orleans to Venice (NOV), Federal Hurricane Protection Levee, Plaquemines Parish, Louisiana.* This document discussed restoring, armoring, and accelerating completion of the NOV Federal levee system in Plaquemines Parish that would provide enhanced storm risk reduction. The ROD was signed on October 31, 2011.

2011, *Final EIS, New Orleans to Venice (NOV), Hurricane Risk Reduction Project: Incorporation of Non-Federal Levees from Oakville to St. Jude, Plaquemines Parish,*

Louisiana. This document discussed the replacement or modification of the NFL system for incorporation into the NOV Federal project in Plaquemines Parish. The Recommended Plan, Alternative C, included replacement or modification of 21 miles of existing non-federal back levees on the west bank of the Mississippi River in Plaquemines Parish from Oakville to Citrus Lands (Sections 1-3) for incorporation into the existing NOV federal levee system. The southern terminus of Section 3, at Myrtle Grove, was designed to turn 90 degrees to the east and tie into the existing Mississippi River Levee (MRL). Enhancement of Sections 1-3 of the NFL system included raising the levee to an authorized 2 percent design elevation, or approximately a 50-year level of risk reduction (LORR) based on hurricane modeling techniques current at the time. The ROD was signed on October 31, 2011.

2012, *Environmental Assessment #508, New Orleans to Venice Hurricane Protection Project, West Bank River Levee, Staging Areas and Rights-of-Way (ROW) Additions, Contracts p-14A and P-17A, Plaquemines Parish, Louisiana.* This document was prepared to evaluate the potential impacts associated with additional acreages for construction rights-of-way and staging areas for Contracts P-14A and P-17A reaches located between the communities of Empire and Buras in Plaquemines Parish, Louisiana. The Finding of No Significant Impact (FONSI) was signed on July 3, 2012.

2012, *Environmental Assessment #513, New Orleans to Venice Hurricane Protection Project, Federal Hurricane Protection Levee, Fronting Protection for Diamond and Ollie, Louisiana, Pump Stations Plaquemines Parish, Louisiana.* This document discussed the potential impacts of the expansion of construction right-of-way beyond the scope addressed in the NOV SEIS and NFL EIS that are necessary to complete the fronting protection features at the Diamond and Ollie pump stations. The FONSI was signed on September 6, 2012.

2014, *Environmental Assessment #528, New Orleans to Venice Hurricane Protection Project, Federal Hurricane Protection Levee, Utilization of the Woodland North Borrow Area for Use at the Wilkinson Pump Station (Contract NF-05b), Plaquemines Parish, Louisiana.* This document discussed the utilization of the Woodlands North Borrow Area as a source of clay borrow material for use in construction of a new pump station, the levee tie-in features, and fronting protection features. The FONSI was signed on June 16, 2014.

2014, *Environmental Assessment #529, New Orleans to Venice Hurricane Protection Project, Federal Hurricane Protection Levee, Utilization of the Woodland North Borrow Area for Use on the Oakville to La Reussitte Levees, USACE Contract NF-04a (W912P8-13-C-0024), Plaquemines Parish, Louisiana.* This document discussed the utilization of the Woodlands North Borrow Area as a source of clay borrow material for modification of 8.2 miles of non-federal levees between Oakville and La Reussite in Plaquemines Parish. The FONSI was signed on July 9, 2014.

1.5 NEPA Scoping

The FEIS documents two public scoping meetings held in March 2007. Approximately 20 members of the public and representatives from organizations submitted written and oral comments. Six interagency meetings were held between May and December 2008 to receive suggestions and ensure that all identified levee alignments were adequately defined and described and determined the criteria that would be used to evaluate and rank alignments for the replacement or modification of the NFL system. A public workshop was conducted in September 2009 in Belle Chase. The draft EIS was made available for public review on June 1, 2011. During the 45-day public comment period for the draft, USACE held three separate public meetings to solicit public input.

A full range of alternatives was established, and a preliminary screening was conducted to identify alternatives which would proceed through further analysis. Alternatives were evaluated against criteria such as engineering effectiveness, economic efficiency, and environmental and social acceptability before determining the most feasible (per engineering), least environmentally damaging alternative to accomplish the risk reduction system modifications. The main objective was to maximize system reliability and minimize impacts to the human population and highly valued environmental resources such as various wetlands and dry bottom-land forest, while also keeping in mind schedule and cost. As a result of scoping for the EIS, Alternative B (the proposed action for this EA) was the selected proposed action alternative.

2.0 ALTERNATIVES (INCLUDING THE PROPOSED ACTION)

The proposed action for SEA #537 is to revert the project design back to Alternative B; however, with certain modifications explained herein and which were not addressed in the FEIS. These modifications would include a reduction of the LORR to the 25-year/4 percent in several of the levee reaches in NFL Sections 2 - 5. The decrease in the LORR to the 25-year/4 percent in those reaches would allow for the construction and incorporation of NFL Sections 1-5 into the Federal hurricane and storm risk reduction system, as recommended in the risk analysis. Other modifications to Alternative B as described in the FEIS would include additional areas outside of the original project right-of-way; the construction of an earthen levee across the Jefferson Lake Canal Marina; and the relocation of an existing drainage canal and lateral ditches by the PPG. The relocation of the existing drainage canal would be carried out by the PPG, and though the need to relocate the drainage canal is a result of the levee construction associated with the proposed action (Alternative B), it is not part of the USACE project activities. The PPG would be responsible for obtaining any necessary environmental permits for the relocation of the drainage canal and associated lateral ditches. **Table 1** provides information for each of the NFL Sections, including contract reach, location, structure type, level of risk reduction, and timing of construction initiation and expected duration.

Areas Outside of Right-Of-Way and Changes to the Level of Risk Reduction:

The proposed change from Alternative C to a modified Alternative B would require changes to the project's design resulting in realignments of the levees and floodwalls, as well as the need for additional access roads, staging areas, ramps, and other temporary work easements that were identified during design and not accounted for in the FEIS. As previously discussed, the risk analysis that was prepared recommended changing the LORR elevation from 50-yr (2%) to approximately 25-yr (4%) for contract reaches in NFL Sections 2 and 3. Reducing the LORR in Sections 2 and 3 would make it possible to expand the LORR in Sections 4 and 5 - certain portions of which currently have limited or no flood risk reduction - despite funding restraints. Table 1 identifies the levels of risk reduction that are proposed in each of the NFL Sections and associated contract reaches.

TABLE 1. INFORMATION FOR EACH OF THE NFL LELVEE SECTIONS.

Section	Contract Reach	Location	Structure Type	Level of Risk Reduction	Reach Contract Award Date	Estimated Completion Date and Duration
1	NOV-NF-W-04a	Oakville to La Reussite	Levee	50-year/2%	04/2013	10/2016 1050 CD[2]
1	NOV-NF-W-04a.1	Oakville to La Reussite	T-Wall	50-year/2%	9/7/2016	9/2018 545 CD
1	NOV-NF-W-04b	Ollie Pump Station Fronting Protection	Floodwall	50-year/2%	09/2012	04/2015 758 CD
2	NOV-NF-W-05a.1	La Reussite to Wilkinson Pump Station	Levee	25-year/4%	3/9/2016	1/2023 1381 CD
3	NOV-NF-W-05a.2	Wilkinson Pump Station to Woodpark	Levee	25-year/4%	12/7/2016	9/2022 1967 CD
3	NOV-NF-W-06b.1	Woodpark	T-Wall	50-year/2%	12/1/2016	2/2019 640 CD
4	NOV-NF-W-06a.1	Woodpark to Pointe Celeste	Levee	25-year/4%	2/22/2017	12/2023 1739 CD
4	NOV-NF-W-06b.2	Pointe Celeste Pump State (Fronting Protection)	Floodwall and embankment earthwork	50-year/2%	9/26/2016	7/2018 515 CD
4	NOV-NF-W-06a.2	Pointe Celeste to West Point a la Hache	Levee	25-year/4%	12/12/2016	8/2022 1440 CD
5	NOV-NF-W-06b.3	Gulf South Pipeline[1]	T-Wall	50-year/2%	6/27/2016	8/2018 544 CD
5	NOV-NF-W-06a.3	West Point a la Hache to St. Jude	Levee	25-year/4%	6/1/2016	9/2019 1040 CD
5	NOV-NF-W-06b.5	Magnolia Pump Station	Floodwall	50-year/2%	6/26/2017	8/2019 470 CD

1 Work for the Gulf South Pipeline will be performed at two separate locations; near the existing West Point a la Hache Pump Station and Jefferson Lake Canal.

2 CD = Calendar Days

Section 1 - Oakville to La Reussite Levee (NOV-NF-W-04a)
This levee contract reach is from STA 1000+00.87 to STA 1437+67.36 on the west bank NFL back levee between Oakville and La Reussite. Construction consists of a 546 linear feet (LF) of floodwall at 11.5 foot NAVD 88 (2004.65) that ties in at the WBV-09a pump station in Oakville. Levee improvements are constructed to a design height ranging from 7.5 feet North American Vertical Datum ("NAVD") 88 (2004.65) in the north to 9.0 feet NAVD 88 (2004.65) in the south at La Reussite. The levee and floodwall are constructed to provide a 50-year LORR elevation.

This reach would require the excavation of 350,600 cubic yards of existing levee, the placement of 1,087,042 cubic yards of fill, and approximately 2,000,000 cubic yards of borrow would be required. Access roads would be a minimum of 24 feet wide with 8 inches of crushed stone, and a 12 foot x 30 foot wash down rack would be placed 30 feet from edge of pavement on Highway 23. There are two staging areas totaling 6.18 acres. The total project area is approximately 186.61 acres. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Section 1 - Oakville to La Reussite T-Wall (NOV-NF-W-04a.1)
This floodwall contract reach is from STA 1308+10 to STA 1310+70 on the west bank NFL back levee. Construction consists of a 504 LF of floodwall for three American Midstream and Embridge gas line crossings. The existing gas lines would be temporarily relocated within the project right-of-way during construction of the proposed T-Wall. Finished top elevation of the floodwall is 13 feet NAVD 88 (2004.65) at La Reussite. This floodwall is constructed to provide a 50-year LORR elevation.

This reach would require the excavation of 6,250 cubic yards, the placement of 15,000 cubic yards of fill, and 30,000 cubic yards of borrow would be required. There is one staging area totaling 0.52 acres. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Section 1 - Ollie Pump Station Fronting Protection (NOV-NF-W-04b)
This contract reach is from ~STA 14.73 to STA 1251+66.93 at the existing Ollie Pump Station. Access to the site is via Ollie Drive. Construction consists of building fronting protection for the pump station and extending the six pump discharge pipes through the new floodwall. Finished top elevation of the floodwall at La Reussite is 13.50 feet NAVD 88 (2004.65). The fronting protection is constructed to provide a 50-year LORR elevation.

This reach would require the placement of 16,648 cubic yards of fill, 33,296 cubic yards of borrow would be required, and no additional excavation would be needed. One access road would be a minimum of 24 feet wide with 8 inches of crushed stone, and a 12 foot x 30 foot wash down rack would be placed 30 feet from edge of pavement on LA 23. There is one staging area totaling 0.11 acres. The total project area is

approximately 3.25 acres. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Section 2 – La Reussite to Wilkinson Pump Station Levee (NOV-NF-W-05a.1)
This levee contract reach is from STA 0+00 to STA 473+00 on the west bank NFL back levee between La Reussite and Myrtle Grove. Construction consists of three floodwalls at pipeline crossing locations. Levee improvements are constructed to a design grade of 7.5' at the northern end and 10.0' at the southern end. The Phase 1 construction grade varies from elevation 8.0 at the northern end to 13.0 at the southern end. The Phase 2 construction grade varies from elevation 10.5' at the northern end to 13.5' at the southern end. This levee is constructed to provide a 25-yr LORR elevation.

This reach would require the placement of 2,898,059 cubic yards of fill, approximately 5,796,200 cubic yards of borrow would be required, and approximately 104,000 cubic yards of existing levee would be excavated. Access roads would be a minimum of 30 feet wide with 10 inches of crushed stone. A 12 foot x 30 foot wash rack would be placed 30 feet from the edge of LA 23. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Section 3 - Wilkinson Canal Pump Station (NOV-NF-W-05b)
This contract reach is the construction of a new pump station to replace the existing Wilkinson Canal pump station. Access to the site is via HWY 23. The pump station has 4 pumps with a total discharge capacity of 1067 CFS. Finished top elevation of the floodwall is 16.0 NAVD 88 (2004.65).

This reach would require the placement of 248,247 cubic yards of fill and 55,314 cubic yards of sand fill, approximately 500,000 cubic yards of borrow would be required, and approximately 49,220 cubic yards of existing levee would be excavated. One access road would be a minimum of 30 feet wide with 10 inches of crushed stone, and a 12 foot x 3 foot wash down rack would be placed 30 feet from edge of pavement on LA 23. The total project area is approximately 50.19 acres. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Section 3 - Wilkinson Pump Station to Woodpark Levee (NOV-NF-W-05a.2)
This levee contract reach is from STA 931+00 to STA 1064+26.11 on the west bank NFL back levee in the vicinity of the Myrtle Grove Marina Estates neighborhood. The 25-yr LORR elevation design grade is 10.0'. The Phase 1 construction grade varies from elevation 15.0 at the northern end to 12.0 at the southern end. The Phase 2 construction grade varies from elevation 16.0' at the northern end to 13.5' at the southern end. Two gated box culverts would be constructed to allow for the continued existing drainage flow from Myrtle Grove. This levee is constructed to provide a 25-yr LORR elevation.

This reach would require the placement of 1,061,800 cubic yards of fill and 20,700 cubic yards of sand fill, approximately 2,123,600 cubic yards of borrow would be required, and approximately 71,600 cubic yards of existing levee would be excavated. One access road would be a minimum of 30 feet wide with 10 inches of crushed stone, and a 12 foot x 30 foot wash down rack would be placed 30 feet from edge of pavement on LA 23. The total project area is approximately 116.3 acres. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Section 3 - Woodpark T-Wall (NOV-NF-W-06b.1)

This floodwall contract reach is from STA 10+00 to STA 132+81 on the west bank NFL back levee. Work consists of the construction of a 2,185 LF concrete floodwall adjacent to LA 23 in the Woodpark Subdivision of Plaquemines Parish. Access to the Woodpark neighborhood would be a road over the adjacent levees at the north and south ends of the project with the access points to LA 23. The LA 23 access points would include asphaltic paved highway crossovers, turn lanes and acceleration lanes constructed within the existing LADOTD right-of-way. The work would consist of constructing reinforced concrete floodwalls, embankment placement for levee tie-ins, sheetpile cutoff, armoring of transition zones, drainage modifications, asphaltic paving for LA 23 improvements and crushed stone access road. As part of this floodwall project, the LORR within these areas would be constructed to the required 2%, 50-yr design elevation of 16.5 feet. Finished top elevation of the floodwall would be 16.5' NAVD 88 (2004.65).

Excavation activities include the removal of the preloads at the tie-ins, to construct the floodwalls, the installation of the drainage pipes, and installation of catch basins. The approximate amount of material to be excavated from existing levees is 2,000 cubic yards. The project would require approximately 50,500 cubic yards of borrow material for the construction of the levee tie-in, preloads, access road and ramps. The project would have two truck wash down racks, one located near the west entrance to LA 23 and the other would be located near the east entrance of LA 23. The project would have one staging area that encompasses 1.78 acres that would be surfaced with crushed stone. It is estimated that 18 acres would have vegetation removed by the clearing and grubbing operations. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Section 4 - Woodpark to Pointe Celeste Levee (NOV-NF-W-06a.1)

This levee contract reach is from STA 1096+00 to STA 1396 +11 on the west bank NFL back levee between Lake Hermitage Road and Point Celeste pump station. Construction consists of 5.7 miles of levee enlargement. The Phase 1 construction grade varies from elevation 12.5' at the northern end to 15.0' at the southern end. The Phase 2 construction grade varies from elevation 12.0' at the northern end to 13.5' at the southern end. This levee is constructed to provide a 25-yr LORR elevation.

This reach would require approximately 1,600,000 cubic yards of borrow material, and approximately 54,000 cubic yards of new drainage ditch would be excavated and approximately 8,000 cubic yards of existing levee would be excavated. There would be 180 acres of existing vegetation cleared and grubbed. Three privately owned roads that are approximately 12-15 feet wide would provide some of the access to the project area. New access roads would be 15 feet wide with 7 inches of crushed stone surfacing. A 12 foot x 15 foot wash down rack would be placed 30 feet from the edge of pavement on LA 23. The reach has one proposed staging area of 0.45 acres that would require no additional clearing or placement of surface material. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

A temporary detour road would be placed at the existing Lake Hermitage Road when construction activities causes closure of the existing road. The temporary detour road would be 22 feet wide with separator fabric and 7 inches of crushed stone surfacing. Lake Hermitage Road would be relocated to cross over the levee once levee construction was completed.

Section 4 - Fronting Protection at Point Celeste Pump Station (NOV-NF-W-06b.2)
This contract reach is from STA 0+00 to STA 12+39.5 on the west bank NFL back levee at Point Celeste pump station. Work consists of constructing approximately 700 LF of floodwall, modifications to the existing pump stations to extend the discharge pipes, relocate the keel cooler and to provide knife gate valves for backflow prevention, supply the pump stations with electrical power and embankment earthwork. Levee Tie-ins would be constructed of grouted riprap where the wall transitions into levee. Levee sections would be constructed to match the existing crown elevations for the levee contracts at either end of the reach. The finished top elevation of the floodwall is 17.5 NAVD 88 (2009.55) which is constructed to provide a 2%, 50-year LORR elevation.

The levee lift would require approximately 24,000 cubic yards of borrow material. New drainage ditches and pipe culverts would be constructed to route water away from the project site. Temporary pumps would be installed during construction to allow one pump station to be taken off line at a time during construction. Excavation activities include the removal of the preloads at the tie-ins, the construction of the floodwalls, the installation of the temporary pumps, drainage pipes, catch basins; as well as dredging operations for the floating plant. The approximate amount of existing material to be excavated is 13,000 cubic yards. The project access would be from LA 23 along Pointe Celeste Pump Station road and from Lake Judge Perez. The contractor would construct four drainage canal crossings with 20 foot wide temporary access roads to access two staging areas that are 0.8 acres each and all would be cleared and surfaced with crushed stone. The project would have two truck wash down racks located in the staging areas. It is estimated that 6.5 acres would have vegetation removed by the clearing and grubbing operations. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Section 4 - Pointe Celeste to West Point a la Hache Levee (NOV-NF-W-06a.2)
This levee contract reach is from STA 1410+00 to STA 1674+40 on the west bank NFL back levee between Point Celeste pump station and West Point a la Hache. Construction consists of 4.2 miles of levee enlargement between Point Celeste Pump Station and West Pointe a la Hache. Phase 1 varies between 14.5 feet and 12.5 feet; and Phase 2 varies between 14.0 feet and 12 feet. This levee is constructed to provide a 25-yr LORR elevation.

This reach would require approximately 1,619,000 cubic yards of borrow material, approximately 4,000 cubic yards of new drainage ditch to be excavated, and 18,000 cubic yards of existing levee to be excavated. There would be 140 acres of existing vegetation cleared and grubbed. Access roads would be 24 feet wide with 7 inches of crushed stone surfacing. A 12 foot x 15 foot wash down rack would be placed 30 feet from edge of pavement on LA 23. The reach has one proposed staging area of 0.34 acres that would require no additional clearing or placement of surface material. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Section 5 - Gulf South Pipeline and Siphon T-Walls (NOV-NF-W-06b.3)
This floodwall contract reach for the Gulf South Pipeline is from STA 202+27 to STA 204+87, and STA 9+75 to STA 15+24 for the Siphon T-Walls on the west bank NFL back levee. Work consists of approximately 580 LF of floodwall and embankment earthwork. The utility floodwalls and fronting protection are located at the Gulf South Gas Pipelines (20" & 8" diameter), & the 72" Diameter Siphons. The work for this project would be performed at two separate locations just off LA 23 (southbound lane), near the existing West Point a La Hache Pump Station & Jefferson Lake Canal. Finished top elevation of the floodwall is 17.5 NAVD 88 (2009.55). This floodwall is constructed to provide a 50-year LORR elevation.

The estimated amount of excavation of existing levee required for this reach is 13,500 cubic yards. The majority of the excavation would be performed within the Temporary Retaining Structure (TRS) for the Siphon Monoliths M-8 & M-9. The remainder of the T-Walls would be constructed along the existing levee which requires minimal excavation. The estimated amount of vegetation to be clear and grubbed is 5 acres including the Contractor Staging Area located along LA 23. A total of three Contractor Staging Areas (150 feet x 100 feet in area) would be required: one near the Gulf South Pipeline and two near the Siphon Area (placement of all three would be at the discretion of the Contractor). Surfacing & bedding material would be required up to and at each staging area. The estimated amount of borrow material required is 15,000 cubic yards (including the levee preloads) at both project locations. Borrow material would be obtained from an USACE approved borrow site.

Access via the existing levee access roads and existing driveways would be paved with asphalt (only at the highway entrances) at the request of Louisiana Department of

Transportation and Development (LADOTD). The existing access roads are approximately 15-20 feet in width, which would provide adequate clearance for ingress/egress to heavy vehicles. No new access roads would be required as part of this reach. Truck wash down racks (400 square feet in area) would be installed only at the Siphon project site. Truck wash down racks from an existing levee preload project would be left in near the gulf south project site for the NOV-6b.3 contractor. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Section 5 - West Point a la Hache to St. Jude (NOV-NF-W-06a.3)
This levee contract reach is from STA 1674+40 to STA 1780+30.46. Construction consists of 2 miles of levee enlargement from West Point a la Hache to St. Jude. Phase 1 design grade is 14.0. Phase 2 design grade is 13.0. This levee is constructed to provide a 25-yr LORR elevation.

This reach would require approximately 415,000 cubic yards of borrow material, and approximately 64,200 cubic yards of new drainage ditch would be excavated. There would be 65.1 acres of existing vegetation cleared and grubbed. Three privately owned roads that are approximately 12-15 feet wide would provide some of the to the project area. New access roads would be 25 feet wide with 7 inches of crushed stone surfacing. A 12 foot x 15 foot wash down rack would be placed 30 feet from edge of pavement on LA 23. The reach has one proposed staging area of 0.16 acres that would require no additional clearing or placement of surface material. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Section 5 - Magnolia Pump Station (NOV-NF-W-06b.5)
This contract reach is the construction of a new pump station from STA 33+80 to STA 42+00 – The pump station has 3 pumps with a total discharge capacity of 275 cubic feet/second (cfs). The project consists of approximately 800 linear feet of floodwall and levee tie in, a 275 cfs pump station, safe room, drainage ditch modifications, and access roads. Other project features include a new permanent crushed stone access road from LA 23, and intake and discharge ditches for the pump station. Finished top elevation of the floodwall is 17.5 NAVD 88 (2004.65). This floodwall is constructed to provide a 50-year LORR elevation. The project would also close a gap of approximately 200 foot to close the levee system at station 120+00.

The area of possible vegetation removal is approximately 24 acres, and would include approximately 10 acres that would be removed during the NOV-NF-W-06a3 project.

Excavation for the project would include removing the preload material at the floodwall and pump station site and excavating the intake and discharge channels for the pump station. The amount of preload material to be removed is approximately 35,000 cubic yards including the pump station excavation. Because of this volume of preload to be removed there is no anticipated borrow material needed. The intake canal excavation is

approximately 20,000 cubic yards/second (cys). The discharge canal excavation is approximately 35,000 cys. Excavated materials would be disposed of at a permitted disposal facility.

The permanent access road would be on the North side of the proposed project. It would be 18 feet wide and surfaced with crushed stone. On the south side of the project there would be a temporary 12 feet wide access road made of crushed stone. Both access roads would have 20 foot x 20 foot truck wash down racks near LA 23.

The project contains two staging areas that are 5,000 and 10,000 square feet in size and surfaced with aggregate material. All other access roads and project features fall within the original right-of-way as evaluated in the FEIS.

Construction Staging Areas and Access Roads:

Staging areas for the temporary storage of construction materials and access roads would be needed at various locations throughout the project area. The two main criteria for selecting staging and access route location were (1) the locations must not impact wetlands, and (2) the selected sites must be located within areas investigated for cultural resources and avoid impacts to documented historic properties. Temporary staging areas would be located in previously converted non-wetland areas in close proximity to construction, and access roads would be located on existing parish transportation routes. If during construction it is determined that staging areas and access or haul roads would be situated outside the areas of analysis then additional environmental documentation would be necessary. During levee and floodwall construction, maintenance of the access roads would include the grading of ruts and adding additional crushed stone as necessary.

Borrow Material Requirements:

Approximately 14,206,596 cubic yards of non-compacted clay would be required for the entire Plaquemines NFL levee project. Earthen levee construction requires a specific type of clay material which compacts well and prevents seepage. This material has specific requirements related to the amounts of sand, organic material, etc. Before borrow material can be used for levee construction, soil borings, testing, and environmental clearance of potential borrow sites needs to be completed. Several sources of suitable borrow material exist, and are available for use by the NFL project. Potential sources for suitable borrow material includes the use of Government-furnished and Contractor-furnished borrow areas.

Drainage Canal Relocation:

As a consequence of expanding the levee base in portions of NFL Sections 2 and 4, the Plaquemines Parish Government ("PPG") drainage canal located on the protected side of the existing NFL would be filled. The filling of the PPG canal at the toe of the NFL

was approved in the FEIS and ROD. In order to maintain the existing PPG drainage system capacity, the service provided by the filled drainage canal must be re-established, and would be done so as a compensable relocation by the PPG. The relocation of the drainage canal as proposed by the PPG would improve and enlarge existing interior drainage canals in Sections 2 and 4 **(Figure 2)** to provide the same level of service as that of the existing drainage canal at the protected-side toe of the NFL levee. The drainage service area in Section 2 extends for approximately 5 miles from La Reussite to Myrtle Grove. Waters collected in this system drain to the Wilkinson Canal Pump Station, which is being relocated as part of the NFL project. The drainage service area in Section 4 extends for approximately 7 miles from Lake Hermitage Road to West Pointe a la Hache. Waters in this system drain to the Point Celeste Pump Station.

Excavation activities would also include four areas in Section 2 and four areas in Section 4 (**Figure 2**) where drainage between the central canal and existing lateral ditches would be improved. Surface water flow in the lateral ditches located between the central drainage canal segments and the NFL currently drains in a southwesterly direction into the existing drainage canal. The existing ditches would be deepened to create gravity flow in the opposite direction and the connections to the improved canal segments would be established utilizing polyvinyl chloride (PVC) pipes, installed or replaced as needed.

Excavation activities in the drainage canal segments and lateral ditches are estimated to produce approximately 1.05 million cubic yards of excavated canal sediments and vegetation material. The excavated material would be transported to fill the inactive Conoco Phillips borrow pit area of approximately 42.1 acres on the Conoco Phillips property located in Section 2. The material would also be temporarily stockpiled in one area located in Section 2 (approximately 66.88 acres) and two areas located in Section 4 (approximately 50.44 acres and 45.10 acres). The stockpiled material would be used by the respective landowners. The fill and stockpile areas do not contain any wetlands and would not be used to fill wetlands. A 0.09 mile segment of existing interior drainage canal at the southeastern end of Section 2 would also be filled with the excavated material.

The proposed action includes improving the existing road networks to provide access for construction and maintenance of the project. The project areas contain parish roads and several other existing access roads. The road network is not complete and the condition of the existing access roads varies. Therefore, in order to facilitate access to the NFL and the drainage canal improvement areas, the construction of six new access roads and one temporary access road, and the improvement of two existing roads would be necessary. The proposed activities in Section 2 include a temporary road between the improved canal and the former Conoco Phillips borrow pit that is proposed to be filled with excavated material. Four new roads are proposed to be constructed in Section 4. These roads would provide access to the work areas for the proposed

project. New construction and road improvements involve surfacing approximately 5.95 miles of new roads, 0.80 mile of temporary road, and resurfacing approximately 3.03 miles of existing roads. After construction, all the access roads, except the temporary road, would be maintained by the parish for access to the NFL and the drainage canals.

A 20-foot maintenance road along the widened canal would be part of the construction easement. The width of the canal bottom would vary from 20 to 60 feet and the depth from top of bank to canal bottom would vary from 4 to 9 feet. The canal segments increase to the greatest width and depth where they enter the intake basins for the pump stations. The total construction easement width for improved canal segments would not exceed 200 feet. Approximately 10.52 miles of canal would be excavated and the same length of maintenance roads would be surfaced with aggregate.

Three new canal segments would be excavated, and would include a 20-foot maintenance road. The construction easement for these new segments is approximately 100 to 125 feet wide, with a canal bottom width of 20 to 40 feet. The length for both the new canal segments and maintenance roads is approximately 2.78 miles.

All access roads including the maintenance roads within the canal segments total approximately 20.08 miles. All of these roads would be surfaced with geotextile fabric overlaid with approximately 55,400 tons of aggregate.

Some existing culverts would be replaced and some new culverts would be installed in order to maintain water flow under the access and maintenance roads. Depending upon the width of the canal and length of the road crossing, 1 to 4 barrels of 24, 36, or 48 inches would be installed. Approximately 50 feet of 12-inch PVC pipe would be used for the lateral ditch connections.

Four temporary staging areas along the project route comprising approximately 43.2 acres would be cleared and surfaced with stone or gravel **(Figure 2)**.

Work performed for the drainage canal excavations and modifications and other project features would be accomplished using ground-based excavation equipment including track-hoes, bulldozers, dump trucks, and other standard earth moving equipment.

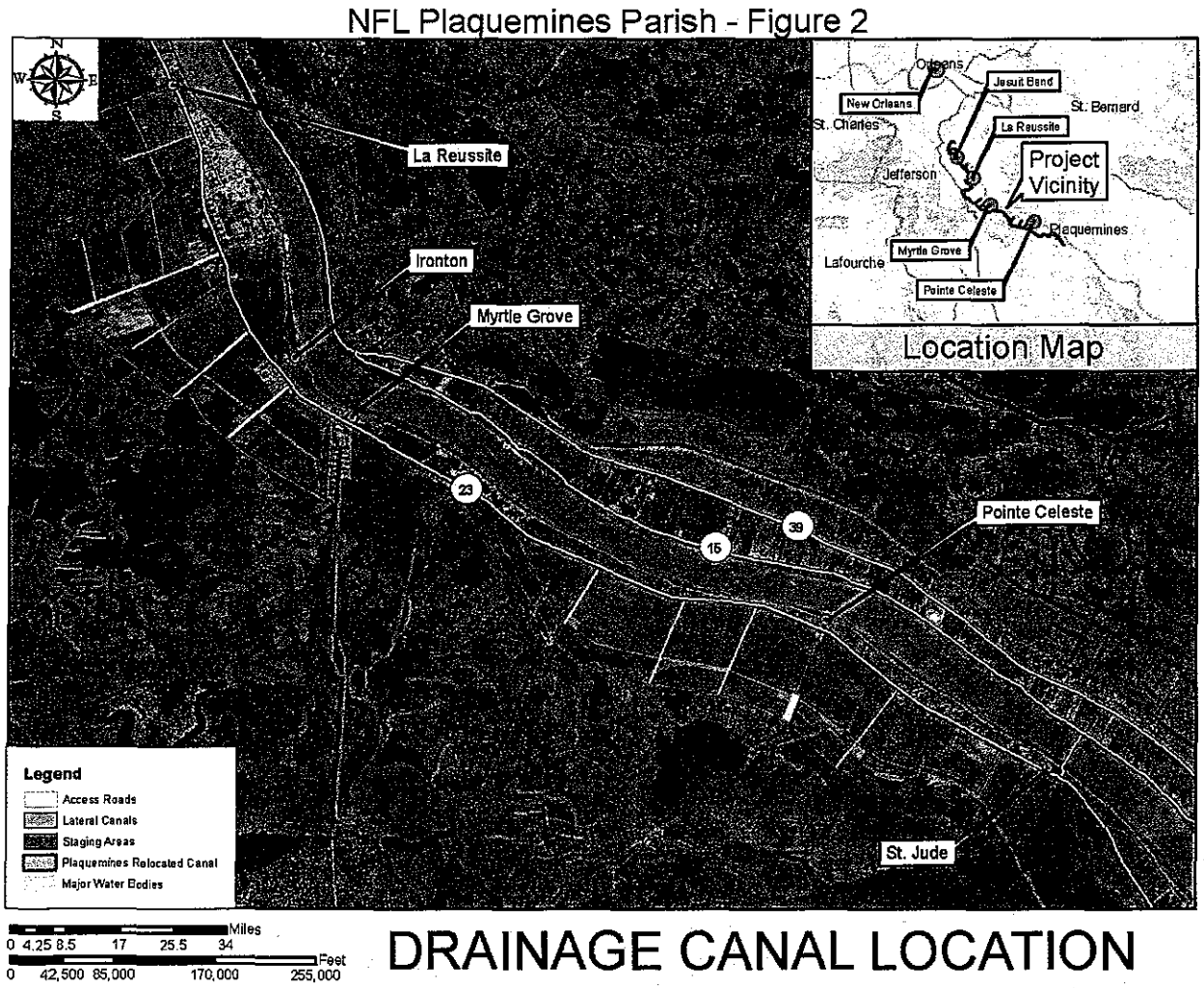


Figure 2. Location of Plaquemines Parish drainage canal and associated features.

Jefferson Lake Canal Marina Earthen Levee:
A levee would be constructed across the Jefferson Lake Canal Marina property. Construction of the levee segment may be divided into land- and marine-based activities (**Figure 3**).

Land-Based Activities: Tracked vehicles (including excavators, backhoes, and bulldozers) would clear and grub grounds within the levee footprint. Clearing and grubbing would include the removal of vegetation, excavation of the top 3 feet of soil and debris, and leveling of the excavated area. A 3-foot thick base layer of sand would be placed on top of all excavated grounds before construction of the levee. All excavated materials would be disposed of at a permitted disposal facility.

Marine-Based Activities: Docks within the levee footprint would be demolished, and piles would be cut at the mud-line. Dock and pile debris would be hauled to a permitted disposal facility.

Approximately 30,000 cubic yards of sand would be placed within the marina to form a stable base for the levee, with fill placement beginning near LA 23 at the project's protected-side levee toe and progressing south-southwest towards the Jefferson Lake Canal and the project's flood-side levee toe. The sand would completely fill the marina to the water's surface. The sand base would cover approximate 90,000 square-feet, and would have a maximum thickness of about 8-feet. Equipment including front-end loaders, bulldozers, and long-reach excavators would be used to place the fill.

It is anticipated that a portion of the existing marina sediments would be displaced during construction of the levee base (in addition to sediments that are buried and compacted under the sand). The marina sediments have a moisture content generally above 60%, and may be displaced as a mud-wave propagating towards the Jefferson Lake Canal. To accommodate the sand base, a long-reach excavator with an approximate boom reach of 80-feet would be used to "push" the mud-wave towards the canal. A maximum of 9,000 cubic yards of marina sediment could be displaced during construction of the sand base. Displaced material that is not buried by the sand would migrate down the canal beyond the flood-side levee toe thru propagation of the mudwave aided by mechanical degradation.

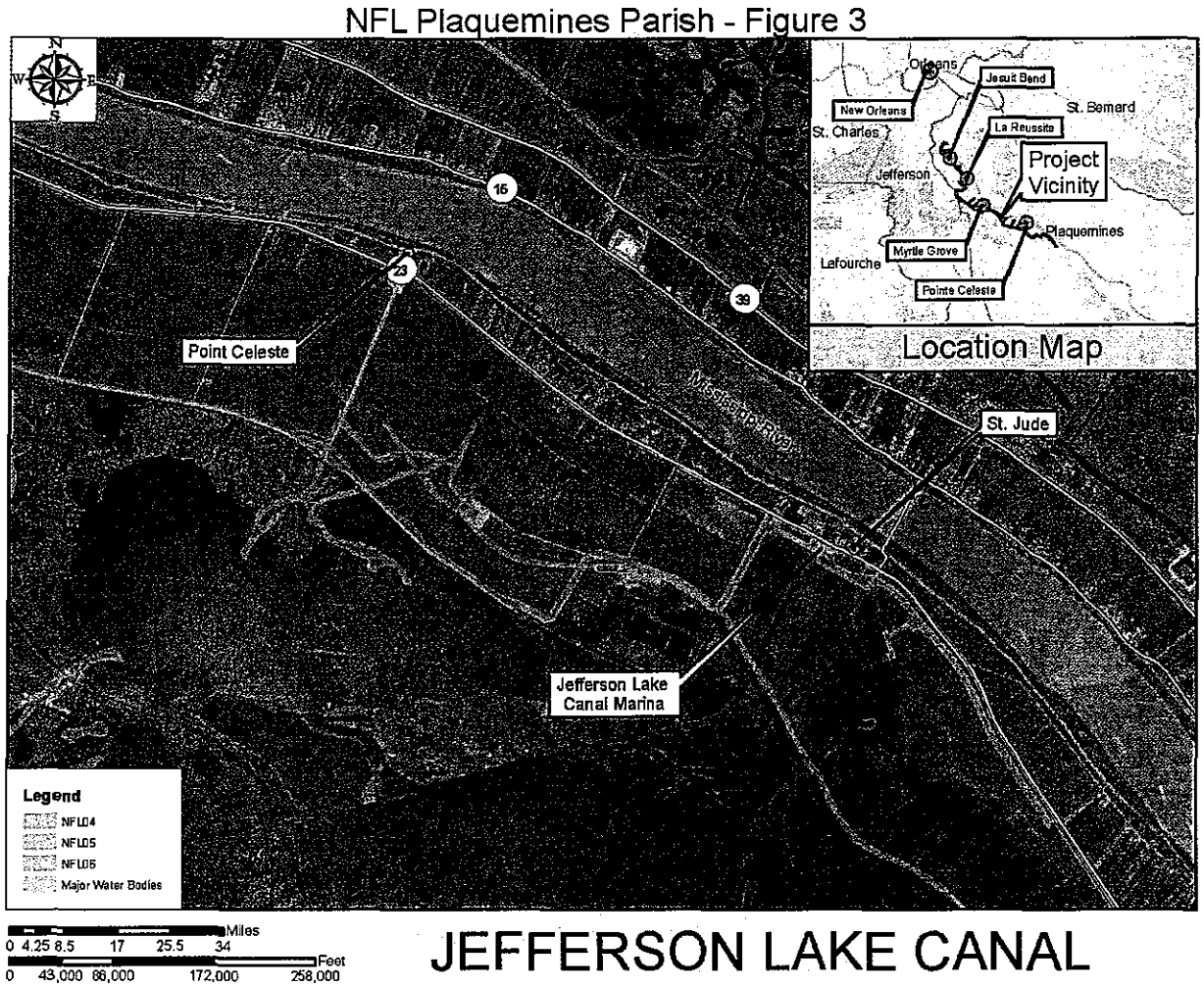


Figure 3. Jefferson Lake Canal Marina project location.

2.2 NO-ACTION ALTERNATIVE (ALTERNATIVE C IN THE FEIS)

The No-Action Alternative for SEA #537 would be Alternative C as described in the FEIS and selected in the ROD as signed on October 31, 2011. Alternative C would modify the existing levee sections to the designed height of 50-year/2 percent LORR and incorporate Sections 1 through 3 of the NFL into the Federal hurricane and storm risk reduction system by employing alignment alternatives which closely follow the existing levee alignment. At the end of Section 3, the levee would be designed to turn 90 degrees to the east and tie in to the existing Mississippi River Levees. Sections 4 and 5 would not be raised to the 50-year/2 percent LORR due to insufficient funds. In the event additional funding was appropriated to complete the project, Sections 4 and 5 would later be incorporated into the Federal hurricane and storm risk reduction system utilizing the same alignment as Alternatives B and C as discussed in the FEIS.

3.0 AFFECTED ENVIRONMENT

This section describes the natural and human environment as well as the relevant resources of the project area. A description of the affected environment of the complete NFL project area is presented in the FEIS and is incorporated herein by reference.

3.1 Environmental Setting

The proposed project is located on the west bank of the Mississippi River in Plaquemines Parish approximately 15 miles south of downtown New Orleans, between Oakville and St. Jude. The project area lies within the Barataria Basin of the Mississippi River Deltaic Plain of the Lower Mississippi River Ecosystem in a region of extremely low relief. Dominant physiography includes the Mississippi River, its natural levees and abandoned distributaries, and the marshlands and bodies of water that lie outside the NFL-NOV levee-area.

Louisiana State Highway 23 ("LA 23") is the main roadway, connecting the towns of Belle Chasse and Venice, LA. This corridor is sparsely developed with small residential subdivisions, undeveloped marshlands, borrow areas, and agricultural fields interspersed with a petrochemical plants and other industrial uses on the Mississippi River side of the highway.

3.2 Description of the Watershed

The proposed project is located within the East Central Coastal Watershed (Hydrologic Unit Code [HUC] 08090301) within the Barataria Basin. A chain of barrier islands separates the basin from the Gulf of Mexico. The southern half of the basin consists of tidally influenced marshes connected to a large bay system behind the barrier islands.

Comprised primarily of agricultural pastures completely surrounded by levees with little topographic relief, the project area receives water inputs only from rainfall, flow wells, and groundwater inflow. Area soils are alluvial and generally level. Storm-water runoff is collected in the drainage network that consists of man-made canals and lateral ditches connected to pump stations. The area is hydrologically disconnected from the basin by the NFL-NOV levee system and water exchange between protected and floodside habitat is by freshwater discharged into the basin at the pump outfalls.

3.3 Climate

The proposed project area and the entirety of Plaquemines Parish fall within the gulf coast regional climate which is characterized as hot, humid, and subtropical. Summers are long and hot with high temperatures and humidity. The area receives approximately 65 inches of precipitation annually. The summer average daily temperature is 81 degrees F, with the average daily high temperature around 90 degrees F. During winter, cold, dry, polar air masses often come in from Canada influencing the project area. Winter average daily temperature is 54 degrees F, and the average daily minimum is 44 degrees F.

3.4 Geology

The project area falls within the Central Gulf Coastal Plain. More specifically, the area is situated on the Deltaic Plain of the Mississippi River in a region of extremely low relief. Dominant physiographic features in the vicinity of the project area include the Gulf of Mexico, the Mississippi River and its natural levees and abandoned distributaries, and the marshlands and bodies of water that lie between the natural levees. The predominant soil types within the Woodland North borrow area consist of fat clays (CH) and lean clays (CL) with some interbedded strata of organic clays (OH), silts (ML) and sands. None of the soil types within the proposed excavation area are listed as Prime and Unique Farmland.

TABLE 2. RELEVANT RESOURCES LOCATED IN THE PROJECT AREA.

Resource	Institutionally Important	Technically Important	Publicly Important
Wetlands	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 non-consumptive recreational opportunities.	The high value the public places on the functions and values that wetlands provide. Environmental organizations and the public support the preservation of marshes.
Bottomland Hardwood Forest	Section 906 of the Water resources Development Act of 1986 and the Fish and Wildlife Coordination Act of 1958, as amended.	Provides necessary habitat for a variety of plant, fish, and wildlife species; it often provides a variety of wetland functions and values; it is an important source of lumber and other commercial forest products; and it provides various consumptive and non-consumptive recreational opportunities.	The high priority that the public places on its esthetic, recreational, and commercial value.
Terrestrial Resources	Food Security Act of 1985, as amended; the Farmland Protection Policy Act of 1981; the Fish and Wildlife Coordination act of 1958, as amended.	The habitat provided for both open and forest-dwelling wildlife, and the provision or potential provision of forest products and human and livestock food products.	The present economic value or potential for future economic value.
Essential Fish Habitat (EFH)	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.
Wildlife	Fish and Wildlife Coordination Act of 1958, as amended and the Migratory Bird Treaty Act of 1918	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 esthetic, recreational, and commercial value.

TABLE 2. RELEVANT RESOURCES LOCATED IN THE PROJECT AREA.

Resource	Institutionally Important	Technically Important	Publicly Important
Threatened and Endangered Species	The Endangered Species Act of 1973, as amended; the Marine Mammal Protection Act of 1972; and the Bald Eagle Protection Act of 1940.	USACE, USFWS, NMFS, NRCS, USEPA, ***LDWF, and LADNR*** 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.
Estuarine Water Bodies	Clean Water Act of 1977, Fish and Wildlife Coordination Act, Coastal Zone Mgt Act of 1972, La State & Local Coastal Resources Act of 1978	USACE, USFWS, NMFS, NRCS, USEPA, LDWF, and LADNR recognize value of fisheries and good water quality.	Environmental organizations and the public support the preservation of water quality and fishery resources.
Cultural Resources	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	Cultural resources are finite and non-renewable resources that include, but are not limited to both prehistoric and historic archaeological sites, historic standing structures, landscapes, and other culturally valued aspects of the environment, as well as sociocultural attributes, such as social cohesion, social institutions, lifeways, religious practices, and other cultural institutions. Historic properties include districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places, and federal agencies are required to consider the effects of their actions on such properties.	Humans relate to their environment through their culture, and historic and cultural resources provide insights into ways of life, both past and present. The protection and enhancement of historic and cultural resources is in the best interest of the public, and federal agencies also have trust and treaty responsibilities to Tribes, which are partially fulfilled through the preservation and protection of trust resources and the consideration of potential effects on natural and cultural resources.
Recreation Resources	Federal Water Project Recreation Act of 1965 as amended and Land and Water Conservation Fund Act of 1965 as amended	Provide high economic value to local, state, and national economies.	Public makes high demands on recreational areas. There is a high value that the public places on fishing, hunting, and boating, as measured by the large number of fishing and hunting licenses sold in Louisiana; and the large per-capita number of recreational boat registrations in Louisiana.

TABLE 2. RELEVANT RESOURCES LOCATED IN THE PROJECT AREA.

Resource	Institutionally Important	Technically Important	Publicly Important
Aesthetics	USACE ER 1105-2-100, and National Environmental Policy Act of 1969, the Coastal Barrier Resources Act of 1990, Louisiana's National and Scenic River's 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.
Socio-Economic Resources	River and Harbor Flood Control Act of 1970 (PL 91-611).	N/A	Social concerns and items affecting area economy are of significant interest to community.
Environmental Justice	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.
Air Quality	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 NAAQS.	Virtually all citizens express a desire for clean air.
Hydrology and Water Quality	Clean Water Act of 1977, Fish and Wildlife Coordination Act, Coastal Zone Mgt Act of 1972, and La State & Local Coastal Resources Act of 1978.	USACE, USFWS, NMFS, NRCS, USEPA, and State DNR and wildlife/fishery offices recognize value of fisheries and good water quality. the national and state standards 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.

3.5 Relevant Resources

3.5.1 Wetlands

A majority of the wetland habitat in the project area is considered wet pasture. Wetlands are semi-aquatic lands flooded or saturated with water for varying periods of time. For an area to be delineated as a wetland, it must exhibit appropriate hydrology, contain hydric soils, and support hydrophytic vegetation (USACE, 1987). Palustrine habitats consist of freshwater wetlands that support natural vegetation that is either primarily woody or herbaceous. Palustrine wetlands dominated by woody vegetation include wet bottomland hardwoods (BLH), cypress-tupelo swamp, wet subsiding ridge, wet scrub-shrub, and batture forest. Wet pasture and freshwater marsh are palustrine wetlands dominated by herbaceous or non-woody vegetation. Among estuarine habitats, intermediate marsh, brackish marsh, and submerged aquatic vegetation (SAV)/open water habitat are found within the project area. Saline marsh is not present.

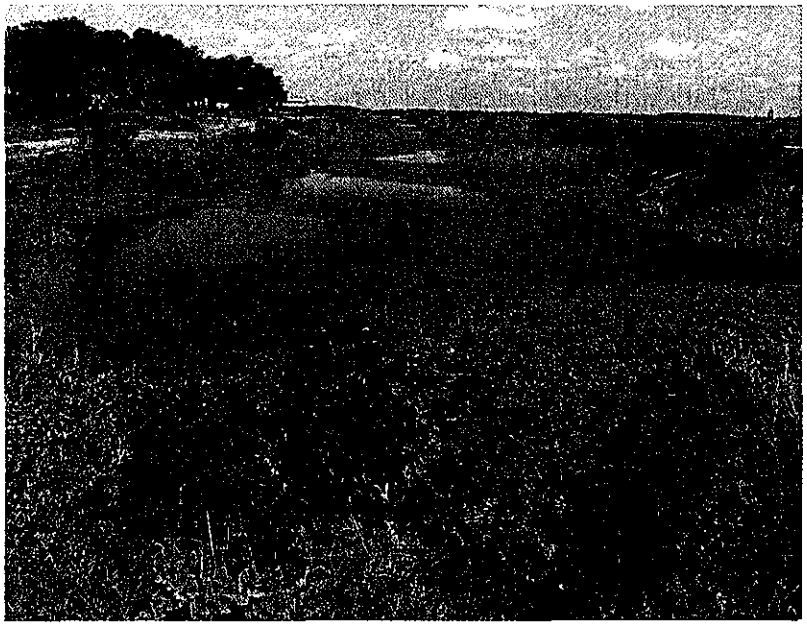
Lateral Ditches and Drainage Canals

Within the project area are manmade interior drainage canals and lateral ditches that connect to the pump stations and run parallel and perpendicular to the NFL levee. These ditches and canals provide some habitat for hearty aquatic species such as mosquito fish and invertebrates, however, they do not contain sufficient oxygen levels for aquatic species during warm summer months. These drainage canals are maintained by Plaquemines Parish to remove the vegetation and debris. The water levels in the drainage canals fluctuate when the pump stations are operated for rainfall and storm events. The banks of these drainage canals and lateral ditches support wetland plants such as roseau cane (*Phragmites australis*, sedges (*Cyrex* sp.), grasses (*Eleocharis* sp.), alligator weed (*Alternatha philoxeroides*), wild taro (*Colocasia esculenta*), lizard tail (*Saururus cernuus*), and pennywort (*hydrocotyle* sp.) depending on weather, maintenance and water levels. Also within these canals depending on the presence of water, frequency of maintenance and temperature, floating aquatic vegetation may be present such as duck weed (*Lemna* sp.), water fern (*Salvinia* sp.), and water hyacinth (*Eichhornia crassipes*), see photographs 1 and 2 below.

Immediately adjacent and within the banks of the drainage canals and lateral ditches exists a small amount of wet bottomland hardwoods, wet pasture, and scrub shrub habitat.

Figures 4 through 6 show the natural habitats, including wetlands, within the project area as well as the lateral ditches and drainage canals that would be widened and deepened to allow for the drainage flow from the existing drainage canal that runs parallel to the NFL levee. Habitats that occur within the levee-protected area (as far east as LA 23) are quantified in Table 3. The open water estuarine habitats found on the flood side of the NFL are discussed in detail in the Essential Fish Habitat Section of this EA.

Photograph 1 facing south of drainage canal that connects to Wilkinson Pump station clogged with floating vegetation.



Photograph 2 facing north of drainage canal that connects to Wilkinson Pump Station clogged with floating vegetation.

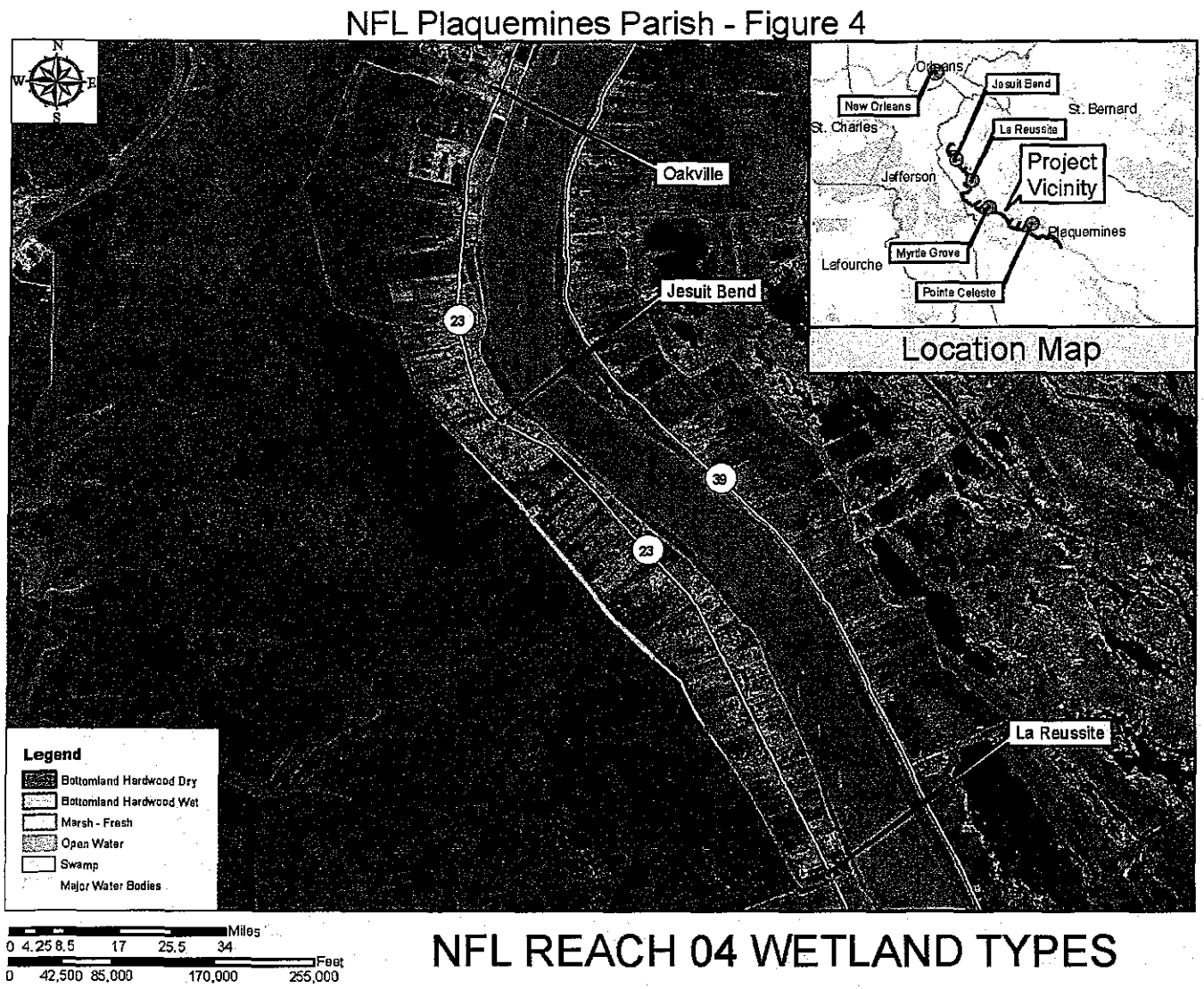


Figure 4. Habitat types in Reach NF-04.

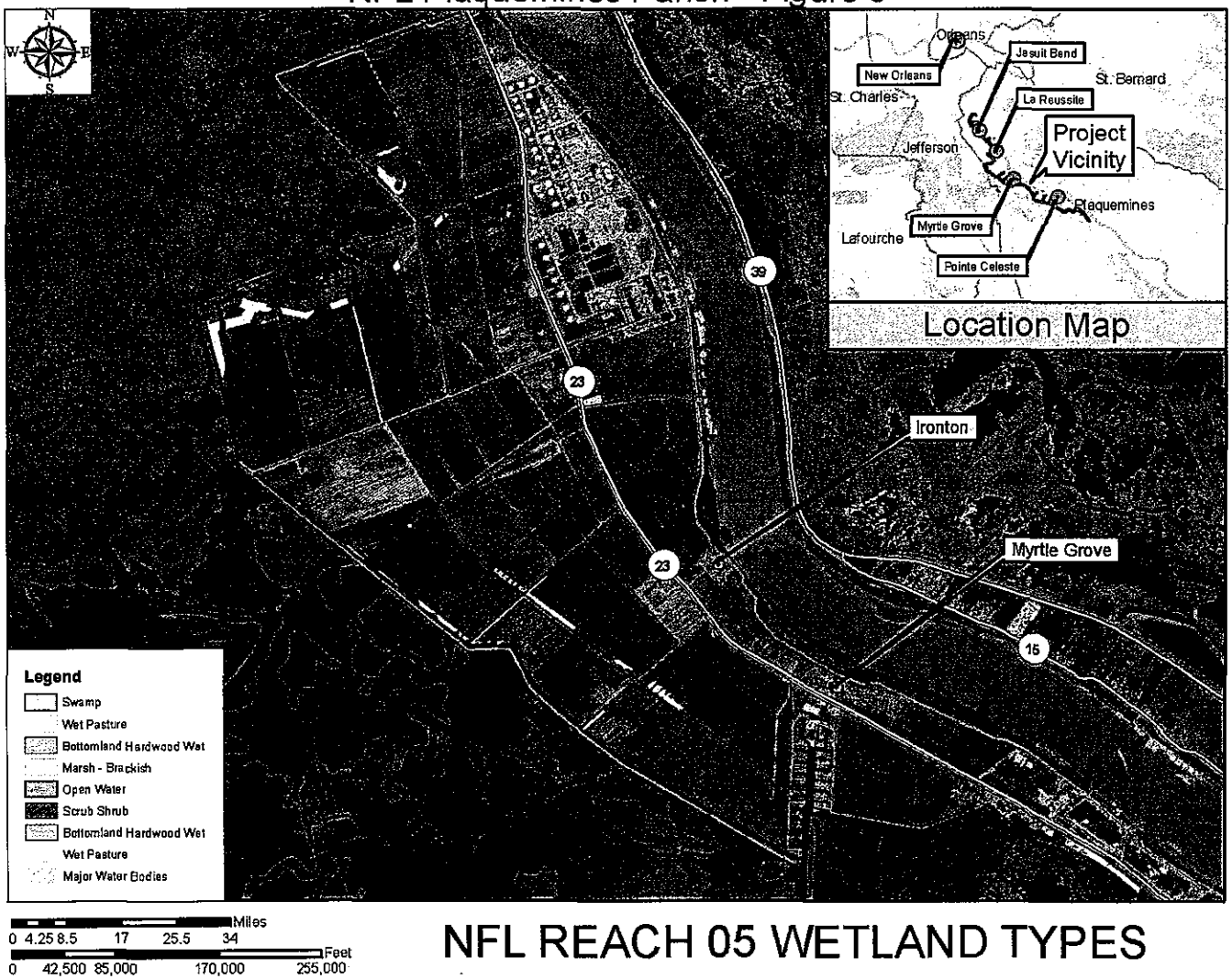


Figure 5. Habitat types in Reach NF-05.

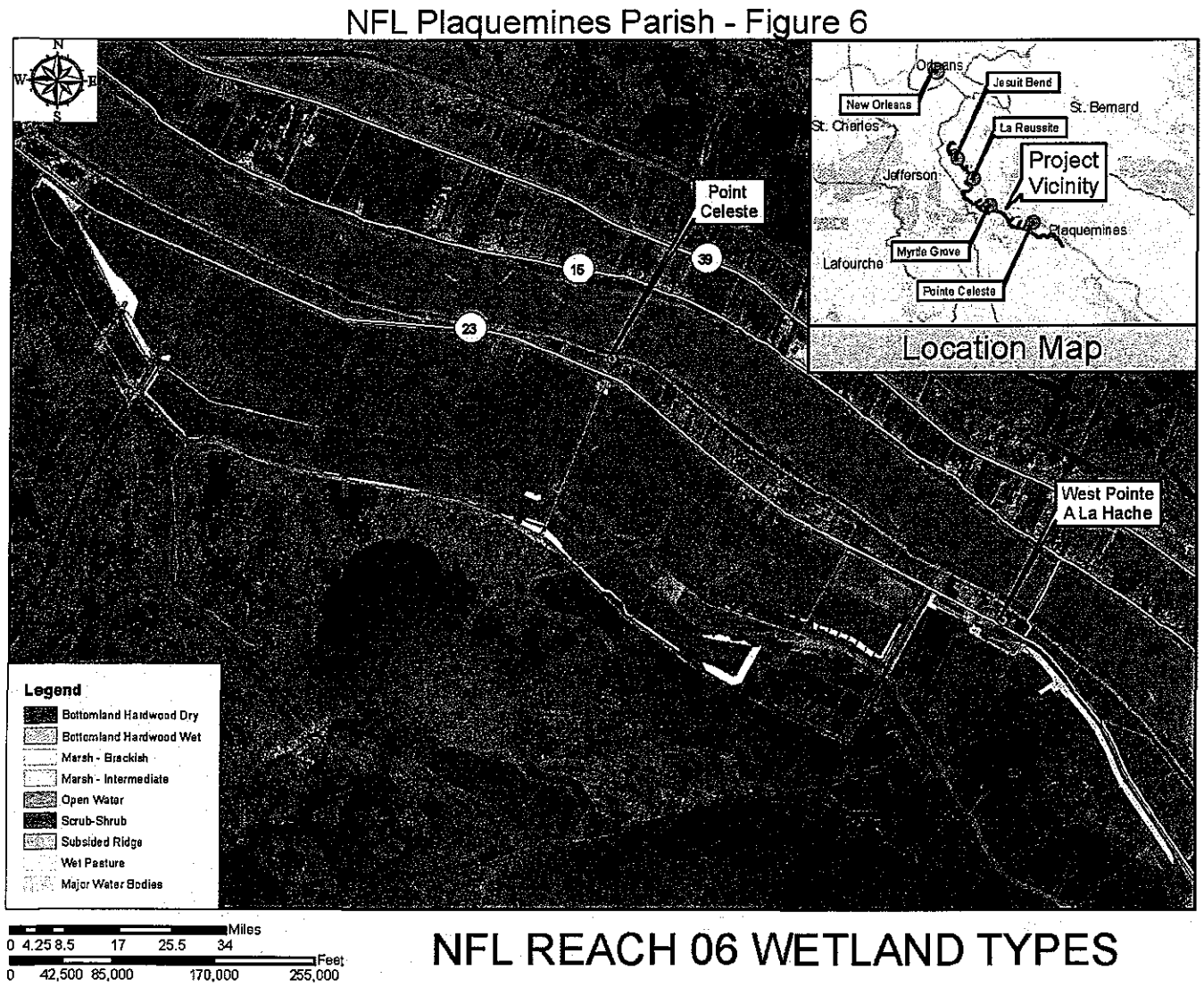


Figure 6. Habitat types in Reach NF-06.

TABLE 3. NATURAL HABITATS (ACRES) ENCLOSED BY EXISTING NFL.

Habitat Type	Bottom-land Hardwoods Wet	Bottom-land Hardwoods Dry	Wet Pasture	Swamp	Scrub Shrub
Acres	213.8	672.1	1,212.1	34.9	76.9

The loss of wetlands has been an issue of major concern in coastal Louisiana, including the Barataria estuary. Contributing factors responsible for that wetland loss include subsidence, saltwater intrusion, sea-level rise, canal and levee construction, urban expansion, and navigation and flood risk reduction projects. Although the causes vary, all have resulted in the conversion of wetland habitats to areas of open water. A total of 312 square miles of land in the Barataria Basin has converted to open water since 1956 (Barras, 2006).

Wet Bottomland Hardwoods (BLH)

In general, wet BLH are forested, alluvial wetlands occupying broad flood plain areas that flank large river systems. Wet BLH are characterized and maintained by a natural hydrologic regime of alternating wet and dry periods generally following seasonal flooding events. These forests support distinct assemblages of plants and animals associated with particular landforms, hydric soils, and hydrologic regimes. They are important natural communities for maintenance of water quality, providing a very productive habitat for a variety of fish and wildlife species, and are important in regulating flooding and stream recharge.

Relatively small areas of wet BLH are enclosed by or on the protected side of the NFL in Sections 1, 2, 3, 4, and 5 (**see Table 3 for acreages**). In addition, some wet BLH habitat occurs on the flood side of the NFL along portions of Sections 1, 3, and 5. Dominant woody species consist of red maple (*Acer rubrum*), boxelder (*Acer negundo*), green ash (*Fraxinus pennsylvanica*), sweetgum (*Liquidambar styraciflua*), black willow (*Salix nigra*), and hackberry (*Celtis laevigata*), with the occasional American elm (*Ulmus americana*), bald cypress (*Taxodium distichum*), pecan (*Carya illinoinensis*), water oak (*Quercus nigra*), and nuttall oak (*Quercus texana*).

Cypress-Tupelo Swamp

Cypress-tupelo swamps are forested, alluvial habitats on intermittently exposed soils most commonly found along rivers and streams, but also occurring in back swamp depressions and swales. The soils are inundated or saturated by surface water or ground water on a nearly permanent basis throughout the growing season except during periods of extreme drought. Cypress-tupelo swamps have relatively low plant diversity. Undergrowth is often sparse because of low light intensity and long hydroperiods. They are important natural communities for maintenance of water quality, providing a very productive habitat for a variety of fish and wildlife species, and are important in regulating flooding and stream recharge.

Cypress-tupelo swamp occurs on the protected side of the NFL in the north end of Section 1 in several relatively small patches. Dominant overstory plant species include bald cypress (*Taxodium distichum*) and a few tupelo gum (*Nyssa aquatica*). Midstory includes red maple (*Acer rubrum*), box elder (*Acer negundo*), hackberry (*Celtis laevigata*), and on the edge black willow (*Salix nigra*). Openings in canopy reveal an understory seed bank of red maple, dwarf palmetto (*Sabal minor*), wax myrtle (*Myrica cerifera*), and Chinese tallow (*Triadica sebiferum*).

This wetland swamp type of habitat is anticipated to eventually convert to bottomland hardwoods due to its location on the protected side of the NFL and its connection to the existing pump stations that drain surface water and stormwater within the area. Swamp habitat also occurs on the flood side of the NFL in the northern and southern portions of Section 1. The dominant vegetation observed within these areas includes bald cypress (*Taxodium distichum*), black willow (*Salix nigra*), button bush (*Cephalanthus occidentalis*), cattail (*Typha sp.*), arrowhead (*Sagittaria sp.*), water hyacinth (*Eichhornia crassipes*), switchgrass (*Panicum virgatum*), common rush (*Juncus effusus*), goldenrod (*Solidago sp.*), and eastern baccharis (*Baccharis halimifolia*).

Wet Pasture

Some of the levee-protected project area that is used as cattle pasture occurs on topographical depressions that are often wet. Areas of wet pasture that are jurisdictional wetlands occur in Sections 2 and 4 in numerous patches. Dominant herbaceous species include Bermuda grass (*Cynodon* sp.) and scattered smartweed (*Polygonum* sp.). However, this area also has an old seed bed of relict fresh marsh species such as arrowhead or bull tongue (*Sagittaria* sp.), cordgrass (*Spartina* sp.), and rushes (*Juncus* sp.). Woody vegetation often encroaches into these wet areas to form a scrub-shrub layer of eastern baccharis (*Baccharis halimifolia*) and rattlebox (*Sesbania drummondii*). The low plant species diversity of these wet pasture areas limits their value to wildlife.

Freshwater Marsh

Freshwater marsh occurs on the flood side of the NFL along a portion of Section 1. Salinities in freshwater marshes are usually less than 2 parts per thousand (ppt) and normally average approximately 0.5 to 1 ppt. Freshwater marsh has the greatest plant diversity and highest soil organic matter content of any coastal marsh type. It is frequently dominated by maidencane *(Panicum hemitomon)*. Other characteristic plant species include sedges (*Carex* spp.), alligator weed (*Alternanthera philoxeroides*), marshhay cordgrass (*Spartina patens*), roseau cane (*Phragmites australis*), coontail (*Ceratophyllum demursum*), water hyacinth (*Eichhornia crassipes)*, pickerelweed (*Pontederia cordata*), pennyworts (*Hydrocotyle* sp.), common duckweed (*Lemna minor),* and cattails *(Typha* sp.). This marsh type is very important to many species of birds and supports large numbers of wintering waterfowl. It is also important nursery habitat for larval organisms.

Intermediate Marsh

Intermediate marsh is found within the project area on the flood side of the NFL along portions of Section 3. Salinities in intermediate marsh are usually 3 ppt to 10 ppt and is dominated by narrow-leaved, persistent plant species. This marsh is characterized by a diversity of species, many of which are found in freshwater marsh and some of which are found in brackish marsh. It is often dominated by marshhay cordgrass (*Spartina patens*). Other characteristic species include roseau cane *(Phragmites australis*), bulltongue (*Sagittaria lancifolia)*, spikesedge (*Eleocharis* sp.), three-cornered grass (*Schoenoplectus olneyi*), and Gulf cordgrass (*S. spartineae)*. This marsh type is very important to many species of birds and supports large numbers of wintering waterfowl. It is also important nursery habitat for larval organisms.

Brackish Marsh

In the project area, brackish marsh is found on the flood side of the NFL along a portions of Section 3, 4 and 5. Brackish marsh has an average salinity of approximately 8 ppt. This community is irregularly tidally flooded and dominated by salt-tolerant grasses. Plant diversity and soil organic matter content are lower in brackish marsh than in intermediate marsh. Brackish marsh is typically dominated by marshhay cordgrass (*Spartina patens*). Other significant associated species include saltgrass (*Distichlis spicata*), three-cornered grass (*Schoenoplectus* spp.*),* saltmarsh bulrush *(Scirpus robustus*), dwarf spikerush (*Eleocharis parvula)*, black needlerush (*Juncus roemerianus)*, and smooth cordgrass (*Spartina alterniflora*). Brackish marsh is of very high value to estuarine larval forms of marine organisms such as shrimp, crabs, menhaden, etc.

Upland Habitats

Upland resources are those portions of the project area that are not wetland or open water habitat. Upland habitats consist of three major types—dry BLH, agricultural lands, and residential or other developed lands.

Dry Bottom-land Hardwoods

Areas of dry bottom-land hardwoods are present within the levee protected area in Sections 1, 2, 4, and 5. In Section 1, this habitat consists of a relatively large tract that envelops areas of wet bottom-land hardwoods. This dry type of forest is considered an upland terrestrial habitat because it does not meet the definition of a wetland since it occurs on somewhat higher ground that is better drained. Characteristic plant species include water oak (*Quercus nigra*), live oak (*Quercus virginiana*), roughleaf dogwood (*Cornus drummondii*), hackberry (*Celtis laevigata*), sweetgum (*Liquidambar styraciflua*), Chinese tallow tree (*Triadica sebifera*), saw palmetto (*Serenoa repens*), eastern baccharis (*Baccharis halimifolia*), and peppervine (*Ampelopsis arborea*). This habitat is important because of the production of hard mast on relatively high ground which

benefits a number of wildlife species.

Agricultural

Dry pasture, agricultural areas such as citrus groves, and residential and industrial areas with grassy lawns and scattered trees serve as upland habitat for a variety of wildlife species that are typical of agricultural and suburban areas.

Invasive Plants

There are a number of nonnative invasive plant species in the project area. The most visible is the Chinese tallow tree (*Triadica sebifera*) which has become established in forested swamps and wet scrub-shrub habitats. It can affect plant community structure by becoming the most abundant woody species at many locations. While providing very little wildlife habitat value other than occasional utilization as resting and escape cover, Chinese tallow can limit or eliminate native species that are much more frequently utilized by native wildlife species. It has the potential to invade surrounding marshes and convert them from herbaceous to woody plant communities (Neyland and Meyer, 1997).

Other kinds of invasive aquatic plant species are likely to be present within the NFL project area including the drainage canals include water hyacinth (*Eichhornia crassipes*), parrot feather (*Myriophyllum aquaticum*), hydrilla (*Hydrilla verticillata*), Brazilian waterweed (*Egeria densa*), Eurasian watermilfoil (*Myriophyllum spicatum*), water lettuce (*Pistia stratiotes*), and common salvinia (*Salvinia minima*). These plants are known to occur in the coastal marshes and drainage canals, as well as canals within the Barataria estuary. They have the ability to form dense mats that cover entire bodies of water with a thick layer that blocks sunlight, thereby reducing photosynthesis, reducing dissolved oxygen (DO), and causing fishkills.

3.5.2 Essential Fish Habitat

The estuarine and marine waters of Plaquemines Parish are included in the Essential Fish Habitat (EFH) managed area. Categories of EFH that are designated within the proposed project area include estuarine wetlands (intertidal vegetation), estuarine water column, substrates (mud, sand, shell, rock, and associated biological communities), a limited presence of sub-tidal vegetation (submerged aquatic vegetation (SAV), sea grasses, and algae), and shallow open water with non-vegetated bottoms.

The proposed NFL project corridor is located in an area identified as EFH for larval, postlarval, juvenile, sub-adult, and adult life stages of brown shrimp (*Farfantepenaeus aztecus*), white shrimp (*Litopenaeus setiferus*), red drum (*Sciaenops ocellatus*), gray snapper (*Lutjanus griscus*), and lane snapper (*Lutjanus synagris*). Table 4 presents the species-specific EFH requirements during the various life stages of the federally managed fish.

Three marsh types are represented along the project corridor according to USGS Biological Resources Division, National Gap Analysis Program (GAP), Louisiana GAP Analysis Project conducted post-Hurricane Katrina in 2007 (Louisiana Atlas 2007). The marsh types are intermediate, brackish, and saline which are further discussed in the wetland section. These marshes serve as nursery habitat for many aquatic species throughout their life stages (e.g., egg, larval, and juvenile).

Shrimp species. Shrimp species include the brown shrimp (*Farfantepenaeus aztecus*), white shrimp (*Litopenaeus setiferus*), and pink shrimp (*Farfantepenaeus duorarum*). Adult penaeids generally occupy offshore areas of higher salinity where spawning occurs. After hatching, larvae enter estuaries and remain there throughout the juvenile stage. Estuarine habitat serves as a nursery area offering a suitable substrate, an abundant food supply, and protection from predators. Subadult shrimp consume organic matter, including marsh grasses and microorganisms found in estuarine sediments. Adult shrimp are omnivorous. The EFH includes shallow inshore waters, marsh edge, SAV, tidal creeks, inner marsh, mud bottoms, and sand/shell substrate. The Habitat Areas of Particular Concern (HAPC) includes tidal inlets and state nursery and overwintering habitats. These areas contain a high abundance of juvenile specimens and are critical for early growth and development. No designated HAPC for the assemblage occurs within the project area.

Red drum. Red drum (*Scianeops ocellatus*) is an important recreational gamefish found in coastal waters throughout the Gulf of Mexico. Adults inhabit near-shore waters, particularly areas within the surf zone or in the vicinity of inlets. Spawning occurs in near-shore areas, and eggs and larvae are transported by tides and wind currents into estuaries. Larvae and juveniles occupy estuarine environments until maturation. Red drum are predatory in all stages of life; however, the type of prey consumed varies with life stage. Subadult red drum primarily consume small marine invertebrates including mysids and copepods, while adult specimens feed on large marine invertebrates, including shrimp and crabs, and small fishes. The EFH for red drum includes tidal inlets, mud bottoms, SAV, the marsh-water interface, mangrove communities, oyster reefs, and near-shore waters with depths of less than 164 feet. The HAPC for red drum includes tidal inlets, state nursery areas, spawning sites, and SAV. No designated HAPC for the assemblage occurs within the project area.

Gray snapper. Gray snapper *(Lutjanus griseus)* is an important recreational gamefish found in coastal waters throughout the Gulf of Mexico. Adults inhabit estuarine, nearshore, and offshore areas of gulf waters, and tend to stay in the same area for long periods once established. Spawning typically occurs around nearshore and offshore reefs, and nearshore shoals and banks. Larvae remain in areas of nearshore and offshore reefs until maturation. Juveniles and young adults occupy estuarine and nearshore areas such as mangroves and emergent marshes. Gray snapper are opportunistic predators. Larvae feed on zooplankton including copepods and amphipods. Juvenile gray snappers feed by day among seagrass beds, mainly on crustaceans and fish and to a lesser degree polychaete worms and molluscs. Foraging nocturnally, adult gray snapper prey upon small fishes, shrimps, crabs, gastropods, and

cephalopods. The EFH for gray snapper includes nearshore and offshore reefs, SAV, mangrove communities, emergent marshes, seagrass beds, sand/shell/soft bottoms. The HAPC for gray snapper includes nearshore and offshore reefs, nearshore sand/shell/soft bottoms, estuarine emergent marshes and mangroves, seagrass, spawning areas, state designated nursery areas, and SAV. No designated HAPC for the gray snapper occurs within the project area.

Lane snapper. Lane snapper *(Lutjanus synagris)* is an important recreational gamefish in coastal waters throughout the Gulf of Mexico. Adults typically inhabit reefs, sand/shell bottoms, and offshore shoals/banks. Spawning generally occurs in offshore waters around the shelf edge/slope. Larvae remain in offshore pelagic waters until maturation. Juveniles and young adults occupy mangroves, nearshore reefs, sand/shell bottoms, SAV, and soft bottoms. The lane snapper lives in a wide range of habitats and are opportunistic predators, feeding on a variety of prey that is available. Adult lane snappers feed nocturnally on smaller fishes, shrimp, cephalopods, gastropods, and crabs. The EFH for lane snappers includes offshore/pelagic, nearshore and offshore reefs, mangroves, nearshore andn offshore sand/shell/soft bottoms, shoals/banks, offshore shelf edge/slope, and SAV. The HAPC for lane snapper includes nearshore and offshore reefs, nearshore sand/shell/soft bottoms, mangroves, seagrass, spawning areas, state designated nursery areas, and SAV. No designated HAPC for the gray snapper occurs within the project area.

TABLE 4. DESIGANTED ESSENTIAL FISH HABITAT FOR FEDERALLY MANAGED SPECIES THAT OCCUR IN THE NFL PROJECT AREA.

Species	Life Stage	Designated EFH
Brown shrimp *(Penaeus aztecus)*	Eggs/larvae	Nearshore and offshore gulf waters (< 110 m, demersal)
	Postlarval/juvenile	Marsh edge, SAV, tidal creeks, inner marsh
	Sub-adult	Mud bottoms, marsh edge
	Adult	Neritic gulf waters, silt muddy sand, and sandy substrates
White shrimp *(Penaeus setiferus)*	Eggs/larvae	Nearshore gulf waters < 40 m from shoreline
	Postlarval/juvenile	Marsh edge and ponds, SAV, inner marsh, oyster reefs
	Sub-adult	Same as post larval/juvenile
	Adult	Nearshore gulf waters to 30 m from shoreline
Red drum *(Sciaenops ocellatus)*	Eggs/larvae	Nearshore and offshore gulf waters

Species	Life Stage	Designated EFH
	Postlarval/juvenile	SAV, estuarine mud bottoms, marsh/water interface
	Sub-adult	Estuarine and marine mud and sand bottoms, oyster reefs, estuarine water column
	Adult	Estuarine water column (Gulf shoreline to 50 m in depth), shell substrate; estuarine and marine mud bottoms
Gray snapper *(Lutjanus griseus)*	Eggs/larvae	Nearshore and offshore gulf waters; reefs
	Postlarval/juvenile	Estuarine SAV, emergent marshes, and mangroves; Nearshore SAV and mangroves
	Sub-adult	Estuarine SAV, emergent marshes, and mangroves; Nearshore SAV and mangroves
	Adult	Estuarine emergent marshes, sand/shell and soft bottoms; nearshore and offshore gulf waters
Lane snapper *(Lutjanus synagris)*	Eggs/larvae	Offshore gulf waters; pelagic
	Postlarval/juvenile	Estuarine SAV; nearshore SAV and reefs
	Sub-adult	Estuarine and nearshore gulf waters; SAV; mangroves; sand/shell; soft bottoms; and reefs
	Adult	Nearshore and offshore gulf waters; sand/shell bottoms; shoals/banks; reefs

3.5.3 Prime and Unique Farmlands

Farmland classification data provided by NRCS in September 2014 and updated in July 2015 determined that no unique farmland is located within the project areas of Section 2 or Section 4. Approximately 30.0 percent of the total project area acres in Section 2 and approximately 32.4 percent of Section 4 acres are rated as prime farmland. Prime farmland within the project area consists of the following soil associations: Cancienne silt loam, Cancienne silty clay loam, and Schriever clay.

Cancienne soils are somewhat poorly drained; runoff is medium to slow and permeability is moderately slow. A saturated zone is perched above the clayey lenses or layers and is at 1.5 to 4 feet below the surface during December through April. Most areas are protected from flooding by levees. Areas of Cancienne soils are used mainly for cropland; sugarcane, soybeans, corn, and wheat are the principal crops. Some acreage is in pasture and hay crops. A significant acreage has been developed for urban, industrial or residential uses.

Schriever soils are poorly drained. Surface runoff is high on slopes less than 1 percent and very high on slopes up to 3 percent. Permeability is very slow. Schriever soils are saturated in the layers between 0 and 0.5 feet during the months of December through April in normal years, and moist in the subsoil layers below that. Areas of Schriever soils are used mostly for cropland; sugarcane, rice, soybeans, wheat, grain sorghum, and oats are the principal crops. Some areas are used for pasture, and hay crops. Frequently flooded areas are mainly in bottomland hardwoods stands (NRCS 2015).

The prime farmland in the project areas is dedicated to pasture and hay crops. No other agricultural activities are currently taking place.

3.5.4 Wildlife

Wildlife that typically inhabits the wetland forest, wet scrub/shrub, upland forest, fresh marsh, intermediate marsh, brackish marsh, and open water habitats in and around the project area includes a diverse assemblage of amphibians, reptiles, birds, and mammals such as; frogs, turtles, alligators, snakes, colonial nesting wading birds, raptors, songbirds, ducks, nutria, deer, feral hogs, swamp rabbits, squirrels, raccoons, coyote and more. Because the majority of the project area is in agriculture or urban land cover, such areas provide relatively little quality habitat compared to the areas that are forested, scrub/shrub, or aquatic habitats.

3.5.5 Threatened, Endangered and Protected Species

Within the State of Louisiana there are 24 animal and three plant species (some with critical habitat) under the jurisdiction of the USFWS and/or the NMFS, presently classified as endangered or threatened. Of those 27 species, Table 4 identifies those that are known to occur in Plaquemines Parish. Other species that were listed on the Endangered Species List but have since been de-listed because population levels have

improved are the Peregrine falcon, bald eagle and the brown pelican. Currently, American alligators and shovelnose sturgeon are listed as threatened under the Similarity of Appearance clause in the Endangered Species Act (ESA) of 1973, as amended but are not subject to ESA Section 7 consultation.

The Louisiana Natural Heritage Program (LNHP) of LDWF has developed lists and monitors the status of rare, threatened and endangered species, and natural communities for each parish of the state. The information includes state and global rank and state and Federal status for species and state and global rank for rare habitats. The species and habitats listed by the State of Louisiana may be found at http://www.wlf.louisiana.gov/wildlife/species-parish-list.

Of the Federally listed species in Plaquemines Parish, only the American alligator and delisted bald eagle are known to inhabit the immediate project area. The immediate project area does not provide the appropriate habitat type for the remaining listed species.

TABLE 5. FEDERALLY THREATENED (T) AND ENDANGERED (E) SPECIES IN PLAQUEMINES PARISH.

Common Name	Scientific name	Federal Status
American Alligator*	*Alligator mississippiensis*	T (S/A)
Bald eagle*	*Haliaeetus leucocephalus*	Delisted
Brown Pelican	*Pelecanus occidentalis*	Delisted
Pallid sturgeon	*Scaphirynchus albus*	E
Atlantic Sturgeon	*Acipenser oxyrhynchus oxyrhynchus*	T
American Peregrine falcon	*Falco peregrinus anatum*	Delisted
Piping plover	*Charadrius melodus*	T/E
West Indian Manatee	*Trichechus manatus*	E
Sprague's Pipit	*Anthus spragueii*	Candidate
Rufa Red Knot	*Calidris canutus rufa*	T
Sea turtles: green, hawksbill, Kemp's, leatherback, loggerhead	*Chelonia mydas, Eretomchelys imbricate, Lepidochelys kempii, Dermochelys coriacea, caretta caretta*	T, E, E, E, T

* Known to inhabit the immediate project area

American alligator

The American alligator is a secure species and not subject to Section 7 consultation. However, the Fish and Wildlife Service continues to protect the alligator under the ESA classification as "threatened due to similarity of appearance" to several listed species of crocodiles and caimans. The alligator is common in the project area.

Bald eagle

The bald eagle was removed from the List of Endangered and Threatened Species in August 2007 but continues to be protected under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act of 1918, as amended (MBTA). Three bald eagle nests exist in close proximity to the project area; all three were active in 2008 (FWS, 2009). The Corps currently holds a Federal Fish and Wildlife Permit for eagle take associated with, but not the purpose of, the activities discussed in the previously approved EIS. The permit includes avoidance, minimization and mitigation measures that the Corps must comply with which include but are not limited to (a) bi-weekly monitoring of all nests during nesting season (b) maintaining a specified distance between the activity and the nest (buffer area), (c) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers), and (d) avoiding certain activities during the breeding season. Specifically, construction activity is prohibited within 660 feet of an active nest during the nesting season (October 1 – May 15), work cannot damage any part of a nesting tree, and no tree clearing should occur within 330 feet of a nest tree.

These measures have proven successful in the past two nesting seasons. Of the two visible nests, one produced two fledglings in April 2015 and the other had a pair of eagles that did not produce eggs but have returned this season. The third nest is not visible from our ROW and is therefore undetermined.

3.5.6 Cultural Resources

Section 106 of the National Historic Preservation Act of 1966, as amended and codified in Title 54 of the United States Code; NEPA of 1969 (Public Law 91-190), as amended; and other applicable laws and regulations require Federal agencies to take into account the effects of their undertaking on the environment and any significant cultural resources within the project area of the proposed undertaking, as well as its area of potential effect (APE). Typically, these studies require archival searches and field surveys to identify any cultural resources. When significant sites are recorded, efforts are made to minimize adverse effects and preserve the site(s) in place. If any significant sites cannot be avoided and would be adversely impacted, an appropriate mitigation plan would be implemented to recover data that would be otherwise lost due to the undertaking.

Cultural resource investigations were conducted for the FEIS by New South Associates and URS from August, 2008 through September, 2009. These investigations involved a Phase I Archaeological Survey of proposed alignments and Phase II evaluative testing at several sites identified in the Phase I study. One significant site for which Phase II testing was performed was the Becnel-Perez Mound site (Site 16PL186), a prehistoric earthen mound complex. Topographic mapping was also performed for this site.

The cultural resources survey identified 19 new archeological sites, eight artifact occurrences, and two historic standing structures in the APE. Two previously recorded sites were also revisited. Of these sites and occurrences, the majority were easily

defined as non-significant resources that do not require further study for National Register of Historic Places (NRHP) consideration. However, the Becnel-Perez Mound is considered to be eligible for the NRHP. The site is an expansive prehistoric multi-mound site occupied from the Late Marksville through to the Mississippian/Plaquemine Period (100 B.C. - A.D. 1540), but was most active during the Coles Creek Period (A.D. 700 - 1200). The site was comprised of 14 mounds organized into three mound groups. The site appears to display integrity of location, design, setting, and association and seems to embody the typical techniques and spatial patterning associated with the construction of Coles Creek Period mound complexes. As the largest Coles Creek mound site currently known in Plaquemines and Jefferson Parishes, the Becnel-Perez Mound is likely to yield information that would enlighten our understanding of adaptation, subsistence, and sociopolitical organization during the Coles Creek Period in coastal southeastern Louisiana.

The Louisiana State Historical Protection Office (SHPO) and consulting federally recognized Tribes were informed of the USACE finding of no adverse effect, as a result of the 2009 study, in a letter dated April 13, 2010. The SHPO concurred with USACE eligibility determinations and finding of no adverse effect in a letter dated May 11, 2010, provided the USACE avoids impacts to the Becnel-Perez Mound site (Site 16PL186) and Sites 16PL188, 16PL189, and 16PL190. Nine federally recognized Tribes were contacted during the consultation process, including the Alabama Coushatta Tribe of Texas, the Caddo Nation of Oklahoma, the Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, the Coushatta Tribe of Louisiana, Mississippi Band of Choctaw Indians, Quapaw Tribe of Oklahoma, the Seminole Tribe of Florida, the Seminole Tribe of Oklahoma, and the Tunica-Biloxi Tribe of Louisiana. The Alabama-Coushatta responded by letter dated May 4, 2010, concurring with the USACE finding of no adverse effect, and the Choctaw Nation of Oklahoma by letter dated June 15, 2010, concurring with the USACE finding of no adverse effect.

In November and December 2014, and June 2015, additional cultural resources studies specifically for the PPG drainage canal relocation were conducted. The records review for the 2014 and 2015 studies consisted of a file search using information provided by the Louisiana Office of Cultural Development Division of Archaeology to identify cultural resources or cultural resource investigations documented in the area. The records review indicated that 24 previous surveys and 21 previously recorded sites have been documented within a .8 km (.5 mi) radius of the project area. Two of the sites previously recorded by the 2009 investigation were mapped within the current surveys, and one additional previously recorded site that would be potentially affected by the proposed project was identified.

Field investigation consisted of an intensive pedestrian survey supplemented with screened shovel tests. Shovel tests were in intervals of 30 m and 50 m in areas of high and low site probability, respectively. No previously undocumented cultural resources were identified within the project area during the current investigation, and no evidence of Sites 16PL157, 16PL165, or 16PL185, which would potentially be affected by the proposed project, was encountered during the current survey. A report detailing the

findings of the cultural resources studies was submitted to the SHPO in January 2015 with an addendum to the report provided in May 2015.

The findings of the 2009 and 2015 cultural resources surveys indicate that no historic properties will be affected by the proposed project. Consultation pursuant to Section 106 of the National Historic Preservation Act with the SHPO and federally recognized Tribes is on-going. Letters were mailed to the SHPO and federally recognized Tribes on January 15, 2016, to update Section 106 consultation requirements based upon the 2014 and 2015 studies, as well as any recent additions to the proposed action.

3.5.7 Recreation Resources

Most developed recreational facilities available to the public in the project area are boat launches and marinas. Private camps are also found in the vicinity of the project area.

Local recreational activities are oriented toward hunting, fishing, and use of private camps. In the project area, recreational activities include fishing, birdwatching, and other passive recreational pursuits. Throughout all of the sections, fishing and hunting are fairly common recreational activities, most of which take place outside the risk reduction system.

Section 1
Most recreational use in Section 1 includes fishing in the Ollie Canal by some who live in the nearby neighborhoods. There are no public boat launch facilities in this area.

There is a park (Ollie Drive/LA 23) located approximately 50 feet west of the project area (access route). The park includes a walking path and pond.

Section 2
Recreational fishing takes place in the area south of the proposed alignments. Access to any of these areas is by boat.

Section 3
On the border of Sections 2 and 3 is Wilkinson Canal which is the location of the Myrtle Grove Marina. Camps on stilts with boat hangers line this canal. The marina is located on the unprotected side of the project alternatives.

Section 4
Lake Hermitage Marina is located several miles off LA 23. It too is located outside the proposed levee system. Camps were once abundant along this drive, but many were destroyed by Hurricane Katrina.

Section 5
There is a boat launch at the Jefferson Lake Canal Marina located along Grand Bayou is located within the project area. Historically, the boat launch was used for commercial, not recreational use. Currently, it is closed.

3.5.8 Aesthetics

The primary thoroughfare is LA 23. This thoroughfare runs the length of and parallel to the Mississippi River within the project area. View sheds to the river, along this thoroughfare, are already limited due to the existing levees and other flood risk reduction systems. View sheds into the marshlands and swamps are also equally limited due to the existing levees and other flood risk reduction systems. These thoroughfares are the primary means of public visual appreciation throughout the project area.

Outside of the hurricane risk reduction system, the landscape is dominated by marshland, swamps and wetlands with a mixture of water tolerant vegetation and some forestation. Inside the hurricane risk reduction system, the landscape is more urban in nature with heavy industrial, agricultural, low density residential and some highway commercial spread throughout the project area especially in the communities between Oakville and La Reussite, Myrtle Grove and in the vicinity of Point Celeste.

Section 1 - The local residents, between Oakville and La Reussite already have minimal view sheds into the marshlands and flood lands to the east.

Section 2 - The La Reussite to Myrtle Grove area features residential development on both sides of the levee. However, view sheds have also been limited here due to the existing levee systems.

Section 3 - Myrtle Grove to Citrus Lands has similar features to those listed in Section 2, above. The main exception is the Myrtle Grove Marina which does provide a positive visual attraction to the area.

Section 4 - Citrus Lands to Point Celeste features more open view sheds across vast agricultural fields and continued minimal view sheds towards the river. The introduction of borrow ponds on the Citrus Lands agricultural fields has not necessarily added a visually appealing landscape feature to the area.

Section 5 - Pointe Celeste to St. Jude has similar features to those listed above but site lines are even more restricted by existing hurricane risk reduction systems.

Overall, there are only a few features that could be considered institutionally or publically significant and those include local parks and playgrounds, and recreation centers. The area lacks any real technically significant features that show excellent design techniques for form, line, repetition, color or contrast.

There are no scenic streams in the vicinity of the project area. There are no state or federally recognized scenic byways in the area.

3.5.9 Socio-Economics

Although considered part of the New Orleans-Metairie-Kenner Metropolitan Statistical Area, this relatively narrow strip of protected land is largely rural. Its most important economic activities are associated with its agricultural and industrial land uses. As previously mentioned, major commercial operations are conducted through waterborne commerce along the Mississippi River and Port of Plaquemines, as well as LA 23, all of which provide thoroughfares for industries producing, refining, and transporting important natural resources and related activities in the region, such as crude petroleum, natural gas, and coal. It also provides supporting infrastructure for industries, commercial fisheries, other public/business operations, and the human population.

An almost direct correlation exists between the number of persons living in an area and the economic opportunities available in that area, especially economic and industrial activity. Therefore, economic and industrial activity is used as an indicator of labor requirements and local demands for community facilities and public services.

Population and Housing

The latest detailed statistics of population and housing (i.e., by census tract) within the five levee sections were conducted by the U.S. Census Bureau in 2000. The 2000 Census was the last complete census before Katrina. These statistics estimated the total population for all NFL Sections to be more than 2,500 people and the number of total housing units to be more than 900 housing units (including vacant units and camps).

More recently, however, due to the aftermath of Hurricanes Katrina and Rita that passed through the region in 2005, the total population in the project area decreased to nearly 2,353 people with approximately 850 housing units. In 2000, the population of the five NFL Sections accounted for approximately 9.3 percent of the Plaquemines Parish total while housing units represented approximately 8.6 percent. A preliminary review of the housing units within the existing back levees of the project area indicates the vast majority of the units are located in Section 1.

Most of the residential development in Sections 2 through 5 is located between LA 23 and the Mississippi River. Since the outline of zip code 70083 follows the project area closely, this area will be used to show the current population and housing in the area. The total population of the zip code in 2013 was 2,352, and the number of housing units was 1,111. Of the total housing units in the area, 260 were vacant, including units used as second homes, camps, or for other occasional use purposes. Many of these are located along docking facilities for recreational or commercial boats beyond existing back levees, but survived the effects of the recent hurricanes. Two of the docking facilities immediately adjacent to the existing back levee are located along Wilkinson Canal at Myrtle Grove and along Lake Hermitage Road which provide access to

Hermitage Bayou and Lake Judge Perez.

Following the hurricanes Katrina and Rita, approximately 16,000 residents were estimated to be living south of Belle Chase in 2000. This included 2,100 people on the east bank of the Mississippi River and 13,900 on the west bank. The total number declined to 8,000 in 2006, then increased to 11,600 in 2007, and increased to 12,700 in 2010. According to Census Bureau estimates, the population of Plaquemines Parish increased from 26,757 to 28,903 from April 2000 to July 2005, respectively, and had increased to 23,400 in July 2014. This reflects the detrimental effects of Hurricanes Katrina and Rita on the residents and communities located in the NFL project area.

Table 5-1 compares the 2000 population and housing of NFL Sections 1 through 5 in the project area by their location east and west of LA 23 from Oakville to St. Jude. As shown, most of the residential development was located in Section 1 in 2000 prior to the recent hurricanes. More than 87 percent of the population and more than 83 percent of the housing units in the project area both east and west of LA 23 were located in Section 1. In addition, a recent study conducted by Louisiana Speaks (i.e., an organizational planning partnership of the State's Louisiana Recovery Authority, Federal agency technical staffs, local and regional planning groups, and citizens) indicated that Reach 1 includes an estimated 1,110 acres of residential land while most of the residential development in Sections 2 through 5 was rural or small communities between LA 23 and the Mississippi River levee (MRL) system.

TABLE 6-1. 2000 POPULATION AND HOUSING, SECTIONS 1 THROUGH 5 OF CENSUS TRACT 504, PLAQUEMINES PARISH.

East of LA-23				West of LA-23				Total	
Census Block		Population (No.)	HUs a/ (No.)	Census Block		Population (No.)	HUs a/ (No.)	Population (No.)	HUs a/ (No.)
SECTION 1									
No. 2001	Group 2	63	23	No. 2003	Group 2	123	41	--	--
No. 2002	Group 2	1	1	No. 2004	Group 2	91	29	--	--
No. 2005	Group 2	40	14	No. 2010	Group 2	48	19	--	--
No. 2006	Group 2	27	12	No. 2016	Group 2	409	128	--	--
No. 2008	Group 2	47	20	No. 2018	Group 2	111	44	--	--
No. 2009	Group 2	223	86	No. 2020	Group 2	399	131	--	--
No. 2013	Group 2	98	35	No. 2034	Group 2	54	12	--	--
No. 2015	Group 2	137	48	No. 2038	Group 2	85	29	--	--
No. 2027	Group 2	21	8	No. 2041	Group 2	89	33	--	--
No. 2029	Group 2	43	14	No. 2042	Group 2	32	13	--	--

No. 2030	Group 2	19	6	N/A	N/A	0	0	--	--
No. 2033	Group 2	55	17	N/A	N/A	0	0	--	--
No. 2035	Group 2	6	4	N/A	N/A	0	0	--	--
No. 2036	Group 2	6	2	N/A	N/A	0	0	--	--
No. 2039	Group 2	3	2	N/A	N/A	0	0	--	--
No. 2040	Group 2	16	5	N/A	N/A	0	0	--	--
TOTAL		805	297	TOTAL		1,441	479	2,246	776
SECTION 2									
No. 1005	Group 1 (20%)	2	3	No. 1008	Group 1	19	7	--	--
No. 1032	Group 1	7	2	No. 1040	Group 1	5	1	--	--
No. 1034	Group 1	45	15	N/A	N/A	0	0	--	--
No. 1071	Group 1	54	17	N/A	N/A	0	0	--	--
No. 1072	Group 1	40	14	N/A	N/A	0	0	--	--
1073	Group 1	39	13	N/A	N/A	0	0	--	--
TOTAL		187	64	TOTAL		24	8	211	72
SECTION 3									
No. 1005	Group 1 (40%)	5	6	No. 1078	Group 1	2	7	--	--
TOTAL		5	6	TOTAL		2	7	7	13
SECTION 4									
No. 1005	Group 1 (40%)	4	6	No. 1092	Group 1	3	30	--	--
No. 1108	Group 1	23	7	No. 1107	Group 1	2	2	--	--
No. 1109	Group 1	68	31	N/A	N/A			--	--
TOTAL		95	44	TOTAL		5	32	100	76
SECTION 5									
No. 1001	Group 1	0	1	N/A		0	0	--	--
No. 1009	Group 1	0	1	N/A		0	0	--	--
No. 1115	Group 1	6	1	N/A		0	0	--	--
TOTAL		6	3	TOTAL		0	0	6	3
TOTAL AREA		1,098	414	TOTAL AREA		1,472	526	2,570	940

SOURCE: U.S. Census Bureau, American Fact Finder, File 1, 2000 report.
Percentages based on USACE, New Orleans District, estimates 2000 census data.
N/A - Not applicable since units are vacant or beyond census block boundaries.
a/ HUs = Housing Units

Economic Activity

Business and Industry Facilities. Businesses, industries, and agricultural developments generate employment through port facilities along the Mississippi River (see the Port of Plaquemines), an oil refinery (Conoco-Phillips), a grain elevator, coal deliveries, pasture and livestock production, and scattered citrus groves south of the oil refinery. The Union Pacific Railroad operates a freight line that parallels LA 23 to a point near the oil refinery and connected with trucking lines. Several small marinas are immediately adjacent to the existing back levees used by commercial fishermen. Expansion of economic development has been limited in part due to the narrow strip of protected land available and periodically threatened by hurricanes. Repopulation activity following Hurricanes Katrina and Rita may still be in transition influencing businesses and industry that were operational prior to Katrina. This potentially includes both new and a renewal of the economic development of port activities and commercial and recreational fisheries; the production, processing, and transport of oil and gas resources; and the availability of water.

Manufacturing Refineries. Recent studies indicate that of the 132 refineries in the Nation, the Conoco-Phillips Alliance refinery ranks as the 18th largest. The Conoco-Phillips refinery, located in Alliance (Section 2 of the project area), carries a processing capacity of approximately 250,000 barrels a day, accounting for approximately 1.5 percent of the total U.S. refining capacity. Its major products are gasoline, diesel fuel, jet fuel, and home heating oil. Much of the output from this plant is delivered to the eastern seaboard states via pipeline. Due to Hurricanes Katrina and Rita damage, it is estimated that the Alliance refinery lost approximately 58 percent of its annual production. An estimate of the value of Alliance's annual output based upon its capacity and using a typical barrel yield of refined product, without taxes, is approximately $8.5 billion in 2006 prices. According to the Louisiana Manufacturers Register in 2006, total employment at this refinery alone was approximately 370, accounting for over 30 percent of the parish employment.

Income and Employment

Tables 5-2 and 5-3 summarize selected economic activity in the region associated with income and employment based on Bureau of Census and Department of Labor statistics reported for the year 2013. These estimates were obtained from the U.S. Census Bureau's 2009-2013 5-year American Community Survey.

TABLE 6-2. INCOME AND POVERTY STATISTICS, 2000 CENSUS.

Item	Zip Code 70083		Plaquemines Parish		New Orleans, City	
	(No. or $)	(%)	(No. or $)	(%)	(No. or $)	(%)
HOUSEHOLDS BY INCOME LEVELS (No.)						
Households (No.)	851	100.0	8,615	100.0	148,398	100.0
Less than $10,000 (No.)	49	5.8	629	7.3	22,853	15.4
$10,000 to $14,999 (No.)	61	7.2	439	5.1	11,723	7.9
$15,000 to $24,999 (No.)	160	18.8	913	10.6	20,479	13.8
$25,000 to $34,999 (No.)	134	15.7	706	8.2	16,175	10.9
$35,000 to $49,999 (No.)	120	14.1	1,163	13.5	18,847	12.7

$50,000 to $74,999 (No.)	240	28.2	1,611	18.7	21,666	14.6
$75,000 to $99,999 (No.)	6	0.7	1,163	13.5	12,762	8.6
$100,000 to $149,999 (No.)	58	6.8	1,335	15.5	12,465	8.4
$150,000 to $199,999 (No.)	15	1.8	414	4.8	5,194	3.5
$200,000 or more (No.)	8	0.9	250	2.9	6,381	4.3
INCOME IN (current 1999 dollars)						
Per Capita Income ($)	16,833	(X)	25,748	(X)	26,500	(X)
Median household income ($)	40,194	(X)	66,800	(X)	37,146	(X)
Mean household income ($)	45,967	(X)	80,427	(X)	61,211	(X)
Families (No.)	628	100.0	6,401	100.0	78,318	100.0
Less than $10,000 (No.)	6	1.0	205	3.2	8,458	10.8
$10,000 to $14,999 (No.)	15	2.4	122	1.9	4,856	6.2
$15,000 to $24,999 (No.)	145	23.1	486	7.6	9,946	12.7
$25,000 to $34,999 (No.)	124	19.7	544	8.5	8,615	11.0
$35,000 to $49,999 (No.)	109	17.4	909	14.2	9,320	11.9
$50,000 to $74,999 (No.)	180	28.7	1,280	20.0	11,983	15.3
$75,000 to $99,999 (No.)	22	3.5	1,018	15.9	7,988	10.2
$100,000 to $149,999 (No.)	4	0.6	1,191	18.6	8,615	11.0
$150,000 to $199,999 (No.)	15	2.4	410	6.4	3,759	4.8
$200,000 or more (No.)	8	1.3	230	3.5	4,856	6.2
POVERTY STATUS (No. Below Poverty Level)						
Families (No.)	(X)	12.9	(X)	8.5	(X)	22.4
Individuals (No.)	(X)	15.7	(X)	12.7	(X)	27.3

SOURCE: U.S. Census Bureau, American Fact Finder, 2013 American Community Survey.
a/ Entries marked (X) are not available or not applicable.

TABLE 6-3.OAKVILLE TO ST. JUDE, HURRICANE RISK REDUCTION SYSTEM CIVILIAN LABOR FORCE AND EMPLOYMENT STATISTICS, 2000 (CENSUS).

Item	Census Tract 504		Plaquemines		New Orleans MSA a/	
	(No.)	(%)	(No.)	(%)	(No.)	(%)
CIVILIAN LABOR FORCE (CLF)						
Total CLF	1,391	55.8	10,679	54.0	620,909	60.8
Total Employment	1,294	51.9	9,960	50.3	578,676	56.6
Total Unemployment	97	3.9	719	3.6	42,233	4.1
Unemployment Rate (% of CLF)	7.0	-	6.7	-	6.8	-
EMPLOYMENT BY OCCUPATION						
Civilian employed population 16 years and over	861	100.0	9,894	100.0	555,495	555,495
Management, business, science, and arts occupations	123	14.0	2,875	29.1	192,176	34.6
Service occupations	170	20.0	1,493	15.1	106,510	19.2
Sales and office occupations	193	22.0	2,182	22.1	134,911	24.3
Natural resources, construction, and maintenance occupations	221	26.0	1,766	17.8	64,668	11.6
Production, transportation, and material moving occupations	154	18.0	1,578	15.9	57,230	10.3
EMPLOYMENT BY INDUSTRY						

Civilian employed population 16 years and over	861	100.0	9,894	100.0	555,495	100.0
Agriculture, forestry, fishing and hunting, and mining	117	13.6	973	9.8	10,634	1.9
Construction	25	2.9	700	7.1	47,983	8.6
Manufacturing	10	1.2	765	7.7	37,686	6.8
Wholesale trade	62	7.2	362	3.7	16,833	3.0
Retail trade	98	11.4	1,142	11.5	60,887	11.0
Transportation and warehousing, and utilities	63	7.3	876	8.9	31,640	5.7
Information	-	0.0	78	0.8	8,510	1.5
Finance and insurance, and real estate and rental and leasing	30	3.5	554	5.6	31,304	5.6
Professional, scientific, and management, and administrative and waste management services	106	12.3	719	7.3	59,999	10.8
Educational services, and health care and social assistance	214	24.9	1,483	15.0	122,964	22.1
Arts, entertainment, and recreation, and accommodation and food services	13	1.5	727	7.3	68,223	12.3
Other services, except public administration	62	7.2	378	3.8	28,576	5.1
Public administration	61	7.1	1,137	11.5	30,256	5.4

SOURCE: U.S. Census Bureau, American Fact Finder, 2013 American Community Survey.

Income. Income and poverty statistics are displayed in Table 5-2 for individuals, households, and families (in current 2013 dollars) for zip code 70083, Plaquemines Parish, and for comparison purposes, the larger New Orleans area in 2013. Zip code 70083 was used to represent the NFL project area. According to these statistics, per capita income (PCI) was estimated to be $25,748 for Plaquemines Parish as compared to PCIs of $26,500 and $24,442 for the New Orleans and State of Louisiana, respectively, for the year 2013. The PCI for zip code 70083 was $16,833. In the comparison of household and family incomes, zip code 70083 values parallel the parish and New Orleans. There were 851 households (i.e., occupied housing units) estimated in the zip code with a median household income of $40,194 and a median family income of $45,967 in 2013. This compares to a median household income of $66,800 and $37,146 for Plaquemines Parish and New Orleans, respectively, and a median family income of $66,800 and $40,944 for Plaquemines Parish and New Orleans, respectively, for the same year.

Poverty. Poverty statistics for zip code 70083, Plaquemines Parish, and New Orleans are also presented in Table 5-2 for the year 2013. Based on the available statistics for zip code 70083, there were 15.7 percent of individuals and 12.9 percent of families estimated to be below poverty level. Statistics for Plaquemines Parish indicated 12.7 percent of its individuals were below poverty level versus 8.5 percent of its families. Results for New Orleans were 27.3 percent of individuals and 22.4 percent of families were below the poverty level.

Employment. Employment statistics, which are displayed in Table 5-3, show the civilian labor force, total employment and unemployment numbers, employment by occupation, and employment by industry for zip code 70083, Plaquemines Parish, and,

for comparison purposes, the larger New Orleans in 2013. Zip code 70083 was used to represent the NFL project area. According to these statistics, total employment for the zip code was estimated at 861 in 2013 with an unemployment rate of 8.2 percent, while the parish had an unemployment rate of 5.1 percent and New Orleans had an unemployment rate of 12 percent for the same year. The employment estimates for the year 2000 are resident-based (i.e., employment of people living in the census tract, parish, or MSA).

2013 Employment by Industry. In a comparison of employment by industry, four sectors comprised the majority of zip code 70083 employment in the year 2013. These included educational, health, and social services with 24.9 percent; agriculture, forestry, fishing, hunting, and mining with 13.6 percent; professional, scientific, and management, and administrative and waste management services with 12.3 percent; and retail trade with 11.4 percent. This compares to Plaquemines Parish for the same year, with15 percent in educational, health, and social services; public administration with 11.5 percent; 11.4 percent in retail trade; and 9.8 percent in agriculture, forestry, fishing, hunting, and mining.

Availability of Public Facilities and Services

The relatively low population density of the project area tends to limit the demand for certain public facilities such as public schools and hospitals, or services such as police and fire protection. Other services include water and sewerage treatment services; telecommunication operations; and power supplies for industrial, commercial, and residential purposes. In the past, local and state authorities and private developers have provided protection to the back levees of the area against floods and hurricanes. Since Hurricanes Katrina and Rita, more Federal assistance has been authorized for risk reduction against such storm damages.

Two public facilities that are located immediately within the project area include the Louisiana State University AgCenter Coastal Area Research Station near Point Celeste (Section 4) and the Plaquemines Parish Sheriff's Office Shooting Range in the Myrtle Grove area (Section 3). Other important public facilities providing services immediately adjacent to the project area are the MRL system extending from Cape Girardeau, Missouri, to the Head of Passes in Plaquemines Parish and the Mississippi River Waterway, extending from Minneapolis, Minnesota, to the mouth of the river, including more than a 230-mile deep-draft channel from the Port of Baton Rouge to Head of Passes.

The planning organization "Louisiana Speaks," which was developed after Hurricanes Katrina and Rita, estimated the cost of damages to the levees in Plaquemines Parish to be approximately $158 million and damages to the pump stations were $17.5 million. Further south of the project area, damages to the flood gates located at Empire and Triumph were estimated to total $20 million. While most of these damages were direct impacts beyond the immediate transportation facilities in the project area, indirect impacts resulting from the destruction of the back levee previously maintained by non-

Federal interests were also significant.

Transportation

Transportation within the area includes the deep-draft channel of the Mississippi River and ferry service between Pointe a la Hache (on the east bank) to West Pointe a la Hache (on the west bank), as well as several canals located along the project back levees leading to canals, lakes, and bays approaching the Gulf of Mexico. Many canals have been created for the exploration, production, and transport of oil and gas resources important for regional, national, and international economic development. Surrounding waterways have also been used in the commercial and recreational harvest of fish and shellfish. The west bank of the Mississippi River parallels LA 23 which connects New Orleans to the NFL project area communities and the communities of Port Sulphur, Empire, Buras, and the Venice south of the project area. Additionally, the highway is critically important in the transport of residents for hurricane evacuation, as well as the transport of goods and services. The Union-Pacific Rail Company which operates a short spur as far south as the Conoco-Philips refinery, also provides important rail access to area industries.

Community and Regional Growth

The construction of the proposed project is desirable for community and regional growth. The project would reduce the risk of damage to hurricane storm surge, which would protect communities and local businesses. The proposed hurricane risk reduction project is considered progress that responds to the needs of the local communities and region, and is consistent with National Economic Development guidelines.

Property Values and Tax Revenues

Property values and tax revenues within the project area and much of Plaquemines Parish have somewhat unique characteristics. The parish has the limited availability of protected land along one of the world's most important waterways with large quantities of oil and gas nearby, as well as large quantities of commercial fisheries, contributing to property values. On the other hand, the area is susceptible to severe weather conditions and high river stages, threatening property damages and limiting the tax base required for urban expansion. Such factors as increasing subsidence rates over the past century can influence property values and subsequently tax revenues.

Community Cohesion

Community cohesion may be considered as the unifying force of a group due to one or more characteristics that provide commonality. These characteristics may include such commonality as race, education, income, ethnicity, religion, language, and mutual economic and social benefits. Community cohesion may be the force that keeps groups together long enough to establish meaningful interactions, common institutions, and

agreed ways of behavior. It is a dynamic process, changing as the physical and human environment changes. For example, changing a right-of-way may divide a community, it may cause the dislocation of a significant number of residents, or it may require the relocation of an important local institution such as a church or community center. On the other hand, a Civil Works project for flood and hurricane risk reduction may create common bonds and enhance community cohesion.

3.5.10 Environmental Justice

Demographic data was collected from the 2013 American Community Survey (ACS) for Census Tract (CT) 504 and, more specifically, Census Tract 504, Block Group 1 (CT 504, BG 1). CT 504 extends geographically along the west bank of the Mississippi River from Belle Chasse to the Grand Terre Islands. BG 1 within CT 504 does not include the populated areas of Belle Chasse. CT 504, BG 1 does include Myrtle Grove and several smaller neighborhoods between the two project areas. Table 6-1 compares the racial and ethnic characteristics of the populations in the vicinity of the project with the parish and state.

TABLE 7-1. COMPARISON OF RACIAL AND ETHNIC CHARACTERISTICS.

			Louisiana	Plaquemines Parish	Census Tract 504		Block Group 1, Census Tract 504
Total Population			4,567,968	23,385	3,943		896
Hispanic or Latino		Total	202,145	1,239	14		-
		Percent	4.4%	5.3%	0.4%		0.0%
Not Hispanic or Latino	White alone	Total	2,742,184	15,744	2,067		173
		Percent	60.0%	67.3%	52.4%		19.3%
	Black or African American alone	Total	1,454,343	4,923	1,649		723
		Percent	31.8%	21.1%	41.8%		80.7%
	American Indian and Alaska Native alone	Total	25,018	303	58		-
		Percent	0.5%	1.3%	1.5%		0.0%
	Asian alone	Total	72,834	767	155		-
		Percent	1.6%	3.3%	3.9%		0.0%
	Native Hawaiian and Other Pacific Islander alone	Total	1,939	-	-		-
		Percent	0.0%	0.0%	0.0%		0.0%
	Some other race alone	Total	6,891	20	-		-
		Percent	0.2%	0.1%	0.0%		0.0%
	Two or more races	Total	62,614	389	-		-
		Percent	1.4%	1.7%	0.0%		0.0%

Source: American Community Survey 5-Year Estimates (2009-2013), Table B02001.

The populations within CT 504, BG 1 are estimated to be 80 percent minority, twice the rate of the entire CT, and four times greater than the entire parish. As shown on Table 6-2, rates of poverty in Plaquemines Parish, CT 504, and CT 504, BG1 are much lower than the rate of poverty for the entire state.

TABLE 7-2. RATES OF POVERTY COMPARED.

	Louisiana	Plaquemines Parish	Census Tract 504	Block Group 1, Census Tract 504
Total Households	1,717,852	8,615	1,363	240
Income in the past 12 months below the poverty level	313,990	1,243	135	12
Percent Below the poverty level	18.3%	14.4%	9.9%	5.0%

Source: American Community Survey 5-Year Estimates (2009-2013), Tables B17001, B17017.

3.5.11 Noise

Sources of noise and vibration that have the potential to affect wildlife include human voices, aircraft, motorboats, automobile traffic, and heavy machinery and equipment. The study of animal response to noise is a function of many variables, including characteristics of the noise and duration, life history characteristics of the species, habitat type, season and current activity of the animal, sex and age, previous exposure, and whether there are other physical stressors. Responses vary among species of animals and birds and among individuals of a particular species.

Loud noise sources common to the project area are all-terrain vehicles, people's voices, recreational boating noise from outboard motors, and traffic on local streets and state highways. Because of the close proximity to the Mississippi River, commercial ship noises, tug boats and fleeting operations could also be sources of noise as well. The noise from streets is limited due to the distance from the highways and the limited speed and number of vehicles on the local streets. Table 7 provides noise emission levels for equipment commonly associated with construction type activities. Construction of the West Bank and Vicinity-Mississippi River Levees, New Orleans to Venice levee construction, and other construction and development projects that have contributed to noise levels in the project area have been occurring over the last several years and would continue.

TABLE 8. POSSIBLE CONSTRUCTION EQUIPMENT NOISE EMISSIONS.

Noise Source	Typical Noise Level (dBA) 50 feet from Source
Backhoe	80 dBA
Dozer	85 dBA
Dump Truck	84 dBA
Excavator	85 dBA
Truck	88 dBA

Source: FHWA 2006. "Highway Construction Noise Handbook"

3.5.12 Air Quality

The EPA is required by the Clean Air Act to set National Ambient Air Quality Standards (NAAQS) (40 CFR, Part 50), which establishes air quality standards for six principle pollutants (ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen oxides, and lead). As of June 15, 2005, the 1-hour ozone standard for Louisiana was revoked

and replaced by an 8-hour standard (http://www.epa.gov/ozonedesignations/index.htm).

The Clean Air Act General Conformity Rule requires a conformity review be performed when a Federal action generates air pollutants in a region that has been designated a nonattainment or maintenance area for NAAQS. The conformity rule was established to ensure Federal actions do not hamper local pollution control. Because Plaquemine Parish is designated as an attainment area (EPA 2007) for the designated priority pollutants, no detailed conformity review for the proposed action is required. The air quality within the study area is considered good due to the rural nature of the area.

Air quality is generally good due to the rural nature of the area. On-going construction and development projects, excavation activities at numerous borrow sites in the Parish, and emissions from equipment and dump trucks associated with those activities have contributed to the overall air quality of the project area. While small to moderate emission sources are in evidence, none constitute a major air emissions source. Industry or emission sources are located along the Mississippi River deep draft waterway at a number of anchorage facilities within the Port of Plaquemines. The Phillips 66 Alliance Refinery in Section 2 is an industrial emission source. LA 23 and the Union Pacific Railroad spur are linear transportation facilities that traverse part or all of the project area and carry substantial vehicular or train traffic with resultant emissions. There are also several pump stations that contribute minor emissions when in use.

3.5.13 Hydrology and Water Quality

None of the water bodies in the project area are currently listed on the Section 303(d) list of impaired water bodies by the State of Louisiana.

Under provisions of the Clean Water Act (33 U.S.C. §1251) of 1972, any project that involves the placement of dredge or fill material in waters of the United States or wetlands or mechanized clearing of wetlands would require water quality certification from the Louisiana Department of Environmental Quality (LDEQ), Office of Environmental Services. A water quality certification (WQC 110520-01/AI 101235/CER 20110002) was received from LDEQ on July 6, 2011 for the original NFL project as described in the FEIS. In an email dated January 7, 2016, LADEQ staff stated that the existing water quality certification for the NFL project is still valid for the proposed action and provided updated permit number WQC 110520-01/AI 101235/CER20160001.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Wetlands

The habitat value of the wetlands were assessed utilizing a quantitative assessment for existing conditions and proposed project-related wetland impacts utilizing the Wetland Value Assessment (WVA) Methodology for Coastal Marsh Community Models (Roy, 2007). The WVA model is a quantitative, habitat-based assessment developed to

estimate anticipated environmental impacts and benefits to wetlands. To account for the delayed implementation of mitigation for the NOV/NFL project, the period of analysis was extended from 50 years to 57 years. The additional seven years was added to offset temporal impacts to wetlands resulting from the commencement of construction activities prior to the implementation of an approved mitigation plan, as well as to account for direct impacts.

The WVA models operate under the assumption that optimal conditions for fish and wildlife habitat within a given coastal wetland type can be characterized, and that existing or predicted conditions can be compared to that optimum to provide an index of habitat quality. Habitat quality is estimated and expressed through the use of a mathematical model developed specifically for each wetland type. Each model consists of (1) a list of variables that are considered important in characterizing community-level fish and wildlife habitat values; (2) a Suitability Index graph for each variable which defines the assumed relationship between habitat quality (Suitability Index) and different variable values; and (3) a mathematical formula that combines the Suitability Indices for each variable into a single value for wetland habitat quality, termed the Habitat Suitability Index (HSI). The product of an HSI value and the acreage of available habitat for a given target year is known as the Habitat Unit (HU) and is the basic unit for measuring project effects on fish and wildlife habitat. The HUs are annualized over the project life to determine the Average Annual Habitat Units (AAHU) available for each habitat type. The change (increase or decrease) in AAHUs for the future with-project alternative, compared to future without-project conditions or in this case the No Action Alternative (proposed action Alternative C described in the NFL EIS), provides a measure of anticipated impacts. A net gain in AAHUs indicates that the project is beneficial to the fish and wildlife community within that habitat type; a net loss of AAHUs indicates that the project would adversely impact fish and wildlife resources.

The WVA has become a standard tool for assessing wetlands values in Louisiana by Federal and state agencies, including not only coastal restoration projects, but also regulatory actions. The WVA model utilized with the NFL EIS was used in this study to maintain consistency. The WVAs were prepared in a collaborative effort by the USACE and the USFWS for all project sites. Details on the WVA assessments, including assumptions and methodology, are on file at the MVN office. Table 8 displays the comparative impacts of each alternative and the resulting AAHUs.

No Action Alternative. Enlarging the NFL 1-3 levees would only impact the drainage canal that runs parallel and adjacent to the NFL 1-3 levee. This drainage canal would be relocated or shifted over to allow for the enlarged levee footprint but the canal dimensions would be approximately the same. Wetland plants and floating vegetation within the adjacent canals would be temporarily impacted by the construction activities but reestablish to the new canal banks with the relocation and continue to fluctuate dependent on water levels in the canal and maintenance activities.

Proposed Action Alternative. Enlarging and constructing Sections 1-5 of the NFL would result in the direct loss of the adjacent drainage canal to Sections 1-5 of the NFL,

however, the existing interior drainage canals and lateral ditches would also be widened and deepened to account for the relocation of this drainage feature. Approximately 59.7 acres (19.5 AAHUs) of wet pasture as well as wetland plants and floating vegetation in these canals and lateral ditches would be temporarily impacted during construction. The vegetation is anticipated to reestablish within a year following completion of construction. Based on that no additional compensatory mitigation would be required. The acreage of wetland plants and floating vegetation would be expected to continue to fluctuate during the year dependent on water level fluctuation in the canals and lateral ditches and maintenance activities.

Construction to enlarge and improve the interior drainage canals and lateral ditches would result in a permanent direct loss of 2.5 acres (1.8 AAHUs) of wet BLH and 9 acres (5.8 AAHUs) of scrub shrub because they would be removed and replaced with water for the drainage canal. These permanent impacts to wet BLH and scrub shrub would be mitigated because they are not going to be allowed to regenerate within a year. The compensatory mitigation for these unavoidable impacts are currently being addressed in EA #543 titled "Environmental Assessment for the New Orleans to Venice Hurricane Risk Reduction Project Incorporation of Non-Federal Levees from Oakville to St. Jude and New Orleans to Venice Federal Hurricane Protection Levee, Plaquemines Parish, Louisiana." This document will assess and incorporate all impacts to be mitigated for the NFL and NOV levee and floodwall construction and is currently in the planning stages with an anticipated public release of summer 2016.

Bottomland Hardwoods (Wet and Dry)

No Action Alternative. Enlarging the Section 1-3 of the NFL would result in the direct loss of 27.3 acres (19.3 AAHUs) of wet BLH hardwoods and 9.0 acres (5.7 AAHUs) of dry BLH. There would be no direct impacts to BLH habitat as a result of maintaining Section 4 and 5 of the NFL. Wildlife species that utilize BLH habitat would be indirectly impacted by the loss of that habitat. Maintaining Section 4 and 5 of the NFL at the present level of risk reduction, could result in an in an increase in saltwater intrusion from storms indirectly impacting BLH in the area.

Proposed Action Alternative. Enlarging and constructing Sections 1-5 of the NFL 1-5 would result in the direct loss of 102.8 acres (73.4 AAHUs) of wet BLH and 43.3 acres (28.9 AAHUs) of dry BLH. Wildlife species that utilize this resource would be indirectly impacted by the loss of BLH habitat. Increasing the levee could reduce saltwater intrusion from smaller storms and indirectly benefit the habitat.

Cypress-Tupelo Swamp

No Action Alternative. Implementation of the construction of Section 1-3 of the NFL would result in the direct loss of approximately 24.9 acres (21.1 AAHUs). Maintaining Sections 4 and 5 of the NFL would not directly impact swamp habitat in the area. Wildlife species associated with the habitat type would be indirectly impacted by the loss of the habitat. It is anticipated that they would relocate to adjacent similar habitat

Proposed Action Alternative. Implementation of construction in Sections 1-5 of the NFL would result in the direct loss of approximately 39.4 acres (33.8 AAHUs) of swamp habitat. Wildlife species associated with this habitat would be indirectly adversely impacted. It is anticipated that they would relocate to adjacent similar habitat

Marsh (Freshwater, Intermediate, and Brackish)

No Action Alternative. Enlarging the Section 1, 2 and 3 of the NFL would result in the direct loss of 10.4 acres (6.8 AAHUs) of freshwater marsh and 9 acres (5.3 AAHUs) of brackish Marsh. Maintaining the Sections 4 and 5 of the NFL would have no direct impacts to the remaining marsh habitat in this area. Wildlife species associated with this habitat would be indirectly impacted by the loss of this habitat. It is anticipated that they would relocate to adjacent similar habitat.

Proposed Action Alternative. Enlarging the Sections 1-5 of the NFL would result in the direct loss of 0.6 acre of intermediate marsh, 18.7 acres of freshwater marsh (12.4 AAHUs for intermediate and freshwater marsh combined) , and 18.7 acres (10.5 AAHUs) of brackish marsh. Wildlife species associated with this habitat type would be indirectly impacted by the loss of the habitat. It is anticipated that they would relocate to adjacent similar habitat.

Wet Pasture

No Action Alternative. Enlarging the Section 1-3 of the NFL would result in the direct loss of 73.6 acres (25.7 AAHUs) of wet pasture. Maintaining the Sections 4 and 5 of the NFL would not impact the remaining wet pasture habitat in the area.

Proposed Action Alternative. Enlarging the Section 1-5 of the NFL would result in the direct loss of 113.3 acres (36.9 AAHUs) of wet pasture. Indirectly, species associated with this habitat would be adversely impacted for the loss of this habitat. It is anticipated that wildlife species would relocate to adjacent similar habitat.

Scrub-Shrub

No Action Alternative. Enlarging the Section 1-3 of the NFL would not directly or indirectly impact this habitat.

Proposed Action Alternative. Scrub-shrub areas are limited along Sections 1-5 of the NFL alignment and typically consist of early succession willow and invasive Chinese tallow. Implementation of this alternative would result in the loss of approximately 10.5 acres of scrub-shrub habitat. Impacts to scrub/shrub are combined with BLH dry for AAHUs.

Upland Habitat

No Action Alternative. Enlarging the NFL 1-3 levees would result in the direct loss of 9.0 acres (5.7 AAHUs). Indirect impacts would be similar but less than the proposed action alternative. Maintaining Sections 4 and 5 of the NFL would not directly impact BLH dry habitat in the area.

Proposed Action Alternative. Enlarging the Sections 1-5 of the NFL would result in the direct loss of 43.3 acres (28.9 AAHUs) of this habitat. Wildlife species associated with this habitat type would be indirectly impacted by the loss of the habitat. It is anticipated that wildlife species would relocate to similar adjacent habitat.

4.2 Essential Fish Habitat

No Action Alternative. The impacts of implementing the no action alternative are similar to those of the proposed action, but less in terms of the quantity of habitat impacted. Construction of the MRL Citrus Lands tie-in would occur across agricultural land and would not impact aquatic species. Anticipated adverse, long-term impacts on marsh and open water EFH resulting from the implementation of the no-action alternative includes approximately 10.4 acres of freshwater marsh, and 9.0 acres of brackish marsh. Approximately 19.4 acres of existing EFH marsh and open water bodies would be permanently impacted. As a result of these actions, the Corps believes that adverse impacts on some types of EFH may occur, but marsh creation would compensate for these impacts and the overall productivity of federally managed species would be benefitted (FEIS, pg. 128). Therefore, the implementation of the no-action alternative would have a moderate impact on EFH in the region.

Proposed Action. There are three activities within the proposed action that would result in impacts to EFH. First, the expansion of the levee footprint into EFH areas would have permanent direct impacts on existing fresh, intermediate, and brackish marsh; submerged aquatic vegetation (SAV); mud, sand, and shell substrate; water bottoms; and estuarine water column. Deposition of fill material would displace or bury EFH areas or managed species; however, larger motile species could escape by avoiding disturbances. Additionally, temporary indirect construction impacts from storm water runoff could potentially occur in various EFH within the construction access corridors or roads and at discharge pipes.

Temporary and moderate adverse impacts from turbidity could potentially occur during construction. The greatest effects would be to benthic and fishery species or life stages with low or passive transport mobility. Often, construction-induced turbidity is no higher than that observed during frontal conditions (weather events) in estuaries (Ray and Clarke, 2001).

TABLE 9. COMPARATIVE IMPACTS OF ALTERNATIVES.

(Wetland Value Assessments were calculated to 57 years to account for temporal lag between start of construction activities and implementation of mitigation)

	BLH Wet		BLH Dry (includes Subsided Ridge)*		Wet Pasture (includes Relict Fresh Marsh)**		Swamp		Scrub Shrub		Intermediate Marsh***		Freshwater Marsh		Brackish Marsh***		Open Water****	Total All Habitats	
No Action (EIS ROD Action)	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	Acres	AAHUs
NFL Section 1	14.6	10.3	9.0	5.7	0.0	0.0	24.9	21.1	0.0	0.0	0.0	0.0	10.4	6.8	0.0	0.0	0.0	58.9	43.9
NFL Section 2	0.1	0.1	0.0	0.0	73.6	25.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.7	25.8
NFL Section 3	12.6	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	5.3	0.0	21.6	14.2
Total	**27.3**	**19.3**	**9.0**	**5.7**	**73.6**	**25.7**	**24.9**	**21.1**	**0.0**	**0.0**	**0.0**	**0.0**	**10.4**	**6.8**	**9.0**	**5.3**	**0.0**	**154.2**	**83.9**

	BLH Wet		BLH Dry (includes Subsided Ridge)*		Wet Pasture (includes Relict Fresh Marsh)**		Swamp		Scrub Shrub		Intermediate Marsh***		Freshwater Marsh		Brackish Marsh***		Open Water****	Total All Habitats	
Proposed Action (SEA #537)	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	Acres	AAHUs
NFL Section 1	19.3	13.8	12.0	7.7	0.0	0.0	39.1	33.5	0.0	0.0	0.0	0.0	18.7	12.4	0.0	0.0	0.2	89.2	67.4
NFL Section 2	0.0	0.0	0.0	0.0	43.3	14.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.6	14.4
NFL Section 3	5.7	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	3.2	0.4	13.7	7.3
NFL Section 4	9.4	6.7	20.0	13.0	70.0	22.8	0.0	0.0	1.5	1.0	0.6	0.0	0.0	0.0	5.1	4.6	10.4	117.0	48.1
Section 2+4 Canals	2.5	1.8	0.0	0.0	59.7	19.5	0.0	0.0	9.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.2	27.1
NFL Section 5	66.0	47.1	11.3	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	3.4	4.3	87.5	57.7
Total	**102.8**	**73.4**	**43.3**	**28.9**	**113.3**	**36.9**	**39.4**	**33.8**	**10.5 ***		**0.6 ****		**18.7**	**12.4**	**18.7**	**10.5**	**15.3 *****	**422.1**	**221.9**

*BLH Dry includes Subsided Ridge habitat and Scrub Shrub impacts are combined.
**Wet Pasture and Relict Fresh Marsh were combined.
***Intermediate Marsh impacts are combined with Brackish Marsh impacts.
****Open Water (EFH) habitat impacts are captured in all Marsh Model AAHUS.
Wet pasture impacts associated with Section 2 and 4 Canals are considered temporary and would re-establish or self-mitigate within one year.

Temporary and moderate adverse impacts to the estuarine and marine water column would result from disposal activities. It is possible that some federally managed species in post-larval or juvenile stages may be displaced or buried in the immediate vicinity during material placement; however, larger motile species could escape by avoidance reactions to mechanical disturbances.

The expansion of the levee footprint would cause moderate permanent impacts to the EFH adjacent to a number of the NFL sections. For purposes of mitigating impacts to marsh and EFH, impacts to EFH are captured in all of the marsh model impact AAHUs. Anticipated adverse, long-term impacts on marsh and open water EFH resulting from the implementation of the proposed action includes approximately 0.6 acre of intermediate marsh, 18.7 acres of freshwater marsh, 18.7 acres of brackish marsh, and 15.3 acres of open water. Approximately 53.3 acres (22.9 AAHUs) of existing EFH marsh and open water bodies would be permanently impacted by implementing the proposed action. See Table 9 for a breakdown of the comparative impacts to habitats. As a result of these actions, the Corps believes that adverse impacts on some types of EFH may occur, but marsh creation would compensate for these impacts, and the overall productivity of federally managed species would be benefitted. Therefore, the implementation of the proposed action would have a moderate impact on EFH in the region.

4.3 Prime and Unique Farmlands

No Action Alternative. Implementation of the no action alternative (Alternative C as described in the FEIS) would result in the direct loss of approximately 36.5-acres of prime farmland soils. Direct impacts to prime farmland soils would be similar to those as described for the proposed action. Impacts to soils resulting from the construction of the drainage canal and lateral ditches would not occur.

Proposed Action. Implementation of the proposed action would result in the direct loss of 182.25-acres of prime farmland soils as a result of levee and floodwall construction and related activities. The construction of the new drainage canal, lateral ditches, and associated activities would result in the direct loss of 749.20-acres of prime farmland soils. The loss of soils resulting from levee and floodwall construction would not be significant to agricultural production locally or regionally, as those soils are not currently under cultivation. The majority of the area that would be impacted by construction of the drainage canal and lateral ditches is currently dedicated to open pasture and hay crops, and those areas would remain available for those uses.

4.4 Wildlife

No Action Alternative. A detailed impacts analysis can be found in section 6.100 of the incorporated EIS. There would be minimal impacts on wildlife in the area as a result of implementing the no action alternative. The mammals, birds, reptiles and amphibians that utilize the area have ample opportunity to relocate to adjacent habitat.

Proposed Action. Any mammals or reptiles that inhabit the area are likely to react to disturbances by relocating to adjacent areas temporarily or permanently. Birds, including migratory birds that might use adjacent marsh for resting, foraging, or loafing, would have ample alternative locations available for use. Through careful design of project features, timing of construction and the implementation of best management practices, adverse impacts to wading bird nesting colonies could be avoided. No known colonies exist within 1,000 feet of the proposed project activities. However, a qualified biologist would inspect the proposed worksite for the presence of undocumented wading bird nesting colonies during the nesting seasons (i.e., February 15 through Sept 1). To minimize disturbance to colonies containing nesting wading birds all activity occurring within 1,000 feet of a rookery would be restricted to the non-nesting period (i.e., September 1 through February 15, exact dates may vary within this window depending on species present).

4.5 Threatened, Endangered and Protected Species

No Action Alternative

American alligator
Under the no action alternative impacts to the American alligator are expected to be minimal and temporary. The impacts would be disturbance due to noise, human presence and habitat loss (canal relocation). The adjacent area provides ample foraging, basking and nesting habitat and any alligators present could easily relocate to an area nearby.

Bald eagle
Impacts to the three eagle nests are expected to be negligible as implementation of the measures set forth in the permit (see section 3.5.5) have proven successful last nesting season. Observations concluded that during construction the eagles behave rather normally. On the two visible nests, the eagles were observed foraging, perching, calling and "housekeeping" with the occasional curious look. On the productive nest, one eagle always remained on the nest once eggs were present. Once the hatchlings were present, the adults proceeded to care for them with no disruption. Two fledglings left the nest successfully in April of 2015. The unproductive nest has two eagles present again this season.

Proposed Action

American alligator
Impacts would be similar to those discussed in the no action alternative.

Bald eagle
Impacts would be similar to those discussed in the no action alternative as all of the avoidance, minimization and mitigation measures set forth in the permit would continue to be implemented.

4.6 Cultural Resources

No Action Alternative. Direct and indirect impacts to cultural resources resulting from implementation of the no action alternative would be similar to the impacts of the proposed action.

Proposed Action. A cultural resources survey was completed for the APE that included the proposed action. The construction of proposed action will completely avoid any impacts to identified historic properties. The USACE has concluded that some of the project activities will have "no adverse effect" to historic properties. The SHPO and consulting federally recognized Tribes were informed of the USACE finding of no adverse effect in a letter dated April 13, 2010 (Appendix A). The SHPO concurred with USACE eligibility determinations and a finding of no adverse effect in a letter dated May 11, 2010, provided that the proposed action avoids impacts to the Becnel-Perez Mound site (Site 16PL186) and Sites 16PL188, 16PL189, and 16PL190. Nine of the federally recognized Tribes were contacted during the consultation process, including the Alabama Coushatta Tribe of Texas, the Caddo Nation of Oklahoma, the Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, the Coushatta Tribe of Louisiana, Mississippi Band of Choctaw Indians, Quapaw Tribe of Oklahoma, the Seminole Tribe of Florida, the Seminole Tribe of Oklahoma, and the Tunica-Biloxi Tribe of Louisiana. The Alabama-Coushatta responded by letter dated May 4, 2010 (Appendix A), concurring with the USACE finding of no adverse effect, and the Choctaw Nation of Oklahoma by letter dated June 15, 2010 (Appendix A), concurring with the USACE finding of no adverse effect.

Additional consultation was completed for the proposed action in support of the development of SEA #537 that includes a description of the proposed PPG drainage canal and the results of the cultural resources surveys conducted for the drainage canal relocation. The SHPO concurred with the CEMVN finding of *no adverse effect to historic properties* in their letter dated February 15, 2016. Comments and concurrence were received from the Caddo Nation of Oklahoma (email dated March 3, 2016), and the Jena Band of Choctaw Indians (email dated March 1, 2016).

4.7 Recreation Resources

No Action Alternative. Since the no action alternative includes construction of sections 1-3 which include the same developed recreation features in the project area, the no action is the same as the proposed action below.

Proposed Action. Recreational activities, such as fishing, may be impacted directly by project construction in the vicinity of the activity. Construction of above ground T-walls and floodwalls may restrict recreational access; however no developed recreation sites would be impacted. During construction, the recreational environment in and around the project area would experience limited short-term disruption by the physical size and working activities of the construction equipment. Indirectly, commercial entities which

support the activities would be impacted. The impacts would be temporary and minor since persons desiring to participate in a particular activity could relocate to another area not under construction while still purchasing needed supplies.

Visitors to the park located at Ollie Drive/LA 23 may be temporarily impacted by increased traffic and noise from trucks utilizing Ollie Drive. These impacts are expected to be temporary, occurring for approximately two years during construction.

Myrtle Grove Marina would remain open during construction. Visitors to the Marina may be temporarily impacted by increased traffic, dust, and noise during construction. One access road may be closed to the marina; however access would remain available..

Cumulatively, recreation infrastructure would benefit from the reduced risk of storm and flood damage to facilities.

4.8 Aesthetics

No Action Alternative. The no action alternative would bring little to no impacts to Visual Resources. The proposed alignments would be similar to the existing levees with only minimal height differences from existing conditions for Sections 1 through 3. Sections 4 and 5 would evolve according to maintenance practices and natural conditions if not rebuilt according to the standards listed in the proposed action.

Proposed Action.

Section 1 – Oakville to La Reussite
Overall, the addition or inclusion of upgraded flood risk reduction measures would have minimal impacts to Visual Resources. This area has had earthen levees for some time. The concrete T-walls would add a man-made element to an area where a more natural looking earthen levee has resided. The addition of concrete T-walls would add a visually inferior element to the landscape; however, these structures are necessary for the future storm risk reduction of the area.

Section 2 – La Reussite to Wilkinson Pump Station Levee
Overall, the addition or inclusion of upgraded flood risk reduction measures would have minimal impacts to Visual Resources in this reach as well. The proposed earthen levees would most likely blend into the background.

Section 3 – Wilkinson Pump Station to Woodpark
The addition or inclusion of upgraded flood risk reduction measures would have similar impacts to those listed under NFL 1 – Oakville to La Reussite.

Section 4 – Woodpark to Pointe Celeste
The addition or inclusion of upgraded flood risk reduction measures would have similar impacts to those listed under NFL 1 – Oakville to La Reussite for those areas receiving T-Wall construction and NFL 2 – La Reussite to Wilkinson Pump Station Levee where the earthen levees would be built and/ or upgraded.

Section 5 – West Point a la Hache to St. Jude
The addition or inclusion of upgraded flood risk reduction measures would have similar impacts to those listed under NFL 4 – Woodpark to Pointe Celeste.

Relocation of Drainage Canal
Impacts to Visual Resources along the areas where the drainage canals would be enlarged or deepened would be minimal in the long term. Short term impacts could emerge from the stockpiling of material and staging areas, but once the material is spent elsewhere and the staging areas removed, conditions should return to a pre-construction state. Improvements and additions to the roadway network, including any temporary roadways would also have negligible impacts to Visual Resources.

Jefferson Lake Canal Marina Earthen Levee
The existing marina has no features that give it any technical significance and it has not been used for recreational purposes. The Parish had in the past proposed reuse of the property as a public dock to support the local fishing industry, ecotourism excursions, and fishing expeditions. Such reuse was complicated by prior mishandling of petroleum products and wastes during operation of the site as a transfer station for commercial supply vessels beginning in the early 1950s. As such, the marina is not currently used for recreational purposes. The area is industrial in nature and site lines are limited from LA 23. Impacts to Visual Resources in the area would be negligible. In addition, given the polluted nature of the marina, this project could work to clean the area up and provide a better use in the future if the Parish chooses to do so.

4.9 Socio-Economics

The benefits of improving surge and flood risk may include inundation reduction benefits, evacuation benefits; reduction in the emergency costs of state and local governments (such as sandbagging and police overtime), repairs to public property (such as roads and bridges), overtime for sanitation department employees, reductions in the cost of providing subsistence and lodging for residents whose homes are potentially uninhabitable due to storm damages, reductions in reoccupation costs required by homeowners in order to move back into their homes, reductions to costs to business and industrial cleanup and restoration costs required by business owners in order to make their businesses operational.

Although considered part of the New Orleans-Metairie-Kenner Metropolitan Statistical Area (MSA), this relatively narrow strip of protected land is largely rural, used for agricultural production such as pasture, raising cattle, and citrus groves. However, other important natural resources within the immediate vicinity include waterborne commerce along the Mississippi River and Port of Plaquemines; a section of the Mississippi River and Tributaries (MR&T) levee
system that extends as far north as Missouri and as far south as the Gulf of Mexico; the production, refining, and/or transport of crude petroleum, natural gas, coal, and other important natural resources, and commercial fisheries.

Population and Housing

No-Action Alternative. The construction of No-Action Alternative would provide additional risk reduction against the floods and hurricanes that periodically threaten the region, including the close proximity of the New Orleans urbanized area and adjacent coastal areas. Rather than displacement, the proposed risk reduction may encourage development as it has occurred in other areas of the larger metropolitan area. However, the plan for this project originated from Hurricanes Katrina and Rita and the need for emergency protection rather than Federal endorsement of future development within areas unusually sensitive to flood and hurricane conditions. All the proposed replacements or modifications could encourage housing development and population growth in more protected areas within the project area. Based on historical trends, housing demand generally develops along a major transportation artery (e.g., LA 23, also used as a primary evacuation route). However, a variety of other factors may also influence the demand for future housing, including population density, access to recreation facilities, and other considerations. Because of the control maintained by local governments relative to zoning and the speculative nature of development, "induced development" of the area is not considered an indirect impact of project construction.

Proposed Action. The conditions resulting from construction of this alternative would be similar to the No-Action Alternative but greater with the exception of the Lowering of Risk Reduction (LORR) being unaltered along the levee segments south of the Mississippi River Levee tie-in. Sections to the south may increase very slowly as the national population increases; however, they also may decline or fluctuate as subsidence continues and periodic hurricanes pass through the area.

Impacts to Employment, Businesses, and Industrial Activity

Businesses, industries, and agricultural developments located within the project area generate employment through port facilities along the Mississippi River (see the Port of Plaquemines). Industry in the area includes oil refinery (Conoco-Phillips), grain elevator, coal deliveries, pasture and livestock production, and scattered citrus groves. The Union-Pacific Railroad operates a freight line that parallels LA 23 to a point near the oil refinery and connects with trucking lines. Several small marinas are immediately adjacent to the existing back levees used by commercial fishermen. Expansion of economic development has been limited in part due to the narrow strip of protected land available and periodically threatened by hurricanes. Repopulation activity following Hurricanes Katrina and Rita may still be in transition influencing businesses and industry that were operational prior to Katrina, including the economic development of port activities; commercial and recreational fisheries; the production, processing, and transport of oil and gas resources, and the availability of water.

No-Action Alternative. Construction of the No-Action would provide additional risk reduction from hurricane storm surge that currently threatens businesses, industries, agricultural development, and related employment. Much of the waterborne commerce that would otherwise pass through the project area would move to ports of refuge prior

to severe hurricanes as in the past. While the damage from severe winds may continue, structurally sound back levees would help to reduce the effects of tidal surges created by hurricanes.

Emergency planning and funding considerations in this study have not included quantitative benefit-cost analyses and related impacts on future development; however, it recognizes that a substantial enhancement to flood and hurricane risk reduction provided by a 12-foot levee or seawall could influence economic development within the area protected. Since sections 2 through 5 would have greater protection from storm surge, it would tend to encourage greater economic stability and potential for business and industrial growth as well as residential expansion. With increased hurricane and flood risk reduction, the potential for businesses, industrial activity, and related employment conditions may increase.

Proposed Action. The conditions resulting from construction of Proposed Action would be similar to No-Action.

Availability of Public Facilities and Services

The relatively low population density of the project area tends to limit the demand for certain public facilities such as public schools and hospitals or services such as police and fire protection. Other services include water and sewerage treatment services; telecommunication operations; and power supplies for industrial, commercial, and residential purposes. In the past, local and state authorities and private developers have provided protection to the back levees of the area against floods and hurricanes. Since Hurricanes Katrina and Rita, more Federal assistance has been authorized for risk reduction against such storm damages.

No-Action Alternative. Construction of the No-Action Alternative from Oakville to St. Jude would represent an extension of public facilities and services to maintain flood control and hurricane risk reduction within the local community. If construction of the project led to greater economic development within the area, the demand for public facilities and service may increase as well.

Proposed Action. The consequences of implementing this alternative would be similar to those of the No-Action Alternative, with the exception of the tie-in portion to the MRL which would leave the southern sections in present condition.

Disruption of Desirable Community and Regional Growth

Desirable community and regional growth with respect to the hurricane risk reduction project is considered growth that responds to the needs of the local communities and region and is consistent with National Economic Development (NED) guidelines.

No-Action Alternative. This alternative may produce a temporary disruption, and in some cases may require mitigation to restore desirable community and regional growth

as in the case of many other Civil Works projects. This alternative would generally extend well beyond currently occupied housing units. The completion of the project would add flood and hurricane risk reduction generally needed for community and regional growth.

Proposed Action. The impacts to growth with the proposed action would be similar to the no action alternative. This alternative does not extend as far south leaving those areas with less potential for growth.

Impacts to Property Values and Tax Revenues

Property values and tax revenues within the project area and much of Plaquemines Parish have somewhat unique characteristics. The Parish has limited availability of protected land along one of the world's most important waterways with large quantities of oil and gas nearby as well as large quantities of commercial fisheries, contributing to property values. On the other hand, the area is susceptible to severe weather conditions and high river stages, threatening property damages and limiting the tax base required for urban expansion. Increasing subsidence rates over the past century can influence property values and subsequently tax revenues.

No-Action Alternative. The increased risk reduction would help maintain property values and consequently help sustain the existing tax base of communities within the project area and regions influenced by economic developments beyond the immediate project area. Much of the New Orleans metropolitan area economic development occurred through a system of levees and seawalls similar to the proposed alternatives considered.

In general, property currently used for urban and industrial purposes has a higher value than agricultural land. Alternatives that extend significantly beyond LA 23 include larger tracts of wetland and may have less potential for future urban purposes and therefore may be of less economic value. Sections 1 and 2 are in close proximity to the New Orleans urbanized area, increasing the potential for conversion from undeveloped land to a higher usage and values. The threat of land loss and subsidence over time may require additional maintenance to sustain property values due to the nature of hurricanes that periodically pass through the area. If economic development and property values increase from a project alternative, reductions in storm damages could also add stability to the local tax base.

Proposed Action. The Impacts to Property Values and Tax Revenues with the proposed action would be similar to the no action alternative.

4.10 Environmental Justice

No Action Alternative

Direct and indirect impacts for the no action alternative would be the same as described in the FEIS for environmental justice. Under the no action alternative Sections 4 and 5 would not be constructed and flood risk reduction would not be improved for the

communities located in those sections. Direct adverse impacts from construction activities such as air quality, noise, traffic, etc., would also be exerted equally on minority and low income populations as well as non-minority and non-low income populations of the Oakville through St. Jude areas. Indirect impacts from this action may include residential and commercial growth within the protected area. This indirect impact is not anticipated to exert disproportionately high indirect, adverse human health, and environmental impacts on minority and/or low-income communities

Proposed Action. Title VI of the Civil Rights Act (42 United States Code [USC] 2000) and Executive Order 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* mandate that Federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Socioeconomic and demographic data for the project vicinity were reviewed to determine whether the proposed action would have a disproportionately high and adverse impact on minority or low-income people.

Implementation of the proposed action in the project area would enhance Federal hurricane risk reduction in an area with existing lower level risk reduction. Thus, implementation would benefit all residents of these areas alike. Direct adverse impacts from construction activities such as air quality, noise, traffic, etc., would also be exerted equally on minority and low income populations as well as non-minority and non-low income populations of the Oakville through St. Jude areas. Indirect impacts from this action may include residential and commercial growth within the protected area. This indirect impact is not anticipated to exert disproportionately high indirect, adverse human health, and environmental impacts on minority and/or low-income communities.

4.11 Noise

No Action Alternative. Noise impacts from the no action alternative would be similar to those of the proposed action, but less in magnitude due to the smaller footprint of the project area (Section 1-3 constructed under the no action alternative).

The direct noise impacts to the project area would be localized and temporary and would likely be below the 115 dBA threshold established as the upper limit for unprotected hearing by the OSHA. Noise from construction equipment and other construction related activities would have a temporary impact on the residents of local communities. Noise from activities associated with the no action alternative would likely be below upper limit thresholds as established by OSHA, and would be consistent with noise from other construction projects that are occurring in the area. While tolerance of unnatural disturbance varies among wildlife, the increase in noise levels during construction would likely result in various wildlife and fishery resources temporarily leaving or avoiding project area during construction activities. Any indirect impacts due to noise are expected to be localized, temporary, and minor in nature. There would be no cumulative effects from noise.

No adverse impacts related to potential project replacements or modifications have been identified with respect to noise. During construction, noise levels would be similar to other construction related projects and industrial uses occurring in the project area.

Proposed Action. The direct noise impacts to the project area would be localized and temporary and would likely be below the 115 dBA threshold established as the upper limit for unprotected hearing by the OSHA. Noise from construction equipment and other construction related activities would have a temporary impact on the residents of local communities. Noise from activities associated with the proposed action would likely be below upper limit thresholds as established by OSHA, and would be consistent with noise from other construction projects that are occurring in the area. While tolerance of unnatural disturbance varies among wildlife, the increase in noise levels during construction would likely result in various wildlife and fishery resources temporarily leaving or avoiding project area during construction activities. Any indirect impacts due to noise are expected to be localized, temporary, and minor in nature. There would be no cumulative effects from noise.

No adverse impacts related to potential project replacements or modifications have been identified with respect to noise. During construction, noise levels would be similar to other construction related projects and industrial uses occurring in the project area.

4.12 Air Quality

No Action Alternative. Impacts to air quality from the no action alternative would be similar to those of the proposed action.

Proposed Action. Plaquemines Parish is classified as attainment for all of the National Ambient Air Quality Standards (NAAQS) (EPA, 2009). The attainment status for the parish is the result of area-wide air quality modeling studies. Thus, no Conformity Determination or other effort is required of the proposed action.

Therefore, there would be no overall adverse effects of the project on regional air quality that would result in nonattainment status. Direct impacts would occur from stockpiling and moving borrow material would have a potential for wind erosion and would create dust, especially as it is manipulated with heavy equipment. Wind erosion would be minimized by revegetation of construction sites and other control measures. Best management practices would be implemented to minimize impact of air pollutants. Also, construction and waste disposal activities would be conducted in accordance with applicable local, state, and Federal statutes and regulations.

Indirect impacts to air quality would relate to the operation of heavy equipment in the reconstruction of the NFL producing localized and short-term engine emissions and dust. As presented in Table 6-5, completing the project would result in over 136 million miles of road traveled to deliver over 2 million truckloads of borrow material, however impacts on regional air quality would be negligible.

4.13 Hydrology and Water Quality

No Action Alternative. Impacts to hydrology and water quality from the no action alternative would be similar to those of the proposed action but to a lesser extent.

Proposed Action. Construction of the NFL and associated features may have some localized short-term direct impacts on water quality. Construction activities may result in direct impacts to water quality of increased suspended solids in the vicinity of the construction due to site disturbance. The State of Louisiana allows a 10 percent increase to the 50 NTU criteria for turbidity in estuaries from discharges. It is not expected that the proposed action would exceed this limit. The increased suspended solids may result in decreased primary productivity due to shading of phytoplankton. The decreased primary productivity may then indirectly lower dissolved oxygen levels. These impacts would be short term and localized to construction site and immediate area.

5.0 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)

The USACE is obligated under Engineer Regulation (ER) 1165-2-132 to assume responsibility for the reasonable identification and evaluation of all Hazardous, Toxic, and Radioactive Waste (HTRW) contamination within the vicinity of proposed actions. ER 1165-2-132 identifies that HTRW policy is to avoid the use of project funds for HTRW removal and remediation activities. An American Society for Testing and Materials (ASTM) Phase I Environmental Site Assessment (ESA) was completed for the project area, to include NFLS Sections 1 – 5, in July 2009 as part of the FEIS. An ASTM E 1527-05 Phase 1 Environmental Site Assessment (ESA), HTRW 15-11 dated October 6, 2015, has been completed for modifications to the NFL project in NFL Section 3, and a Phase I ESA, HTRW 15-12 dated October 13, 2015, has been completed for modifications to the project in NFL Section 5. A copy of the Phase 1 ESAs would be maintained on file at the U.S. Army Corps of Engineers, New Orleans District Headquarters. The probability of encountering HTRW for the proposed actions is low based on the initial site assessments.

The Plaquemines Parish Government contracted ELOS Environmental, LLC, to conduct a Phase I ESA of a proposed drainage canal located between Belle Chasse and West Pointe a La Hache. The areas of study in the ELOS ESA, dated July 2015, corresponded with NFL Section 2 and Section 4. USACE personnel reviewed the ELOS Phase I ESA as part of this EA. The probability of encountering HTRW in NFL Sections 2 and 4 is also low based on the initial site assessment.

If a recognized environmental condition is identified in relation to the project site, the U.S. Army Corps of Engineers, New Orleans District would take the necessary measures to avoid the recognized environmental condition so that the probability of encountering or disturbing HTRW would continue to be low.

6.0 MITIGATION

The appropriate application of mitigation is to formulate an alternative that first avoids adverse impacts, then to minimize adverse impacts that could not be avoided, and lastly to compensate for impacts remaining that cannot be avoided. Where possible adverse wetland impacts were avoided or minimized to the extent possible. However, unavoidable impacts would occur to some habitats as shown in Table 6-7. Compensatory mitigation is required for the following habitat types: BLH Wet, BLH Dry, Wet Pasture (to be mitigated as Fresh Marsh), Swamp, Scrub Shrub, Intermediate Marsh, Freshwater Marsh, Brackish Marsh, and Open Water.

Temporary impacts to wet pasture associated with improving the PPG drainage canal and lateral ditches are considered temporary and self-mitigating, and would not be included in the total compensatory mitigation acres.

The ROD dated 31 October 2011 (Appendix E) stated that a "site specific plan for specific mitigation sites and methods would be coordinated in a Supplemental Environmental Assessment subsequent to [the] Record of Decision [and] prior to project construction. The ROD also committed that "construction will not begin on any particular levee reach until the mitigation requirements for the particular item have been incorporated into the mitigation plan." Construction of flood reduction features began in September of 2012 at the Ollie Pump Station, NOV-NF-W-04b (NFL Section 1). Impacts associated with construction that was started in 2012 have been mitigated for by the purchase of credits from an approved mitigation bank. Additional construction activities for the NFL project began in November of 2013 and construction of all NFL Sections is currently scheduled to be complete by 2023 (See Table 1). At present, the construction of mitigation features to offset impacts resulting from the NFL project is anticipated to begin in 2018.

The development of the mitigation plan as described in the ROD has been delayed due to several issues such as the inability to identify suitable mitigation sites with willing landowners.. Details of the mitigation plan as committed to in the 2011 ROD will be described in a separate Supplemental Environmental Assessment (EA #543) and would include the wetland impacts resulting from the New Orleans to Venice and Non-Federal Levees projects as a combined large scale mitigation project. The compensatory mitigation plan is being coordinated with an interagency team comprised of representatives from the CPRA, LDNR, Plaquemines Parish Government, USACE, USEPA, USFWS, and NMFS. To account for the delayed implementation of mitigation for impacts resulting from the NFL project as described above, the period of analysis was extended from 50 years to 57 years in order to offset temporal impacts to wetlands as well as account for direct impacts.

7.0 CUMULATIVE IMPACTS

The Council on Environmental Quality regulations (40 CFR §1500-1508) implementing the procedural provisions of 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 impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

Other levee projects currently underway in Plaquemines Parish include the New Orleans to Venice and the West Bank and Vicinity – Mississippi River Levee. Future work associated with these levee projects would include planned lifts, armoring, and other required repairs and maintenance to the levee systems. These future actions would contribute to short term temporary transportation, air quality and noise quality impacts, and combined would contribute cumulatively to the overall impact on the environment.

Borrow material has been utilized by CEMVN for the construction of the HSDRRS and other projects in southeastern Louisiana. Over 17,319,700 cubic yards of borrow material is estimated to have been obtained for the HSDRRS construction effort. Approximately 1.5 million truck trips are estimated to be have been necessary to deliver the quantity of material presented in the table 5. In addition, an estimated 814 barge trips delivered some of the material, mainly rock. These borrow sites previously approved by numerous IER's would likely be the source of borrow material needed to perform levee lifts and maintenance for at least 50 years into the future. Levee improvements throughout the LPV and WBV projects would require substantial amounts of borrow material.

Other projects of the CEMVN, such as Morganza to the Gulf, Larose to Golden Meadows, Westshore Lake Pontchartrain Flood Damage Risk Reduction Study, Plaquemines NOV/NFL, maintenance of the Mississippi River levees and other civil works investigations would require suitable borrow material. State and local levee and floodwall construction efforts would require borrow material as well. The Mississippi River and Tributaries Projects would utilize borrow material for levee repairs, replacements, lifts, and berms. The construction and operation of the borrow areas has resulted in and would continue to add to the short-term cumulative effects on transportation. It is anticipated that over 100,000,000 cubic yards of material will be necessary to raise levee elevations regionally to meet the needs of the HSDRRS. The extent of land directly and indirectly affected by previous development activities, in combination with the excavation and use of the proposed borrow material for NFL construction, would contribute cumulatively to land alteration and loss in southeastern Louisiana/southwestern Mississippi. After borrow area excavation, the land may be converted to ponds and small lakes if not backfilled, which may be required per local ordinances. If not backfilled, the land would be considered unsuitable for farming, forestry, or urban development in the reasonably foreseeable future. Habitat would be changed to favor aquatic and semi-aquatic species over the terrestrial ones that now occupy the areas. Borrow areas that do not retain water would be colonized by vegetation and woody plants, which would favor terrestrial species. This would attract

the same species that are currently found in the areas. Based on historical human activities and land use trends in southeastern Louisiana/southwestern Mississippi, it is reasonable to anticipate that future activities would further contribute to cumulative degradation of land resources.

8.0 COORDINATION AND PUBLIC INVOLVEMENT

A Public Notice for this action was published in the Baton Rouge and New Orleans Advocate for 30 days beginning January 19, 2016 through February 17, 2016. Comments were received from the Louisiana Department of Wildlife and Fisheries, the Louisiana Department of Environmental Quality, the Federal Emergency Management Agency, the National Marine Fisheries Service, and ELOS Environmental LLC on behalf of the Plaquemines Parish Government.

Preparation of SEA #537 and the FONSI was coordinated with appropriate congressional, Federal, state, and local interests, as well as environmental groups, Native American Indian Tribes, and other interested parties to include:

United States Fish and Wildlife Service
Environmental Protection Agency, Region VI
Federal Emergency Management Agency, Region 6
Natural Resources Conservation Service
Advisory Council on Historic Preservation
Louisiana Department of Wildlife and Fisheries
Louisiana Department of Natural Resources
Louisiana Department of Environmental Quality
Louisiana State Historic Preservation Office
National Marine Fisheries Service

See Appendix A for correspondence and comments received from federal, state and local agencies, and CEMVN responses to those comments and recommendations.

CEMVN received the following recommendations from USFWS in the final Fish and Wildlife Coordination Act Report dated March 10, 2016. The CEMVN's responses are provided following each of the recommendations:

1. To the greatest extent possible, design (e.g., implementation of "T"-walls, sheet-pile, and/or cement floodwall in levees designs) and position flood protection features so that destruction of forested and emergent wetlands and non-wet bottomland hardwoods are avoided or minimized.

MVN Response: The project will utilize the authorized and funded level of risk reduction footprint and minimize impacts on wetlands.

2. Minimize enclosure of wetlands with new levee alignments. When enclosing wetlands is unavoidable, acquire non-development easements on those wetlands, or

maintain hydrologic connections with adjacent, un-enclosed wetlands to minimize secondary impacts from development and hydrologic alteration.

MVN Response: Enclosure of wetlands will be avoided to the greatest extent practicable, unless the wetlands are currently isolated. In some instances where wetlands are currently isolated (i.e. they do not have hydrologic connections with adjacent wetlands), and the wetlands are small and of low quality, they may be enclosed and hydrologic connections lost.

3. The Corps shall fully compensate for any unavoidable losses to wet and non-wet bottomland hardwood habitat (-100 AAHUs), swamp habitat (-33.4 AAHUs), fresh marsh (-12.4 AAHUs), brackish marsh (-10.5 AAHUs), and wetland pasture (-39.6 AAHUs) caused by project features. All aspects of mitigation planning should be coordinated with the Service, NMFS, the Environmental Protection Agency (EPA), the Louisiana Department of Natural Resources (LDNR), Coastal Protection and Restoration Authority (CPRA) and LDWF.

MVN Response: Concur. Details of this mitigation would be described in a separate Environmental Assessment and would include the wetland impacts of the New Orleans to Venice Supplemental Environmental Impact Statement as a large scale mitigation project. The planning for the compensatory mitigation plan is being coordinated with an interagency team comprised of representatives from the CPRA, LDNR, Plaquemines Parish Government, USACE, USEPA, USFWS, and NMFS.

4. Funds for full compensatory mitigation for the entire project should be set aside up-front to ensure that the Federal and local sponsors will have the capability of offsetting unavoidable losses to the wetland habitats as listed in item #3 above, regardless of whether construction funding is procured by each levee reach.

MVN Response: Concur. Adequate funding for this effort has been budgeted.

5. Full compensation for marsh should be defined to be no less than 0.27 AAHUs per mitigation acre; however, that replacement rate may require redefining based on design of a specific proposed mitigation project to ensure full functional replacement.

MVN Response: Concur

6. The Service recommends that mitigation alternatives include locating the mitigation within the basin where impacts occurred.

MVN Response: Concur

7. If a proposed project feature is changed significantly or is not implemented within one year of our latest, Endangered Species Act consultation letter, we recommend that the Corps reinitiate coordination with the Service to ensure that the proposed project

would not adversely affect any federally listed threatened or endangered species or their critical habitat.

MVN Response: Concur

8. Avoid adverse impacts to wading bird nesting colonies and bald eagle nesting locations through careful design of project features and timing of construction. A qualified biologist should inspect the proposed work site for the presence of undocumented wading bird nesting colonies and bald eagle nests during the nesting seasons (i.e., February 16 through October 31 for wading bird colonies, and October through mid-May for bald eagles).

MVN Response: Concur

9. To minimize disturbance to colonies containing nesting wading birds (i.e., herons, egrets, night-herons, ibis, and roseate spoonbills), anhingas, and/or cormorants, all activity occurring within 1,000 feet of a rookery should be restricted to the non-nesting period (i.e., September 1 through February 15, exact dates may vary within this window depending on species present). In addition, we recommend that on-site contract personnel be informed of the need to identify colonial nesting birds and their nests, and should avoid affecting them during the breeding season.

MVN Response: Concur

10. If a bald eagle nest is discovered within or adjacent to the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line at: Blockedhttp://www.fws.gov/southeast/es/baldeagle. Following completion of the evaluation, that website will provide a determination of whether additional consultation is necessary and those results should be forwarded to this office.

MVN Response: Concur. Currently three bald eagle nests are known to exist within 660 feet of the levee footprint. MVN holds an eagle take permit which includes avoidance measures and monitoring during nesting season.

11. Forest clearing associated with project features should be conducted during the fall or winter to minimize impacts to nesting migratory birds to the maximum extent practicable.

MVN Response: To the extent practicable, CEMVN would try to schedule forest clearing outside of the migratory bird nesting season. However there may be situations in which some clearing may need to take place during the season to maintain construction schedules.

12. Acquisition, habitat development, maintenance and management of mitigation lands should be allocated as first-cost expenses of the project, and the local project-

sponsor should be responsible for operational costs. If the local project-sponsor is unable to fulfill the financial mitigation requirements for operation, then the Corps should provide the necessary funding to ensure mitigation obligations are met on behalf of the public interest. All costs (i.e., performance compliance and monitoring) until year five success criteria are attained shall be at the sole expense of the Federal sponsor.

MVN Response: Concur. First cost and maintenance will be the responsibility of the Corps until success criteria is achieved. Management of the lands will be site-specific based on coordination with state and Federal agencies, in addition to the local sponsor.

13. Construction of or purchasing credit from an approved mitigation bank for all compensatory mitigation should be conducted concurrent with construction of the NFL project (and concurrent with the NOV federal levees project if mitigation is combined), to ensure that mitigation obligations are met on behalf of the public interest.

MVN Response: Enclosure of wetlands will be avoided to the greatest extent practicable, unless the wetlands are currently isolated. In some instances where wetlands are currently isolated (i.e. they do not have hydrologic connections with adjacent wetlands), and the wetlands are small and of low quality, they may be enclosed and hydrologic connections lost.

14. If mitigation lands are purchased for inclusion within Federal or State managed lands, those lands must meet certain requirements; therefore, the land manager of that management area should be contacted early in the planning phase regarding such requirements.

MVN Response: Concur

15. Further detailed planning of project features (e.g., Design Documentation Report, Engineering Documentation Report, Plans and Specifications, or other similar documents) should be coordinated with the Service, NMFS, EPA, LDNR, and LDWF, and the Corps shall provide them with an opportunity to review and submit recommendations on all work addressed in those reports.

MVN Response: Concur

16. If applicable, a General Plan should be developed by the Corps, the Service, and the managing natural resource agency in accordance with Section 3(b) of the FWCA for mitigation lands.

MVN Response: Concur

17. A report documenting the status of mitigation implementation and maintenance should be prepared by the managing agency and provided to the Corps, the Service, NMFS, EPA, LDNR, and LDWF. That report should also describe future management activities and identify any proposed changes to the existing management plan.

MVN Response: Concur

18. The Service encourages the Corps to finalize mitigation plans and proceed to mitigation construction so that it will be concurrent with project construction. If construction is not concurrent with mitigation implementation then revising the impact and mitigation period-of-analysis to reflect additional temporal losses will be required.

MVN Response: The USACE shares the goal of implementing mitigation as quickly as possible. If delays are experienced such that mitigation project implementation takes longer than what was previously estimated, the USACE will work with the resource agencies to determine whether such delays could necessitate extending the current period of analysis associated with the habitat impacts and whether additional temporal loss to the habitats in question would result in a larger mitigation requirement.

19. Impacts to Essential Fish Habitat (EFH) should be avoided and minimized to the greatest extent possible. Because impacts to designated EFH habitat may need to be mitigated the Corps should coordinate with the NMFS regarding this need and maintain an account of all EFH habitats (e.g., openwater, marsh) impacted and mitigated.

MVN Response: Concur

20. The Corps should implement prior to initiation of construction and maintain during construction non-point source erosion control measures to protect wetlands and water bodies.

MVN Response: Best management practices for erosion control will be used to protect wetlands and water bodies during construction activities. In accordance with project plans and specifications, Storm Water Pollution Prevention Plans are required for each contract reach.

21. The Corps should ensure that clearing of forested vegetation does not result in impacts outside of the construction rights-of-way.

MVN Response: Concur, all practicable measures will be taken to ensure that the clearing of forested vegetation does not occur outside of construction rights-of-way.

9.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

There are many Federal and state laws pertaining to the enhancement, management and protection of the environment. Federal projects must comply with environmental laws, regulations, policies, rules and guidance. A 30 day public review and comment period for the draft EA began on January 19, 2016. Environmental compliance was achieved upon conclusion of the 30-day public review and comment period and approval of the associated Finding of No Significant Impact signed on March XX, 2016.

Executive Order (E.O.) 11988 Floodplain Management
Executive Order 11988 directs Federal agencies to reduce flood loss risk; minimize flood impacts on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by flood plains. Agencies must consider alternatives to avoid adverse and incompatible development in the flood plain. If the only practical alternative requires action in the flood plain, agencies must design or modify their action to minimize adverse impacts. The proposed action represents the least environmentally damaging alternative to accomplish the needed risk reduction system modifications.

Clean Air Act of 1972
The Clean Air Act ("CAA") sets goals and standards for the quality and purity of air. It requires the Environmental Protection Agency to set National Ambient Air Quality Standards ("NAAQS") for pollutants considered harmful to public health and the environment. The Project area is in Plaquemines Parish, which is currently in attainment of NAAQS. The proposed borrow sites used for this project would be located in parishes which are also in attainment of NAAQS. The Louisiana Department of Environmental Quality is not required by the CAA and Louisiana Administrative Code, Title 33 to grant a general conformity determination.

Clean Water Act of 1972 – Section 401 and Section 404
The Clean Water Act ("CWA") sets and maintains goals and standards for water quality and purity. Section 401 requires a Water Quality Certification from the Louisiana Department of Environmental Quality (LDEQ). The LDEQ issued water quality certification WQC 110520-01/AI 101235/CER 20110002 in their letter dated July 6, 2011. The state water quality permit would be updated for the proposed action and coordination with the LDEQ is on-going.

As required by Section 404(b)(1) of the Clean Water Act (CWA), an evaluation to assess the short- and long-term impacts associated with the discharge of dredged and fill materials into waters of the United States resulting from this project has been completed. Section 404(b)(1) public notice was mailed out for public review on January 25, 2016. Comments on the Section 404(b)(1) public notice were received from the Federal Emergency Management Agency on February 2, 2016, and the Plaquemines Parish Government on February 22, 2016. The Section 404(b)(1) public notice as well as public comments and CEMVN responses are in Appendix F to this SEA.

Coastal Zone Management Act of 1972
The Coastal Zone Management Act ("CZMA") requires that "each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs." The CEMVN received a consistency determination (C20100384) for the FEIS on January 4, 2011. The consistency determination (C20100384) would be modified for the proposed action as described in SEA #537. Modification 7 to the consistency determination (C20100384)

for the proposed action as described in SEA #537 was received from the LADNR in their letter dated March 14, 2016 (Appendix G).

Endangered Species Act of 1973
The Endangered Species Act ("ESA") is designed to protect and recover threatened and endangered ("T&E") species of fish, wildlife and plants. The CEMVN has re-initiated coordination with USFWS for the modification to the NFL project as identified in the proposed action as described in SEA #537. A letter dated January 6, 2016 from the USFWS stated that they do not object to the activity as proposed (Appendix C).

Fish and Wildlife Coordination Act
The FWS reviewed the proposed action in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 USC 661 et seq.) and provided a final Fish and Wildlife Consolidation Act Report (FWCAR) on March 15, 2016. This office has concurred with, or resolved, all recommendations contained in the final FWCAR, and project-specific recommendations have been addressed in SEA #537 and are incorporated into this FONSI.

Hazardous, Toxic and Radioactive Waste (HTRW)
The USACE is obligated under Engineer Regulation (ER) 1165-2-132 to assume responsibility for the reasonable identification and evaluation of all hazardous, toxic, and radioactive waste ("HTRW") contamination within the vicinity of proposed actions. ER 1165-2-132 identifies that HTRW policy is to avoid the use of project funds for HTRW removal and remediation activities.

An ASTM Phase I Environmental Site Assessment (ESA) was completed for the project area, to include NFLS Sections 1 – 5, in July 2009 as part of the FEIS. An ASTM E 1527-05 Phase 1 Environmental Site Assessment (ESA), HTRW 15-11 dated October 6, 2015, has been completed for the NFL project, Section 3, and a Phase I ESA, HTRW 15-12 dated October 13, 2015, has been completed for NFL Section 5. A copy of the Phase 1 ESAs will be maintained on file at the U.S. Army Corps of Engineers, New Orleans District Headquarters. The probability of encountering HTRW for the proposed action is low based on the initial site assessments. If a recognized environmental condition is identified in relation to the project site, the U.S. Army Corps of Engineers, New Orleans District would take the necessary measures to avoid the recognized environmental condition so that the probability of encountering or disturbing HTRW would continue to be low.

Magnuson-Stevens Fisheries Conservation and Management Act
The Magnuson-Stevens Fishery Conservation and Management Act, as amended, Public Law 104-208, addresses the authorized responsibilities for the protection of Essential Fish Habitat (EFH) by NMFS in association with regional fishery management councils. The NMFS has a "findings" with the CEMVN on the fulfillment of coordination requirements under provisions of the Magnuson-Stevens Fishery Conservation and Management Act. In those findings, the CEMVN and NMFS have agreed to complete EFH coordination requirements for federal civil works projects through the review and comment on National

Environmental Policy Act documents prepared for those projects. The SEA #537 was provided to the NMFS for review and comment on January 19, 2016. Comments and EFH conservation recommendations were received from the NMFS in their letter dated February 9, 2016. The CEMVN provided a detailed response on March 10, 2016 that included a description of measures to avoid, mitigate or offset the adverse impacts to EFH of the proposed action.

Migratory Bird Treaty Act

The bald eagle was removed from the List of Endangered and Threatened Species in August 2007 but continues to be protected under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act of 1918, as amended (MBTA). Three active bald eagle nests exist in close proximity to the project area. The Corps currently holds a Federal Fish and Wildlife Permit for eagle take associated with, but not the purpose of, the activities discussed in the previously approved FEIS and ROD. The permit includes avoidance, minimization and mitigation measures that the Corps must comply with which include but are not limited to (a) bi-weekly monitoring of all nests during nesting season (b) maintaining a specified distance between the activity and the nest (buffer area), (c) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers), and (d) avoiding certain activities during the breeding season. Specifically, construction activity is prohibited within 660 feet of an active nest during the nesting season (October 1 – May 15), work cannot damage any part of a nesting tree, and no tree clearing should occur within 330 feet of a nest tree.

National Historic Preservation Act of 1966

Congress established the most comprehensive national policy on historic preservation with the passage of the National Historic Preservation Act of 1966 (NHPA). In this act historic preservation was defined to include "the protection, rehabilitation, restoration and reconstruction of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, or culture." The act led to the creation of the National Register of Historic Places, a file of cultural resources of national, regional, state, and local significance. The act also established the Advisory Council on Historic Preservation (the Council), an independent Federal agency responsible for administering the protective provisions of the act.

Section 106 consultation will be completed for the proposed action in support of the development of SEA #537 that includes a description of the proposed PPG drainage canal and the results of the cultural resources surveys conducted for the drainage canal relocation. The SHPO concurred with the CEMVN finding of *no adverse effect to historic properties* in their letter dated February 15, 2016. Letters were also mailed to federally recognized Indian Tribes on January 26, 2016. Comments and concurrence were received from the Caddo Nation of Oklahoma (email dated March 3, 2016), and the Jena Band of Choctaw Indians (email dated March 1, 2016).

10.0 CONCLUSION

CEMVN has assessed the environmental impacts of the proposed action on relevant resources. The project as proposed would have temporary short term impacts on air quality from heavy equipment operations during construction; short term temporary impacts to adjacent areas from construction noise; temporary transportation impacts from transporting of construction equipment and hauling of borrow materials and scrap materials to/from the construction site.

The proposed action would directly impact 422.1-acres (221.9 AAHUs) of bottomland hardwoods and wetlands. Impacts to wet pasture resulting from the relocation of the drainage canal in Sections 2 and 4 would result in temporary impacts to 59.7-acres (19.5 AAHUs), that would be expected to re-establish within one year following completion of construction. Anticipated adverse, long-term impacts on marsh and open water EFH resulting from the implementation of the proposed action includes approximately 0.6 acre of intermediate marsh, 18.7 acres of freshwater marsh, 18.7 acres of brackish marsh, and 15.3 acres of open water. Approximately 53.3 acres of existing EFH marsh and open water bodies would be permanently impacted. Details of the mitigation for these impacts would be described in a separate Supplemental Environmental Assessment as committed to in the ROD signed on October 31, 2011 for the *New Orleans to Venice Hurricane Risk Reduction Project Incorporation of the Non-Federal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana.* The mitigation plan is being coordinated with an interagency team comprised of representatives from the CPRA, LADNR, Plaquemines Parish Government, USACE, USEPA, USFWS, and NMFS. See Section 7 (Mitigation) of this SEA for additional information.

11.0 PREPARED BY

SEA #537 and the associated FONSI were prepared by Eric Williams with relevant sections and review conducted by the following:

TABLE 10. LIST OF PREPARERS.

Title/Topic	Team Member
Environmental Team Lead	Sandra Stiles, CEMVN-PDN-CEP
Environmental Manager	Eric Williams, CEMVN-PDN-NCR
Wildlife and T&E sections	Tammy Gilmore, CEMVN-PDN-CEP
Wetlands and bottomland hardwoods section	Laura Lee Wilkinson, CEMVN-PDN-UDP
Tribal Consultation	Rebecca Hill, CEMVN-PDN-NCR
Cultural Resources	Paul Hughbanks, CEMVN-PDN-UDP
Aesthetics	Kelly McCaffery, CEMVN-PDN-NCR
Recreation	Debra Wright, CEMVN-PDN-NCR
Socioeconomics	Terry Baldridge, CEMVN-PDN-UDP
HTRW	Joe Musso, CEMVN-PDC-CEC

12.0 REFERENCES

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APPENDIX A

Public and Agency Review Comments and Responses

1. National Marine Fisheries Service

2. Louisiana Department of Environmental Quality

3. Louisiana Department of Wildlife and Fisheries

4. Federal Emergency Management Agency, Region 6

5. ELOS Environmental, LLC on behalf of the Plaquemines Parish Government

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

February 9, 2016 F/SER46/RH:jk
225/389-0508

Ms. Joan Exnicios, Chief
Environmental Planning and Compliance Branch
New Orleans District, U.S. Army Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160-0267

Dear Ms. Exnicios:

The NOAA's National Marine Fisheries Service (NMFS) has received the unsigned Finding of No Significant Impact (FONSI) and draft Supplemental Environmental Assessment (SEA) entitled "New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana" (SEA#537) transmitted by your letter dated January 19, 2016. The draft SEA evaluates the proposed action to upgrade and incorporate 32 miles of existing non-Federal levees into the Federal levee system and to construct two miles of earthen back levees. All the proposed activities would be located in Plaquemines Parish, Louisiana.

As indicated in the draft SEA, Public Law 109-234 authorized projects in southeastern Louisiana to provide hurricane and storm surge reduction in the New Orleans and surrounding areas. The non-Federal levees in Plaquemines Parish were incorporated into that storm surge reduction effort. In 2011, draft and final environmental impact statements (EIS) for the incorporation of the non-Federal levees in Plaquemines Parish into the federal levee system were released. It is important to note NMFS provided the U.S. Army Corps of Engineers (USACE) with an essential fish habitat (EFH) Conservation Recommendation on the draft EIS for this project. That EFH Conservation Recommendation requested adequate mitigation be developed and implemented in a timely manner to offset functional losses of wetlands and water bottoms categorized as EFH.

The NMFS has the following General and Specific Comments regarding information provided in the draft SEA:

GENERAL COMMENTS

The NMFS is concerned commitments made by the USACE to address our previous EFH Conservation Recommendation and incorporated into a signed Record of Decision (ROD) for this project have not been adhered to. Specifically, the ROD states site-specific mitigation plans would be incorporated into supplemental Environmental Assessments prior to project construction. The ROD also contained a commitment that construction would not begin on any levee reach until the mitigation requirements for that action had been incorporated into a mitigation plan. Additionally, the document states mitigation would be implemented concurrent with levee construction. To date, little progress has been made toward the selection and implementation of a mitigation plan which would offset adverse impacts associated with the

proposed levee construction. This is concerning as the initiation of levee construction activities occurred more than two years ago. Given the time lag between the project-related adverse wetland impacts and the likely completion of mitigation, NMFS believes additional mitigation could be necessary to offset project related impacts. The NMFS believes this SEA, and all future supplemental National Environmental Policy Act documents pertaining to this project should: (1) identify mitigation commitments made in the ROD, (2) provide information on the implementation history and current status of all components, including mitigation, and (3) discuss and quantify the additional EFH mitigation required to offset temporal impacts resulting from the time lag between the initiation of construction impacts and the completion of compensatory mitigation.

SPECIFIC COMMENTS

2.0 ALTERNATIVES (INCLUDING THE PROPOSED ACTION)

This section of the document provides a general description of construction activities to be undertaken to implement the proposed project. Given that construction has already been initiated, this section in the final SEA should be revised to also provide information regarding the timing of construction initiation, and expected duration, for all five levee sections. This information will be necessary to allow a quantification, using the Wetland Value Assessment methodology, of compensatory mitigation needs to offset project related impacts, including temporal losses of wetland functions and values.

3.0 AFFECTED ENVIRONMENT
3.5.2 Essential Fish Habitat

Page 37, paragraph 3; Table 4. These sections of the draft SEA identify Gulf stone crab as having essential fish habitat (EFH) designated within the project area. The Gulf of Mexico Fishery Management Council (GMFMC) no longer manages Gulf stone crab under a Federal Fishery Management Plan. Therefore previous designations of Gulf stone crab EFH by the GMFMC are no longer in effect. As such, NMFS recommends all information pertaining to Gulf stone crab be deleted from the document. Conversely, EFH for gray snapper and lane snapper have been designated in the project area by the GMFMC. Information pertaining to those two snapper species should be added to this section of the SEA.

4.0 ENVIRONMENTAL CONSEQUENCES
4.1 Wetlands

Page 60, Table 9. A footnote at the bottom of this table states "Open water impacts are captured in freshwater marsh AAHUs". In a telephone discussion with staff of the U.S. Fish and Wildlife Service regarding the Coordination Act Report for this project, NMFS discovered this statement to be incorrect. Specifically, open water impacts in sections 4 and 5 of the project, totaling 10.4

and 4.3 acres respectively, are not captured in the freshwater marsh average annual habitat units (AAHUs). The NMFS believes the WVA methodology used to quantify impacts to open water in sections 1 and 3 should be utilized to also assess similar impacts to open water in sections 4 and 5. The AAHUs associated with impacts to marsh and all open water areas categorized as EFH should be included in Table 9.

Page 61, paragraph 5. Wording in this paragraph correctly quantifies impacts to EFH (marsh and open water) as being 53.3 acres. The AAHUs necessary to offset such impacts also should be provided in this section of the document.

6.0 MITIGATION

Page 72, paragraph 4. This section of the SEA does not list open water among the habitat types for which compensatory mitigation is required. As stated in sections of the SEA pertaining to EFH, project implementation would destroy 15.3 acres of open water categorized as EFH. Provisions of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) require compensatory mitigation for all adverse impacts to habitat categorized as EFH. The NMFS recommends this section of the SEA be revised to include open water among the habitat categories requiring mitigation.

This section of the draft SEA does not discuss the issue identified above regarding the time lag between the initiation of levee construction and implementation of mitigation. This section of the final SEA should clearly state that temporal impacts associated with a time lag between levee construction and the completion of mitigation would be assessed using the WVA methodology. The final SEA should further commit to offset such temporal impacts, as well as direct construction impacts, through the implementation of an appropriate mitigation plan.

The NMFS has a "findings" with the New Orleans District (NOD) on the fulfillment of coordination requirements under provisions of the Magnuson-Stevens Fishery Conservation and Management Act. In those findings, the NOD and NMFS agreed to complete EFH coordination requirements for federal civil works projects through our review and comment on National Environmental Policy Act documents prepared for those projects. Therefore, NMFS recommends the following to ensure the conservation of EFH and associated fishery resources:

EFH Conservation Recommendation

The WVA methodology should be used to assess the temporal impacts of the time lag between the initiation of construction and completion of appropriate compensatory mitigation. A mitigation plan should be developed and implemented which fully offsets the additional temporal impacts to wetlands and water bottoms categorized as EFH, as well as the direct construction impacts.

Consistent with Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management 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 that recommendation. If it is not possible to provide a substantive response within 30 days, the USACE 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 it is received by NMFS at least 10 days prior to the signing of a FONSI for this action.

The NMFS is committed to continuing to work cooperatively with the NOD to facilitate planning on this effort. We appreciate the opportunity to review and comment on the draft SEA and unsigned FONSI.

Sincerely,

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

c:
NOD, Wilkinson, Behrens
FWS, Lafayette, Walther
EPA, Dallas, Keeler, Gutierrez
LA DNR, Consistency, Haydel
F/SER46, Swafford
F/SER4, Dale, Rolfes
Files

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

MAR 10 2016

REPLY TO
ATTENTION OF

Regional Planning and Environment
Division South
Environmental Planning Branch

Ms. Virginia M. Fay
Assistant Regional Administrator
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505

Dear Ms. Fay:

The U. S. Army Corps of Engineers, New Orleans District (CEMVN) received your agency's comments dated February 9, 2016 on the Draft Supplemental Environmental Assessment #537 (SEA #537) and Draft Finding of No Significant Impact (FONSI) for the New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana. As stated in your letter, the CEMVN is required to provide a detailed written response to your recommendations for essential fish habitat (EFH) conservation within 30 days of receipt of your letter. Please accept this as the CEMVN's detailed response to your comments on our draft SEA #537 and draft FONSI.

In response to General Comments that the National Marine Fisheries Service had regarding concerns that commitments made and incorporated into the 2011 Record of Decision have not been adhered to, the following response is provided:

The CEMVN will identify mitigation commitments that were made in the Record of Decision signed on 31 October 2011 in the final SEA #537 as recommended, and will provide a brief discussion of the Non-Federal Levees Project implementation history and the current status of all components of the project to include the development and schedule for release of Environmental Assessment #543 that will discuss mitigation plans. The CEMVN is currently working with the U. S. Fish and Wildlife Service to update the existing Wetland Valuation Assessments (WVAs) to include the time lag between the initiation of construction impacts and the completion of compensatory mitigation. To account for the delayed implementation of the mitigation features, the impact period of analysis was extended from 50 years to 57 years. Construction of

unmitigated flood reduction features started in April of 2013 and the construction of mitigation features is anticipated to begin in 2018. The results of the updated WVAs will be incorporated into the Final SEA #537 Mitigation Section indicating that EA #543 is being developed to address mitigation plans. The current schedule for the release of the draft EA #543 for public and agency review will be included in the discussion.

With regard to Specific Comments concerning the identified sections of the Draft SEA #537, the following responses are provided:

a. Section 2.0 Alternatives: This section will be updated to provide information for dates of initiation for construction activities and expected durations of construction for all five of the non-Federal levee (NFL) sections.

b. Section 3.0, Sub-section 3.5.2 Essential Fish Habitat: All reference to the Gulf Stone Crab will be deleted from paragraph 3 and Table 4 of this section, and information will be added for the Gray Snapper and Lane Snapper.

c. Section 4.0, Sub-section 4.1 Wetlands: WVAs are currently being updated to assess impacts to open water in NFL Sections 4 and 5 using the same methodology that was used for NFL Sections 1 and 3. Once the update is completed, the impacts to marsh and all open water areas categorized as EFH will be included in Table 9 of the final SEA #537.

d. Section 6.0 Mitigation: This section will be revised to include open water among the habitat categories requiring mitigation. With respect to your comment on this section: "The final SEA should further commit to offset such temporal impacts, as well as direct construction impacts, through the implementation of an appropriate mitigation plan;" the section will be updated to include a discussion of all impacts to wetlands and open water, to include temporal impacts as suggested, and will reference EA #543 that is being developed for mitigation as the CEMVN commitment to mitigate for identified impacts.

To ensure the conservation of EFH and associated fishery resources as proposed in your comments, the CEMVN is having the WVAs for the NFL project updated using methodology to assess the temporal impacts of the time lag between the initiation of construction and completion of mitigation. A mitigation plan is in development to offset direct construction related impacts to wetlands and water bottoms identified as EFH, and will include any additional temporal impacts identified in the updated WVAs. The EA #543 is being developed to assess mitigation sites and plans and the draft will be made available for agency and public review for a period of 45 days as committed to in the 2011 Record of Decision.

The CEMVN appreciates your review and comments on our draft SEA #537 and draft FONSI, and looks forward to continued coordination with the agency during planning and implementation of the proposed NFL project, and on EA #543 that is being developed for mitigation. If there are any questions concerning our responses, please contact Mr. Eric Williams, at (504) 862-2862, or by email at eric.m.williams@usace.army.mil.

Sincerely,

Richard L. Hansen
Colonel, U. S. Army
District Commander

cc:
Mr. David Walther
U.S. Fish and Wildlife Service
646 Cajundome Boulevard, Suite 400
Lafayette, Louisiana 70506

Ms. Barbara Keeler/6WQ
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Mr. Raul Gutierrez/6WQ
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Mr. Don Haydel, Administrator
Louisiana Department of Natural Resources
Interagency Affairs and Field Services Division
P.O. Box 44487
Baton Rouge, Louisiana 70821-4487

Williams, Eric MVN

From: Linda (Brown) Hardy <Linda.Hardy@la.gov>
Sent: Wednesday, February 10, 2016 9:38 AM
To: Williams, Eric MVN
Cc: Yasoob Zia
Subject: [EXTERNAL] DEQ SOV 160120/0065 Draft SEA #537 and Draft FONSI to Upgrade

February 10, 2016

Joan M. Exnicios, Chief

USACE Environmental Compliance Branch

P.O. Box 60267

New Orleans, LA 70160-0267

eric.m.williams@usace.army.mil <mailto:eric.m.williams@usace.army.mil>

RE: 160120/0065

Draft SEA #537 and Draft FONSI to Upgrade

West Bank of MS River between Oakvill and St. Jude

New Orleans District-Army Corps of Engineers

Plaquemines Parish

Dear Ms. Exnicios:

The Department of Environmental Quality (LDEQ), Business and Community Outreach Division has received your request for comments on the above referenced project.

After reviewing your request, the Department has no objections based on the information provided in your submittal. However, for your information, the following general comments have been included. Please be advised that if you should encounter a problem during the implementation of this project, you should immediately notify LDEQ's Single-Point-of-contact (SPOC) at (225) 219-3640.

* Please take any necessary steps to obtain and/or update all necessary approvals and environmental permits regarding this proposed project.

* If your project results in a discharge to waters of the state, submittal of a Louisiana Pollutant Discharge Elimination System (LPDES) application may be necessary.
* If the project results in a discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify its LPDES permit before accepting the additional wastewater.
* All precautions should be observed to control nonpoint source pollution from construction activities. LDEQ has stormwater general permits for construction areas equal to or greater than one acre. It is recommended that you contact the LDEQ Water Permits Division at (225) 219-9371 to determine if your proposed project requires a permit.

* If your project will include a sanitary wastewater treatment facility, a Sewage Sludge and Biosolids Use or Disposal Permit is required. An application or Notice of Intent will be required if the sludge management practice includes preparing biosolids for land application or preparing sewage sludge to be hauled to a landfill. Additional information may be obtained on the LDEQ website at Blockedhttp://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx <Blockedhttp://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx> or by contacting the LDEQ Water Permits Division at (225) 219- 9371.

* If any of the proposed work is located in wetlands or other areas subject to the jurisdiction of the U.S. Army Corps of Engineers, you should contact the Corps directly regarding permitting issues. If a Corps permit is required, part of the application process may involve a water quality certification from LDEQ.
* All precautions should be observed to protect the groundwater of the region.
* Please be advised that water softeners generate wastewaters that may require special limitations depending on local water quality considerations. Therefore if your water system improvements include water softeners, you are advised to contact the LDEQ Water Permits to determine if special water quality-based limitations will be necessary.
* Any renovation or remodeling must comply with LAC 33:III.Chapter 28, Lead-Based Paint Activities; LAC 33:III.Chapter 27, Asbestos-Containing Materials in Schools and State Buildings (includes all training and accreditation); and LAC 33:III.5151, Emission Standard for Asbestos for any renovations or demolitions.
* If any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents are encountered during the project, notification to LDEQ's Single-Point-of-Contact (SPOC) at (225) 219-3640 is required. Additionally, precautions should be taken to protect workers from these hazardous constituents.

Currently, Plaquemines Parish is classified as attainment with the National Ambient Air Quality Standards and has no general conformity determination obligations.

Please send all future requests to my attention. If you have any questions, please feel free to contact me at (225) 219-3954 or by email at linda.hardy@la.gov <mailto:linda.hardy@la.gov> .

Sincerely,

Linda M. Hardy

Louisiana Department of Environmental Quality

Office of the Secretary

P.O. Box 4301

Baton Rouge, LA 70821-4301

Ph: (225) 219-3954

Fax: (225) 219-3971

Email: linda.hardy@la.gov <mailto:linda.hardy@la.gov>

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

MAR - 8 2016

REPLY TO
ATTENTION OF

Regional Planning and Environment
Division South
Environmental Planning Branch

Ms. Linda M. Hardy
Louisiana Department of Environmental Quality
Office of the Secretary
P.O. Box 4301
Baton Rouge, Louisiana 70821-4301

Dear Ms. Hardy:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) received your agency's comments dated February 10, 2016 on the Supplemental Environmental Assessment #537 for the New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana. Enclosed are CEMVN's responses to these comments.

The CEMVN appreciates your comments and looks forward to coordinating with your agency on future National Environmental Protection Agency documents. If you have any questions, please contact Mr. Eric Williams at (504) 862-1002, or by email at eric.m.williams@usace.army.mil.

Sincerely,

Richard L. Hansen
Colonel, U.S. Army
District Commander

Enclosure

LDEQ Comments and USACE Responses

The Department of Environmental Quality (LDEQ), Business and Community Outreach Division has received your request for comments on the above referenced project.

After reviewing your request, the Department has no objections based on the information provided in your submittal. However, for your information, the following general comments have been included. Please be advised that if you should encounter a problem during the implementation of this project, you should immediately notify LDEQ's Single-Point-of-contact (SPOC) at (225) 219-3640.

LDEQ Comment: Please take any necessary steps to obtain and/or update all necessary approvals and environmental permits regarding this proposed project.

USACE Response: Concur. The USACE will obtain any and all approvals and permits required.

LDEQ Comment: If your project results in a discharge to waters of the state, submittal of a Louisiana Pollutant Discharge Elimination System (LPDES) application may be necessary.

USACE Response: Concur. If the project resulted in a point source discharge to waters of the state, an LPDES permit would be applied for if necessary.

LDEQ Comment: If the project results in a discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify its LPDES permit before accepting the additional wastewater.

USACE Response: NA. The project does not result in discharge of wastewater.

LDEQ Comment: All precautions should be observed to control nonpoint source pollution from construction activities. LDEQ has stormwater general permits for construction areas equal to or greater than one acre. It is recommended that you contact the LDEQ Water Permits Division at (225) 219-9371 to determine if your proposed project requires a permit.

USACE Response: Concur. A SWPPP will be included in the specifications.

LDEQ Comment: If your project will include a sanitary wastewater treatment facility, a Sewage Sludge and Biosolids Use or Disposal Permit is required. An application or Notice of Intent will be required if the sludge management practice includes preparing biosolids for land application or preparing sewage sludge to be hauled to a landfill. Additional information may be obtained on the LDEQ website at Blockedhttp://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx <Blockedhttp://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx> or by contacting the LDEQ Water Permits Division at (225) 219- 9371.

USACE Response: NA. The project does not include a sanitary wastewater treatment facility.

LDEQ Comment: If any of the proposed work is located in wetlands or other areas subject to the jurisdiction of the U.S. Army Corps of Engineers, you should contact the Corps directly regarding

permitting issues. If a Corps permit is required, part of the application process may involve a water quality certification from LDEQ.

USACE Response: NA. The USACE does not permit it's own projects.

LDEQ Comment: All precautions should be observed to protect the groundwater of the region.

USACE Response: Concur. All precautions will be taken and best management practices used to ensure the protection of groundwater of the region.

LDEQ Comment: Please be advised that water softeners generate wastewaters that may require special limitations depending on local water quality considerations. Therefore if your water system improvements include water softeners, you are advised to contact the LDEQ Water Permits to determine if special water quality-based limitations will be necessary.

USACE Response: NA. The project does not include the use of water softeners.

LDEQ Comment: Any renovation or remodeling must comply with LAC 33:III.Chapter 28, Lead-Based Paint Activities; LAC 33:III.Chapter 27, Asbestos-Containing Materials in Schools and State Buildings (includes all training and accreditation); and LAC 33:III.5151, Emission Standard for Asbestos for any renovations or demolitions.

USACE Response: NA. The project does not include renovations or remodeling.

LDEQ Comment: If any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents are encountered during the project, notification to LDEQ's Single-Point-of-Contact (SPOC) at (225) 219-3640 is required. Additionally, precautions should be taken to protect workers from these hazardous constituents.

USACE Response: Concur. There is a low probability of encountering HTRW or petroleum products in the proposed project area. Should hazardous waste or materials be encountered during the project, LDEQ's Single-Point-of-Contact would be notified and steps would be taken to protect workers from the hazardous constituents. Any soils or materials containing hazardous constituents would be disposed of at a permitted facility.

Currently, Jefferson, Lafourche, Plaquemines, and St. Charles Parishes are classified as attainment with the National Ambient Air Quality Standards and has no general conformity determination obligations.

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana
DEPARTMENT OF WILDLIFE AND FISHERIES

CHARLES J. MELANCON
SECRETARY

February 10, 2016

Attn: Joan M. Exnicios
Planning, Programs, and Project Management Division
Environmental Planning and Compliance Branch
United States Army Corps of Engineers
P. O. Box 60267
New Orleans, LA 70160-0267

RE: *Application Number: FONSI Supplemental EA #537*
Applicant: U.S. Army Corps of Engineers-New Orleans District
Notice Date: January 19, 2016

Dear Ms. Exnicios:

The professional staff of the Louisiana Department of Wildlife and Fisheries (LDWF) has reviewed the above referenced Public Notice for the proposed construction of a levee across Jefferson Lake Canal Marina Property as well as canal realignments and other modifications to the New Orleans to Venice non-federal levee enlargement, impacting approximately 422.1 acres of wetlands, in Plaquemines Parish, Louisiana. Based upon this review, the following has been determined:

The applicant shall implement adequate erosion/sediment control measures to insure that no fill material or other activity related debris are allowed to enter into adjacent wetlands. Establishing long-term stands of grass on exposed soil surfaces, and installation of erosion and sediment control blankets, silt fences, and/or straw bale barriers are conceivable control measures. These measures should be implemented immediately upon placement of fill material and maintained until all loose soils have been stabilized.

The applicant plans to address wetland mitigation efforts in Environmental Assessment #543. LDWF requests that that assessment be made available for agency review prior to the approval of any mitigation efforts associated with this project.

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,

Kyle F. Balkum
Biologist ~~Director~~

ZC

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

MAR 2 1 2016

REPLY TO
ATTENTION OF

Regional Planning and Environment
Division South
Environmental Planning Branch

Mr. Kyle F. Balkum
Biologist Director
Louisiana Department of Wildlife
and Fisheries
P.O. Box 9800
Baton Rouge, LA 70898-9000

Dear Mr. Balkum:

The U. S. Army Corps of Engineers, New Orleans District, (CEMVN) received your agency's comments dated February 10, 2016, on the draft Supplemental Environmental Assessment (SEA) #537 and draft Finding of No Significant Impact (FONSI) for the New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana. The CEMVN offers the following comments in response to your request that the following conditions be observed:

Comment 1: The applicant shall implement adequate erosion/sediment control measures to insure that no fill material or other activity related debris are allowed to enter into adjacent wetlands. Establishing long-term stands of grass on exposed soil surfaces, and installation of erosion and sediment control blankets, silt fences, and/or straw bale barriers are conceivable control measures. These measures should be implemented immediately upon placement of fill material and maintained until all loose soils have been stabilized.

CEMVN Response: Control measures and best management practices will be developed and implemented to prevent the erosion of sediment from exposed soil surfaces into adjacent wetlands. An approved Storm water Pollution Prevention Plan will detail best management practices to be implemented. All practicable steps will be taken to minimize impacts to wetlands.

Comment 2: The applicant plans to address wetland mitigation efforts in Environmental Assessment (EA) #543. Louisiana Department of Wildlife and Fisheries

(LDWF) requests that that assessment be made available for agency review prior to the approval of any mitigation efforts associated with this project.

CEMVN Response: Draft EA #543 will be made available for a 45-day agency and public review and comment period when completed. Bi-weekly Project Delivery Team (PDT) meetings are being conducted for the development of mitigation and EA #543, and LDWF staff have been invited to participate in these PDT meetings.

Thank you for your review and comments on our draft SEA #537 and FONSI. Should you have any further comments or require any additional information regarding our response, please contact Mr. Eric M. Williams at (504) 862-2862 or by email at eric.m.williams@usace.army.mil.

Sincerely,

Richard L. Hansen
Colonel, U. S. Army
District Commander

Enclosure

+U. S. Department of Homeland Security
FEMA Region 6
800 North Loop 288
Denton, TX 76209-3698

FEMA

FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION VI
MITIGATION DIVISION

NOTICE REVIEW/ENVIRONMENTAL CONSULTATION

☐ We have no comments to offer. ☒ We offer the following comments:

WE WOULD REQUEST THAT THE COMMUNITIES' FLOODPLAIN ADMINISTRATORS BE CONTACTED FOR THE REVIEW AND POSSIBLE PERMIT REQUIREMENTS FOR THIS PROJECT. IF FEDERALLY FUNDED, WE WOULD REQUEST PROJECT TO BE IN COMPLIANCE WITH EO11988 & EO 11990.

REVIEWER:

Mayra G. Diaz
Floodplain Management and Insurance Branch
Mitigation Division
(940) 898-5541

DATE: January 26, 2016

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

MAR 21 2016

REPLY TO
ATTENTION OF

Regional Planning and Environment
Division South
Environmental Planning Branch

Ms. Mayra G. Diaz
Certified Floodplain Manager
U. S. Department of Homeland Security
Federal Emergency Management
Agency Region 6
Floodplain Management and Insurance
Branch, Mitigation Division
800 North Loop 288
Denton, TX 76209-3698

Dear Ms. Diaz:

The U. S. Army Corps of Engineers, New Orleans District, (CEMVN) received your agency's comments dated January 26, 2016, on the Supplemental Environmental Assessment (SEA) #537 for the New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana; and your comments dated February 2, 2016, regarding the Clean Water Act Section 404(b) (1) public notice for the same project.

The actions described in SEA #537 are federally funded and are compliant with Executive Order 11988 and Executive Order 11990. The proposed action represents the least environmentally damaging alternative to accomplish the needed modifications to the non-Federal levees risk reduction system. Mitigation will be implemented for any unavoidable impacts to wetlands associated with the proposed action.

The CEMVN appreciates your comments on SEA #537 and the Section 404(b) (1) public notice. If there are any questions concerning our responses, please contact Mr. Eric Williams at (504) 862-2862 or by email at eric.m.williams@usace.army.mil.

Sincerely,

Richard L. Hansen
Colonel, U. S. Army
District Commander

ELOS
environmental
a wetland services company

March 9, 2016

Mr. Eric M. Williams
PDC-CEP
US Army Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160-0267

Re: Comments regarding NOV/NFL SEA No. 537 and 404(B)(1) Certification Public Notices

Dear Mr. Williams:

On behalf of Plaquemines Parish Government (PPG), ELOS Environmental LLC (ELOS) has reviewed the New Orleans to Venice Non-Federal Levee Supplemental Environmental Assessment (SEA) No. 537 and associated Finding of No Significant Impact (FONSI), and has the following comments to offer. PPG submits these remarks in order to gain clarification on the substantive provisions referenced.

1. **What is the Corps' authority for determining in the Supplemental Environmental Assessment (p 9) that the need to relocate the drainage canal is not part of USACE project activities?**

a. The SEA document states that the relocation is a result of the levee construction; therefore, by definition, this need is an impact on drainage capacity that must be addressed before a Finding of No Significant Impact (FONSI) can be determined. However, the SEA calls out the drainage canal as a separate responsibility of the Parish, but does not evaluate how the integrity of the drainage canal system as part of the overall Federal project will be affected by this arrangement. The SEA also fails to discuss how the connectivity between the segments designed by USACE and segments designed by PPG operate as one complete system that is necessary for the project to function. The SEA does not mention the portions of the drainage system that are being designed by the USACE.

b. In addition, Par. 3.6 Planning Objective, #4 of the original EIS says *"**Minimize impacts to existing stormwater drainage canals.** Any structural plan should maintain the existing stormwater drainage pattern, which is generally assumed to be westward from the Mississippi River toward the existing NFL system, and then north or south toward the closest existing pump station. If a proposed levee footprint were to cut across or cover an existing drainage canal, the plan should provide a new drainage canal or structure along the protected side of the new levee alignment that extends to the existing pump station or any relocated pump station."*

2. **What is the rationale for the Corps holding PPG responsible for environmental permitting for the relocation of the drainage canal?**

a. PPG in good faith, provided an environmental assessment document for the drainage canal as a supplement to the original Final Environmental Impact Statement (FEIS) in coordination and agreement with the USACE with the understanding that this process fulfilled the regulatory requirements for the project. If the drainage canal project is a separate project as the USACE suggests in the SEA, then why was the PPG asked to prepare an environmental assessment and not

a permit application for the project in the first place? How does the USACE justify that both are required since the SEA already satisfies all regulatory requirements?

b. If, however, an individual permit were required by USACE Regulatory and compensatory mitigation other than what is stated in the SEA were assessed, this requirement would delay the project. If there exists an overriding rationale for implementing the project contrary to the Corps' stated goal to persecute these projects in a timely manner, this rationale should be made clear.

c. The sensible path forward seems to be that the compensatory mitigation required by the canal relocation and lateral extension portions of this project be included in the pending Supplemental Environmental Assessment No. 543 and also be included in the overall effort being made by the Corps to mitigate for all impacts from the NOV/NFL Project.

d. PPG would like any response to these comments to confirm that required mitigation for its portion of the overall project will be addressed and included in the overall project mitigation effort, and that PPG will not be expected to conduct its own independent individual permitting effort and subsequent search for available mitigation, thereby delaying the commencement of the NOV/NFL Project timeline.

The basis for these comments are as follows: The FEIS states:

Page 9, Par. 1.29, last sentence: "*Impacts associated with project construction will be mitigated concurrently with construction activities. The project will be accomplished in segments with mitigation concurrent with each constructed segment. While the possibility exists that 100 percent of the project may not be constructed; whatever portion of the project that is constructed will be fully mitigated.*"

It also lists the project authorities (which are also referenced in the FEIS and the SEA) that state that the projects are to be at *full federal expense* and that they must be prosecuted in a timely manner:

PROJECT AUTHORITY 3.9. Congress and the Administration granted a series of supplemental appropriations acts following Hurricanes Katrina and Rita to repair or improve Federal and non-Federal flood control projects and related works in the affected area. The New Orleans and Vicksburg Districts conducted the study described in this document under the authorities described below:

1. Under these authorities, a total of $671,000,000 is allocated for construction *at full Federal expense* to replace or *modify the non-Federal levees on the west bank in Plaquemines Parish from Oakville to St. Jude and incorporate the levees into the Federal levee system* for the purpose of providing enhanced storm surge protection and protection of the evacuation route.

2. The Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery of 2006 (4th Supplemental - Public Law 109-234, Title II, Chapter 3, Flood Control and Coastal Emergencies [120 STAT. 454-455]) provides: "For an additional amount for 'Flood Control and Coastal Emergencies,' as authorized by section 5 of the Act of August 18, 1941 (33 U.S.C. 701n), for necessary expenses relating to the consequences of Hurricane Katrina and other hurricanes, $3,145,024,000, to remain available until expended: Provided, that the Secretary of the Army is directed to use the funds appropriated under this heading to modify, at full Federal expense, authorized projects in southeast Louisiana to provide hurricane and storm damage reduction and flood damage reduction in the greater New Orleans and surrounding areas; . . . *$215,000,000 shall be used to replace or modify certain non-Federal levees in Plaquemines Parish to incorporate the levees into the existing New Orleans to Venice hurricane protection project; . . . .*" The

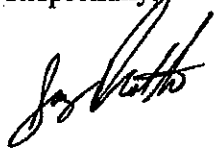
Flood Control and Coastal Emergencies Section of Title II, Chapter 3, of the Joint Explanatory Statement of the Committee of Conference, page 115, states: "Funds totaling $3,145,024,000 are recommended to continue repairs to flood and storm damage reduction projects . . . *These projects are to be funded at full Federal expense . . . Additionally, the Conferees include: . . . $215,000,000 for incorporation of non-Federal levees on the west bank of the Mississippi River in Plaquemines Parish in order to provide improved storm surge protection and to protect evacuations routes; . . . .*"

3. The U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (5th Supplemental - Public Law 110-28, Title IV, Chapter 3, Flood Control and Coastal Emergencies [121 STAT. 153-154]) provides: "For an additional amount for 'Flood Control and Coastal Emergencies,' as authorized by section 5 of the Act of August 18, 1941 (33 U.S.C. 701n), for necessary expenses relating to the consequences of Hurricanes Katrina and Rita and for other purposes, $1,407,700,000, to remain available until expended: *Provided, . . . The Secretary of the Army is . . . to prosecute these projects in a manner which* ***promotes the goal of continuing work at an optimal pace, while maximizing, to the greatest extent practicable, levels of protection*** *to reduce the risk of storm damage to people and property . . . .*"

4. The Supplemental Appropriations Act, 2008 (6th Supplemental – Public Law 110-252, Title III, Chapter 3, Flood Control and Coastal Emergencies [122 STAT. 2349-2350]) provides: "For an additional amount for 'Flood Control and Coastal Emergencies,' as authorized by section 5 of the Act of August 18, 1941 (33 U.S.C. 701n), for necessary expenses relating to the consequences of Hurricane Katrina and other hurricanes of the 2005 season, $2,926,000,000, to become available on October 1, 2008, and to remain available until expended: Provided, That funds provided herein shall be used to reduce the risk of hurricane and storm damages to the greater New Orleans metropolitan area, *at full Federal expense, for the following: . . . $456,000,000 shall be used to replace or modify certain non-Federal levees in Plaquemines Parish to incorporate the levees into the existing New Orleans to Venice hurricane protection project; . . . .*"

PPG provides the above comments in the spirit of cooperation and in the interest of providing timely and effective hurricane protection and drainage for the residents of southern Plaquemines Parish. We appreciate the opportunity to comment on the Supplemental Environmental Assessment #537 and associated Finding of No Significant Impact.

Respectfully,



Jay Prather
Vice President
ELOS Environmental, LLC

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

MAR 2 5 2016

REPLY TO
ATTENTION OF

Regional Planning and Environment
Division South
Environmental Planning Branch

Mr. Jay Prather
Vice President
ELOS Environmental, LLC
43177 E. Pleasant Ridge Road
Hammond, Louisiana 70403

Dear Mr. Prather:

The U. S. Army Corps of Engineers, New Orleans District (CEMVN) received your comments submitted on behalf of the Plaquemines Parish Government (PPG) dated February 17, 2016, regarding the Supplemental Environmental Assessment (SEA) #537 for the New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Plaquemines Parish, Louisiana (NOV/NFL). I offer the following brief responses to your comments, and for a more detailed response please see the enclosure to this letter.

The purpose of the NOV/NFL project is to provide hurricane and storm damage risk reduction to Plaquemines Parish. There is general authority to compensate for the relocation of facilities, such as the drainage canal and lateral ditches, as a result of the construction of the NOV/NFL project. The fact that the Federal project must pay for the drainage canal's relocation as a compensable relocation does not make it part of the Federal project. With the execution of the Cost Reimbursement Agreement (CRA) signed by both parties on 6 March 2015, the PPG agreed to relocate the drainage canal to their preferred location as a compensable relocation as the "owner" of the public drainage canal. In Article 1 of the CRA, the PPG agreed to responsibility for obtaining all permits and approvals necessary to comply with Federal, State and local laws, rules, regulations, and orders.

Because the relocation of the drainage canal and associated lateral ditches has been determined to be a result of the Federal project and is a compensable relocation, the CEMVN will reimburse the PPG for the costs of mitigation for impacts to wetlands. The PPG can submit a formal request to the CEMVN to undertake mitigation on its behalf as part of the mitigation plan being developed with Environmental Assessment #543. Such request and agreement would have to be formalized in a Memorandum of Understanding between the CEMVN and the PPG.

I appreciate your comments and look forward to continued cooperation with the Plaquemines Parish Government on the NOV/NFL project. Your comments and the responses included in the enclosure will be included as an appendix to the final SEA #537 and will be considered in my decision to sign the Finding of No Significant Impact for the proposed action. Should you have any questions concerning the responses to your comments or SEA #537, please contact Mr. Eric Williams at (504) 862-2862, or Mr. Kevin Wagner at (504) 862-2509.

Sincerely,

Richard L. Hansen
Colonel, U. S. Army
District Commander

Enclosure
cc (with enclosure):

Mr. Blair Rittiner
Land Department
Plaquemines Parish Government
8056 Highway 23, Suite 2000
Belle Chasse, Louisiana 70037

Detailed response to comments received from ELOS Environmental LLC on behalf of the Plaquemines Parish Government.

ELOS Comment #1: What is the Corps' authority for determining in the Supplemental Environmental Assessment (p. 9) that the need to relocate the drainage canal is not part of USACE project activities?

CEMVN Response: The NOV/NFL project is to provide hurricane and storm damage risk reduction to Plaquemines Parish. There is no authority in the legislation to perform interior drainage work. There is general authority to pay for the relocation of facilities that interfere with the construction of the project. PPG's drainage canal is such an interfering facility. As the canal is not within existing project right-of-way, the project is obligated to pay the cost for relocating the canal to afford a degree of serviceability comparable to that possessed by the existing facility at the least cost to the project. (Appendix Q Section Q-73-205). The fact that the project must pay for the canal's relocation does not make it part of the Federal project. The same applies to the numerous oil and gas pipelines, power lines, roads, sewer lines and water lines that the project has had to pay to relocate part of the project.

With the execution of the Cost Reimbursement Agreement's (CRA) for NOV-NF-W-05a.1 and -06a.1 and -06a.2, the PPG agreed to relocate the canal to their preferred location as a compensable relocation as the "owner" of the public drainage canal. The responsibility for obtaining all permits and approvals necessary to comply with all Federal, State and local laws, rules, regulations, and orders applicable to the work to be performed and completed by the owner including a Department of the Army Section 404 permit to the extent any work is performed in wetlands was one of the items that the PPG agreed to upon execution of the CRA signed by both parties on 6 March 2015 (see Articles 1. Obligation of the Owner (a) and (d) in the CRA).

ELOS Comment #2: What is the rationale for the Corps holding PPG responsible for environmental permitting for the relocation of the drainage canal?

CEMVN Response: The Environmental Assessment provided by the PPG consultant (ELOS Environmental, LLC) included only Sections 1 – 3 and did not include an analysis of potential impacts or cumulative effects resulting from work associated with the relocation of the drainage canal and lateral ditches.

The Corps does not issue itself permits under any of the regulatory authorities that it administers. As stated in Regulatory Guidance Letter (RGL) 88-09 (referenced in your letter dated February 22, 2016, enclosed), "If a party other than the Corps, usually the local sponsor, opts to construct the project in lieu of the Corps, that party needs a permit." The PPG has opted to design and construct the drainage canal and lateral ditches in a location that is desirable to meet the PPG's needs, and in lieu of the Corps action. For this reason, the drainage canal and lateral ditches are not part of the Federal project.

Enclosure

The relocation of the main drainage canal is a result of the proposed action, and it is therefore compensable. However, the location preferred by PPG is not the alternative that would have been selected by the CEMVN as the least costly reasonable substitute for the original canal. Additionally, the location chosen by the PPG requires the construction of lateral ditches in order to improve interior drainage. Interior drainage is not an authorized project purpose for increasing hurricane and storm damage risk reduction in Plaquemines Parish. As such, the additional costs required for the construction of the lateral ditches – ditches which are necessitated by the use of PPG's preferred location for the drainage canal - are the responsibility of the non-Federal sponsor.

Since the relocation of the main drainage canal is a result of the Federal project and is a compensable relocation, the Corps will reimburse the PPG for the costs of mitigation for impacts to wetlands. The PPG can submit a formal request to the Corps to undertake mitigation on its behalf as part of the mitigation plan being developed with Environmental Assessment #543. Such request and agreement would have to be formalized in a Memorandum of Understanding between the Corps and the PPG. Because the construction of the lateral ditches for the purpose of improving interior drainage is not a compensable relocation, nor a part of the Federal project, the PPG is responsible for any mitigation for impacts to wetlands resulting from the lateral ditches. The PPG can formally request that the Corps undertake mitigation on its behalf, but PPG would be responsible for all such costs and required to provide the full amount of the funds for such work prior to the Corps incurring any financial obligation, and the agreement must be formalized by a Memorandum of Agreement.

The Corps does comply with the National Environmental Policy Act (NEPA) and other applicable environmental laws and regulations for its civil works project. The work to relocate the drainage canal and lateral ditches was included in the SEA #537, Clean Water Act Section 404(b) (1) evaluation and public notice, and other agency coordination efforts in order to allow the PPG to reference CEMVN environmental documentation for the purpose of obtaining any required regulatory and environmental permits, and to streamline the permit application process. Corps regulations do not exempt local sponsors from necessary permitting requirements. In accordance with RGL 88-09 and Article 1 of the CRA, the PPG is required to submit a permit application to CEMVN Regulatory.

APPENDIX B

Jefferson Lake Canal Documents

Jefferson Lake Canal Information Sheet for the New Orleans to Venice Hurricane Protection Project

Background: In 2009, the CEMVN performed a *Phase II Environmental Site Assessment* (ESA) for the Jefferson Lake Canal Site, Plaquemines Parish, Louisiana. The site is located at approximately 25076 LA Highway 23 in West Pointe à la Hache and consists of approximately five acres of marsh land improved with a marina and canal (Figure 1). The Parish had proposed reuse of the property as a public dock to support the local fishing industry, ecotourism excursions, and fishing expeditions. Such reuse was complicated by prior mishandling of petroleum products and wastes during operation of the site as a transfer station for commercial supply vessels beginning in the early 1950s. The mishandling included the improper storage of wastes on the property (as recently as 2002) and resulted in the accumulation of wastes in soils of the property. The 2009 ESA was intended to re-assess site conditions and make recommendations for any further necessary actions to remediate the property to a condition appropriate for the Parish's proposed reuse.

After review of the 2009 ESA, the LDEQ's Remediation Services Division issued a *No Further Action* notification (Attached - AI Number 121820; January 6, 2011). The notification's *Basis of Decision* included site-specific remedial standards, and a table noting that the maximum remaining contaminants present in the site's soils and groundwater were at concentrations below these standards. Marina sediments were not included in the *Basis of Decision*, and noted as having PAH signatures indicative of automobile and marine exhaust at background levels common throughout the New Orleans region. The notification stipulated that change in land-use from industrial to non-industrial would require re-evaluation; and that no soils could be moved from the site without written authorization from LDEQ unless they were removed and disposed at a permitted disposal facility.

Overview of Proposed Levee Construction Activities

As part of the New Orleans to Venice, Louisiana, Hurricane Protection project (NOV), a levee would be constructed across the Jefferson Lake Canal property. Construction of the levee segment may be divided into land- and marine-based activities (Figure 2).

Land-Based Activities: Tracked vehicles (including excavators, backhoes, and bulldozers) would clear and grub grounds within the levee footprint. Clearing and grubbing would include the removal of vegetation, excavation of the top 3 feet of soil and debris, and leveling of the excavated area. A 3-foot thick base layer of sand would be placed on top of all excavated grounds before construction of the levee. All excavated materials would be disposed of at a permitted disposal facility.

Marine-Based Activities: Docks within the levee footprint would be demolished, and piles would be cut at the mud-line. Dock and pile debris would be hauled to a permitted disposal facility.

Approximately 30,000 cubic yards of sand would be placed within the marina to form a stable base for the levee, with fill placement beginning near Highway 23 at the project's protected-side levee toe and progressing south-southwest towards the Jefferson Lake Canal and the project's flood-side levee toe. The sand would completely fill the marina to the water's surface. The sand base would cover approximate 90,000 square-feet, and would have a maximum thickness of about 8-feet. Equipment including front-end loaders, bulldozers, and long-reach excavators would be used to place the fill.

It is anticipated that a portion of the existing marina sediments would be displaced during construction of the levee base (in addition to sediments that are buried and compacted under the sand). The marina sediments have a moisture content generally above 60%, and may be displaced as a mud-wave propagating towards the Jefferson Lake Canal. To accommodate the sand base, a long-reach excavator with an approximate boom reach of 80-feet would be used to "push" the mud-wave towards the canal. A maximum of 9,000 cubic yards of marina sediment could be displaced during construction of the sand base. Displaced material that is not buried by the sand would migrate down the canal beyond the flood-side levee toe thru propagation of the mud-wave aided by mechanical degradation.

Environmental Compliance Approach

The CEMVN believes all Land-Based Activities would be consistent with the 2011 *No Further Action* notification because all excavated soils from the property would be disposed of at a permitted disposal facility. These activities will be evaluated as part of a supplemental NEPA document for the NOV project, but no further testing or permitting would be performed (beyond those required by the disposal facility to accept the waste).

The CEMVN will evaluate all Marine-Based Activities in the NOV project's supplemental NEPA document and thru Clean Water Act procedures (i.e., application for a 401 Water Quality Certificate and preparation of a 404(b)(1) evaluation). The evaluation will utilize data from the 2009 ESA to gauge the ecological significance of contaminants in the mud-wave, and include modeled predictions of contaminant concentration in effluent produced during its mechanical degradation. Our preliminary determination is consistent with findings of the 2011 *No Further Action* notification that "...the concentration of (contaminants) detected in Jefferson Lake Canal are unlikely to have an adverse ecological effect on benthic organisms" (Tables 1 and 2). Based on this preliminary determination, no further testing of marina sediments is warranted.

Table 1. Sediment chemistry results from four sediment samples collected in the Jefferson Lake Canal Marina. NOAA sediment quality quidelines (Freshwater Probable Effects Level (PEL) and Saltwater Effectcs Range Median (ER-M)) are provided to gauge the probability of toxic effects to the benthos from exposure to the mud-wave. Values exceeding a benchmark are highlighted.

Class	Analyte	Units	Sample Site (2009 ESA)					Sediment Benchmarks	
			S1	S2	S3	S4	S4-Dup	Freshwater PEL or PEC*	Saltwater ER-M
Metals	Arsenic	mg/kg	3.2	2.7	4.0	3.0	2.4	17	70
	Barium	mg/kg	150	140	270	280	190	.	.
	Cadmium	mg/kg	0.29	0.31	0.37	0.65	0.30	3.5	9.6
	Chromium	mg/kg	13	12	15	13	15	90	370
	Silver	mg/kg	0.072	0.055	0.084	0.072	0.058	.	3.7
	Lead	mg/kg	13	12	21	21	14	91	218
	Selenium	mg/kg	0.29	0.30	0.27	0.23	0.20	.	.
	Mercury	mg/kg	0.033	0.045	0.049	0.045	0.035	0.49	0.71
Low-Molecular Weight PAHs	Naphthalene	µg/kg	<3.4	<3.4	<3.4	3.9	4.1	391	2,100
	2-Methylnaphthalene	µg/kg	<3.8	<3.8	<3.8	<3.8	<3.8	.	670
	Acenaphthylene	µg/kg	5.3	8.8	20	18	14	128	640
	Acenaphthene	µg/kg	<3.5	110	110	67	140	89	500
	Fluorene	µg/kg	<2.9	120	50	10	16	144	540
	Phenanthrene	µg/kg	<3.8	360	200	22	34	515	1,500
	Anthracene	µg/kg	<4.4	66	44	62	71	245	1,100
	Sum LMW-PAH	µg/kg	5.3	665	424	183	279	.	3,160
High-Molecular Weight PAHs	Fluoranthene	µg/kg	280	530	970	1,100	780	2,355	5,100
	Pyrene	µg/kg	200	670	920	1,000	820	875	2,600
	Benzo (a) anthracene	µg/kg	50	130	320	370	410	385	1,600
	Chrysene	µg/kg	110	210	660	500	450	862	2,800
	Benzo (b) fluoranthene	µg/kg	130	280	540	710	630	.	.
	Benzo (k) fluoranthene	µg/kg	28	61	250	230	200	.	.
	Benzo (a) pyrene	µg/kg	38	84	280	360	210	782	1,600
	Indeno (1,2,3-cd) pyrene	µg/kg	42	76	200	260	140	.	.
	Dibenz (a,h) anthracene	µg/kg	17	30	75	110	53	135	260
	Sum HMW-PAH	µg/kg	895	2,071	4,215	4,640	3,693	.	9,600
Other	Total PAH	µg/kg	900	2,736	4,639	4,823	3,972	22,800*	44,792
	DRO (C10-C28)	mg/kg	92	110	160	60	46	.	.
	MRO (C28-C40)	mg/kg	140	190	260	99	70	.	.
	Moisture	%	60	67	54	66	66	.	.

* Probable Effect Concentration (PEC)

Table 2. Predicted maximum porewater concentration in marina sediments that may be released to the water column during mechanical degradation. The lowest available state or federal water quality criterion (WQC) are provided to gauge potential toxicity of effluent released during mechanical degradation. Note that allowances for mixing were not included in the modeled releases.

Class	Analyte	Units	Maximum Predicted Porewater Concentration	Lowest Available Acute Criterion Freshwater	Lowest Available Acute Criterion Saltwater
Metals	Arsenic	µg/l	14	340	69
	Barium	µg/l	.	.	.
	Cadmium	µg/l	0.98	4.3	42
	Chromium	µg/l	0.56	310	515
	Silver	µg/l	0.14	3.4	1.9
	Lead	µg/l	4.4	30	209
	Selenium	µg/l	41	185	290
	Mercury	µg/l	0.012	1.4	1.9
Low-Molecular Weight PAHs	Naphthalene	µg/l	0.10	.	.
	2-Methylnaphthalene	µg/l	.	.	.
	Acenaphthylene	µg/l	0.12	.	.
	Acenaphthene	µg/l	0.99	.	.
	Fluorene	µg/l	0.49	.	.
	Phenanthrene	µg/l	0.91	.	.
	Anthracene	µg/l	0.17	.	.
	Sum LMW-PAH	µg/l	2.8	.	.
High-Molecular Weight PAHs	Fluoranthene	µg/l	1.1	.	.
	Pyrene	µg/l	1.1	.	.
	Benzo (a) anthracene	µg/l	0.32	.	.
	Chrysene	µg/l	0.51	.	.
	Benzo (b) fluoranthene	µg/l	0.50	.	.
	Benzo (k) fluoranthene	µg/l	0.17	.	.
	Benzo (a) pyrene	µg/l	0.26	.	.
	Indeno (1,2,3-cd) pyrene	µg/l	0.18	.	.
	Dibenz (a,h) anthracene	µg/l	0.07	.	.
	Sum HMW-PAH	µg/l	4.2	.	.

BOBBY JINDAL
GOVERNOR

PEGGY M. HATCH
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL COMPLIANCE

JAN 06 2011

CERTIFIED – RETURN RECEIPT REQUESTED (7003 2260 0005 9326 2482)

Mr. Ken Dugas
Plaquemine Parish Engineering & Public Works
102 Avenue G
Belle Chase, Louisiana 70037

RE: No Further Action Notification
Jefferson Lake Canal Boat Dock; AI Number 121820
LA Hwy 23 (Across from Water Treatment Plant)
West Pointe a la Hache, Plaquemine Parish, Louisiana

Dear Mr. Dugas:

The Louisiana Department of Environmental Quality – Remediation Services Division (LDEQ-RSD) has completed its review of your Risk Evaluation/Corrective Action Program (RECAP) Report, dated December 4, 2009 for the above referenced area of investigation located on LA Hwy 23 (Across from Water Treatment Plant) in Plaquemine. Based on our review of this document and all previously submitted information, we have determined that no further action is necessary at this time. The Basis of Decision for this notification is attached.

No soils may be removed from this site without prior approval from LDEQ unless they are removed and disposed at a permitted disposal facility.

If you have any questions or need further information, please call Dr. Larry E. Kirschner at (225) 219-3669. Thank you for your cooperation in addressing this area.

Sincerely,

Thomas F. Harris, Administrator
USTRD

lek

Post Office Box 4312 • Baton Rouge, Louisiana 70821-4312 • Phone 225-219-3041 • Fax 225-219-3154

Attachment: Basis Of Decision

c: Imaging Operations – Solid Waste

Rebecca Otte
Environmental Planner Regional Planning Commission
1340 Poydras Street, Suite 2100
New Orleans, LA 70112

David Reel
EPA Project Manager
EPA Region 6
1445 Ross Ave., 12th Fl.
Dallas, Texas 75202

Jennifer Lindquist
GEC, Inc.
9357 Interline Avenue
Baton Rouge, Louisiana 70809

BASIS OF DECISION FOR NO FURTHER ACTION

Jefferson Lake Canal Boat Dock
AI# 121820

The Louisiana Department of Environmental Quality – Remediation Services Division (LDEQ-RSD) has determined that Jefferson Lake Canal Boat Dock requires No Further Action At This Time.

The Jefferson Lake Canal was created between 1948 and 1962 to provide access between Grand Bayou to the west and LA Highway 23 by oil field and sulfur mine operators to transport equipment and materials by water. The property was used as a port/marina facility that served as a transfer station for these operations.

A Phase I Environmental Site Assessment (ESA) conducted at the property in 2001 and the subsequent Phase II ESA conducted in 2002 concluded that past uses of the property constituted recognized environmental conditions (REC). The Phase II ESA involved sampling shallow soils and sediments within the marina for metals, volatile and semivolatile organics, and total petroleum hydrocarbons (TPH), and concluded that sediment in the marina contained semivolatile organic compounds in excess of applicabl e standards; that soils contained diesel fuel compounds and arsenic in excess of applicable standards; and that abandoned drums on the property contained gasoline compounds.

A second Phase I ESA was conducted in January 2009 that confirmed potential REC to remain at the property. A Phase II ESA completed in February 2009 indicated that soils, groundwater, and sediments have been impacted by past operation and REC at the property. The 2009 Phase II ESA determined that diesel range organics (DRO) and oil range organics (ORO) are present in the soils at the subject property; that arsenic, barium, lead, DRO and 2-methylnaphthalene are present in the groundwater. Concentrations of several metals and polycyclic aromatic hydrocarbons (PAHs) in the sediment exceed National Oceanic and Atmospheric Agency Screening Quick Reference Tables (SQuiRTs) concentrations as well. A review of literature relating to sediment concentrations of barium and PAHs and their background levels in the New Orleans region indicates that the concentrations of these COCs detected at Jefferson Lake Canal are consistent with those found in sediments throughout the New Orleans region. A comparison of peer-reviewed sediment quality guidelines for both freshwater and marine scenarios indicates that the concentrations of PAHs detected at Jefferson Lake Canal are unlikely to have an adverse ecological effect on benthic organisms. Analysis of the 2009 Phase II ESA sediment data in accordance with peer-reviewed, published methodologies indicates that the PAHs detected in the Jefferson Lake Canals sediments are likely derived from automobile and/or marine exhaust, rather than fuel spills directly into the marina water and sediments. Consequently, COCs in the Jefferson Lake Canal sediment are not included in the Basis for Decision for the NFA-ATT.

Remedial standards were developed for this property using LDEQ's Management Option 1 (MO-1) Industrial standards. Based on current and future land use, location of existing area wells, and a hydraulic yield of 270 gallons per day, site groundwater is classified as $GW3_{NDW}$.

Soil and groundwater sampling has confirmed that constituents of concern concentrations do not exceed the established site-specific remediation standards, so no remedial action was required. No

Further Action At This Time is granted when contamination is confirmed to exist at concentrations that do not exceed the established standards.

In accordance with LAC 33:I. Chapter 13, if land use is going to be changed from industrial to non-industrial, the responsible party shall notify the LDEQ within thirty (30) days and the Agency Interest/Area of Investigation shall be reevaluated to determine if conditions are appropriate for the proposed land use. Future use may dictate additional remedial activities. A conveyance notice has been filed with the Plaquemine Parish Clerk of Court noting that the AI was closed under industrial standards.

An inspection of the site was performed on December 20, 2010 confirming that no investigation derived waste remains on site. No soils may be moved from this location without written authorization from the LDEQ unless they are removed and disposed at a permitted disposal facility.

The impacted media, constituents of concern, maximum concentration remaining on site and limiting RECAP standards established for this site as are listed in Table 1. Constituents of concern and their concentrations in sediment are shown in Table 1.

Table 1

Medium	Constituent of Concern	Maximum Remaining Concentration	Limiting RECAP Standard: MO-1 GW3ndw
Soil (mg/kg)	DRO	980	5100
Groundwater (mg/l)	Arsenic	0.044	0.05
	Barium	4.9	45
	Lead	0.049	0.05
	2-methylnaphthalene	0.011	0.027
	DRO	2.6	24

Additional information on the details of the investigation and evaluation of this site may be obtained from LDEQ's Public Records Center located in the Galvez Building, Room 127, 602 N. Fifth Street, Baton Rouge, LA 70802. Additional information regarding the Public Records may be obtained by calling (225) 219-3168 or by emailing publicrecords@la.gov.

APPENDIX C

Final Fish and Wildlife Coordination Act Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
646 Cajundome Blvd.
Suite 400
Lafayette, Louisiana 70506

March 10, 2016

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

Dear Colonel Hansen:

Please find enclosed the Fish and Wildlife Coordination Act Report for the proposed New Orleans to Venice, Louisiana, Hurricane Protection Project (NOV) – Incorporation of Nonfederal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana (NFL), project. This report is transmitted under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 United States Code (U.S.C.) 661 et seq.). The National Marine Fisheries Service and Louisiana Department of Wildlife and Fisheries were previously provided a copy for comment; their comments have been incorporated into our this report.

Should your staff have any questions regarding the enclosed report, please have them contact David Walther of this office at 337/291-3122.

Sincerely,

for Brad Rieck
Acting Supervisor
Louisiana Field Office

Enclosure

cc: EPA, Dallas, TX
NMFS, Baton Rouge, LA
LDWF, Baton Rouge, LA
LDNR, CMD, Baton Rouge, LA
OCPR, Baton Rouge, LA

Fish and Wildlife Coordination Act Report

New Orleans to Venice, LA, Hurricane Protection Project: Incorporation of Nonfederal Levees from Oakville to St. Jude Plaquemines Parish, Louisiana

Provided to:
U.S. Army Corps of Engineers
New Orleans, Louisiana

Prepared by:
Brigette Firmin and David Walther
Ecological Services
Lafayette, Louisiana

U.S. Fish and Wildlife Service
Southeast Region
Atlanta, Georgia

March 2016

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The U.S. Fish and Wildlife Service (Service) has prepared this Fish and Wildlife Coordination Act Report for the proposed New Orleans to Venice, Louisiana, Hurricane Protection Project (NOV) – Incorporation of Nonfederal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana (NFL), under the authority of the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 United States Code (U.S.C.) 661 et seq.). The U.S. Army Corps of Engineers, Vicksburg District (Corps) is preparing an Environmental Assessment (EA) 537 to fulfill the Corps' compliance with the National Environmental Policy Act (NEPA) of 1969 (83 Stat. 852; 42 U.S.C. 4321 et seq.). Work proposed in that EA would be conducted under the authority of Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (Supplemental 4). That law authorized the Corps to upgrade and incorporate certain nonfederal levees into the existing NOV project in Plaquemines Parish, Louisiana.

This report contains a description of the existing fish and wildlife resources of the project area, discusses future with- and without-project habitat conditions, identifies fish and wildlife-related impacts of the proposed project, and provides recommendations for the proposed project. This report incorporates and supplements the November 26, 2007, Draft Programmatic FWCA Report that addresses the hurricane protection improvements authorized in Supplemental 4; our draft and final reports on this project dated December 20, 2010, and April 27, 2011, respectively and our draft January 2016 report. Impacts and mitigation needs resulting from government and contractor provided borrow areas have been addressed in the October 25, 2007, and November 1, 2007, FWCA Reports, respectively; therefore, this report will not address those project features, however, if borrow sites not addressed in those reports are utilized then additional coordination and possible reporting may be required. This document constitutes the report of the Secretary of the Interior as required by Section 2(b) of the FWCA. This report has been provided to the Louisiana Department of Wildlife and Fisheries (LDWF) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) for comment; their comments have been incorporated into this report.

The NFL study area is located within the Barataria Basin of the Mississippi River Deltaic Plain of the Lower Mississippi River Ecosystem. It is defined by the Mississippi River to the east; forested and emergent wetlands to the west; a forested and emergent marsh complex and the town of Oakville, Louisiana, to the north; and the NOV hurricane protection system, emergent marsh, and the town of Magnolia, Louisiana, to the south. Within the NFL hurricane protection system, natural levees and lower lying wetlands have been leveed and drained to accommodate residential, commercial, and agricultural development; however, a majority of the land remains undeveloped. Undeveloped lands generally consist of bottomland hardwood and scrub-shrub habitats.

Study area wetlands support nationally important fish and wildlife resources including fresh marsh and cypress swamp. Factors that will strongly influence future fish and wildlife resource conditions outside of the protection levees include freshwater and sediment input and loss of coastal wetlands. Regardless of which of the above factors ultimately has the greatest influence, emergent wetlands within and adjacent to the project area will likely experience losses due to subsidence, erosion, and relative sea-level rise.

The Corps' selected alternative in the previous Final Environmental Impact Statement's (FEIS) included raising the existing hurricane protection levee system to provide a 50-year (yr) level of protection. However, a risk analysis that was prepared for the project recommended changing the level of flood risk reduction from 50-yr to approximately 25-yr for two NFL reaches (i.e., Sections 2 and 3). The decreased level of risk reduction in some of the reaches would make it possible to expand some level of flood protection throughout NFL Sections 1-5 and increase the level of risk reduction in areas that currently have limited or no flood protection.

The proposed change would require changes to the project's design that would result in realignments of the levees and floodwalls, as well as the need for additional access roads, staging areas, ramps, and other temporary work easements that were identified during design and not accounted for in the FEIS. Table 1 identifies the levels of risk reduction that are proposed in each of the NFL Sections and contract reaches and Table 2 displays habitat impacts for the current proposed flood risk reduction levels.

Table 1. Levels of Risk Reduction by NFL Section.

Section	Location	Structure Type	Level of Risk Reduction
1	Oakville to LaReussite	Levee	50-year/2%
1	Oakville to LaReussite	T-Wall	50-year/2%
2	LaReussite to Wilkinson Pump Station	Levee	25-year/4%
3	Wilkinson Pump Station to Woodpark	Levee	25-year/4%
3	Woodpark	T-Wall	50-year/2%
4	Woodpark to Pointe Celeste	Levee	25-year/4%
4	Pointe Celeste Pump State (Fronting Protection)	Floodwall and embankment earthwork	50-year/2%
4	Pointe Celeste to West Point a la Hache	Levee	25-year/4%
5	Gulf South Pipeline	T-Wall	50-year/2%
5	West Point a la Hache to St. Jude	Levee	25-year/4%
5	Magnolia Pump Station	Floodwall	50-year/2%

Table 2. Habitat Impacts by NFL Section

HABITAT TYPES	SECTION 1		SECTION 2		SECTION 3		SECTION 4		CANALS (SECTION 2 & 4)		SECTION 5		TOTALS	
	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs
Swamp (PF02)[a]	39.1	33.2	0.3	0.2	0	0	0	0	0	0	0	0	39.4	33.4
Seasonally Tidal BLH[b] (PFO1R)	19.3	13.6	0	0	5.7	4	9.4	6.6	2.5	0.9	66	46.4	102.8	71.5
Altered BLH[b] (PFO1Ad)	12	7.6	0	0	0	0	20	12.7	0	0	11.3	7.2	43.3	28.5
Wetland Pasture (PEM1CdR)	0	0	43.3	15.1	0	0	70	24.5	59.7[c]	20.8[c]	0	0	113.3	39.6
Scrub – shrub (E2SS)	0		0		0		1.5	1	9	5.7	0	0	10.5	[d]
Intermediate Marsh (E2EM1P6)	0	0	0	0	0	0	0.6	0.2	0	0	0	0	0.6	[e]
Fresh Marsh (E2EM1P6)	18.7	12.4	0	0	0	0	0	0	0	0	0	0	18.7	12.4
Open water (E1OW)	0.2		0		0.4		10.4		0		4.3		15.3	[f]
Brackish Marsh (E2EM1P3)	0	0	0	0	7.6	4.2	5.1	2.8	0	0	6	3.3	18.7	10.5

[a] (xxx) = National Wetlands Inventory (NWI) Classifications
[b] BLH = Bottomland Hardwoods
[c] Wet pasture impacts associated with Section 2 and 4 Canals are considered short-term and temporary; habitat values are predicted to re-establish within one year, therefore, no mitigation was assessed for these impacts.
[d] Because of its future habitat condition Scrub-shrub AAHUS were included in the Altered BLH (i.e., BLH-dry) totals.
[e] Because of the small acreage and its location, the assessment of Intermediate Marsh was combined with that of Brackish Marsh.
[f] Open water impacts are captured in the Freshwater Marsh AAHUs.

The Service does not object to providing improved hurricane protection to Plaquemines Parish, provided the following fish and wildlife conservation recommendations are incorporated into future project planning and implementation.

1. To the greatest extent possible, design (e.g., implementation of "T"-walls, sheet-pile, and/or cement floodwall in levees designs) and position flood protection features so that destruction of forested and emergent wetlands and non-wet bottomland hardwoods are avoided or minimized.

2. Minimize enclosure of wetlands with new levee alignments. When enclosing wetlands is unavoidable, acquire non-development easements on those wetlands, or maintain hydrologic connections with adjacent, un-enclosed wetlands to minimize secondary impacts from development and hydrologic alteration.

3. The Corps shall fully compensate for any unavoidable losses to wet and non-wet bottomland hardwood habitat (-100 AAHUs), swamp habitat (-33.4 AAHUs), fresh marsh (-12.4 AAHUs), brackish marsh (-10.5 AAHUs), and wetland pasture (-39.6 AAHUs) caused by

project features. All aspects of mitigation planning should be coordinated with the Service, NMFS, the Environmental Protection Agency (EPA), the Louisiana Department of Natural Resources (LDNR), Coastal Protection and Restoration Authority (CPRA) and LDWF.

4. Funds for full compensatory mitigation for the entire project should be set aside up-front to ensure that the Federal and local sponsors will have the capability of offsetting unavoidable losses to the wetland habitats as listed in item #3 above, regardless of whether construction funding is procured by each levee reach.

5. Full compensation for marsh should be defined to be no less than 0.27 AAHUs per mitigation acre; however, that replacement rate may require redefining based on design of a specific proposed mitigation project to ensure full functional replacement.

6. The Service recommends that mitigation alternatives include locating the mitigation within the basin where impacts occurred.

7. If a proposed project feature is changed significantly or is not implemented within one year of our latest, Endangered Species Act consultation letter, we recommend that the Corps reinitiate coordination with the Service to ensure that the proposed project would not adversely affect any federally listed threatened or endangered species or their critical habitat.

8. Avoid adverse impacts to wading bird nesting colonies and bald eagle nesting locations through careful design of project features and timing of construction. A qualified biologist should inspect the proposed work site for the presence of undocumented wading bird nesting colonies and bald eagle nests during the nesting seasons (i.e., February 16 through October 31 for wading bird colonies, and October through mid-May for bald eagles).

9. To minimize disturbance to colonies containing nesting wading birds (i.e., herons, egrets, night-herons, ibis, and roseate spoonbills), anhingas, and/or cormorants, all activity occurring within 1,000 feet of a rookery should be restricted to the non-nesting period (i.e., September 1 through February 15, exact dates may vary within this window depending on species present). In addition, we recommend that on-site contract personnel be informed of the need to identify colonial nesting birds and their nests, and should avoid affecting them during the breeding season.

10. If a bald eagle nest is discovered within or adjacent to the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line at: http://www.fws.gov/southeast/es/baldeagle. Following completion of the evaluation, that website will provide a determination of whether additional consultation is necessary and those results should be forwarded to this office.

11. Forest clearing associated with project features should be conducted during the fall or winter to minimize impacts to nesting migratory birds to the maximum extent practicable.

12. Acquisition, habitat development, maintenance and management of mitigation lands should be allocated as first-cost expenses of the project, and the local project-sponsor should be

responsible for operational costs. If the local project-sponsor is unable to fulfill the financial mitigation requirements for operation, then the Corps should provide the necessary funding to ensure mitigation obligations are met on behalf of the public interest. All costs (i.e., performance compliance and monitoring) until year five success criteria are attained shall be at the sole expense of the Federal sponsor.

13. Construction of or purchasing credit from an approved mitigation bank for all compensatory mitigation should be conducted concurrent with construction of the NFL project (and concurrent with the NOV federal levees project if mitigation is combined), to ensure that mitigation obligations are met on behalf of the public interest.

14. If mitigation lands are purchased for inclusion within Federal or State managed lands, those lands must meet certain requirements; therefore, the land manager of that management area should be contacted early in the planning phase regarding such requirements.

15. Further detailed planning of project features (e.g., Design Documentation Report, Engineering Documentation Report, Plans and Specifications, or other similar documents) should be coordinated with the Service, NMFS, EPA, LDNR, and LDWF, and the Corps shall provide them with an opportunity to review and submit recommendations on all work addressed in those reports.

16. If applicable, a General Plan should be developed by the Corps, the Service, and the managing natural resource agency in accordance with Section 3(b) of the FWCA for mitigation lands.

17. A report documenting the status of mitigation implementation and maintenance should be prepared by the managing agency and provided to the Corps, the Service, NMFS, EPA, LDNR, and LDWF. That report should also describe future management activities and identify any proposed changes to the existing management plan.

18. The Service encourages the Corps to finalize mitigation plans and proceed to mitigation construction so that it will be concurrent with project construction. If construction is not concurrent with mitigation implementation then revising the impact and mitigation period-of-analysis to reflect additional temporal losses will be required.

19. Impacts to Essential Fish Habitat (EFH) should be avoided and minimized to the greatest extent possible. Because impacts to designated EFH habitat may need to be mitigated the Corps should coordinate with the NMFS regarding this need and maintain an account of all EFH habitats (e.g., openwater, marsh) impacted and mitigated.

20. The Corps should implement prior to initiation of construction and maintain during construction non-point source erosion control measures to protect wetlands and water bodies.

21. The Corps should ensure that clearing of forested vegetation does not result in impacts outside of the construction rights-of-way.

INTRODUCTION

The New Orleans to Venice Hurricane Protection (NOV) Project provides hurricane protection to developed areas of Plaquemines Parish, Louisiana, along the Mississippi River below New Orleans. In coordination with the U.S. Army Corps of Engineers' (Corps) New Orleans District and the Louisiana Office of Coastal Planning and Restoration (OCPR, the nonfederal sponsor), the Corps' Vicksburg District prepared a Final Environmental Impact Statement (FEIS) for the incorporation of the nonfederal levees from Oakville to St. Jude (NFL), in Plaquemines Parish, Louisiana, into the existing NOV federal levee system. The nonfederal levees would have been improved to provide a 50-year (yr) level of protection; however, based on a recent risk analysis the Corps New Orleans District has revised the planned protection to a 25-yr level of protection. While providing a lower level of flood risk reduction the areal extent of protection would be increased. The proposed project would be built in accordance with Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery 2006 (Supplemental 4).

This report contains a description of the existing fish and wildlife resources of the project area, discusses future with- and without-project habitat conditions, identifies fish and wildlife-related impacts of the proposed project, and provides recommendations for the proposed project. This report incorporates and supplements the November 26, 2007, Draft Programmatic FWCA Report that addresses the hurricane protection improvements authorized in Supplemental 4; our draft and final reports on this project dated December 20, 2010, and April 27, 2011, respectively and our draft January 2016 report. Impacts and mitigation needs resulting from government and contractor provided borrow areas have been addressed in the October 25, 2007, and November 1, 2007, FWCA Reports, respectively; therefore, this report will not address those project features, however, if borrow sites not addressed in those reports are utilized then additional coordination and possible reporting may be required. This document constitutes the report of the Secretary of the Interior as required by Section 2(b) of the FWCA. This report has been provided to the Louisiana Department of Wildlife and Fisheries (LDWF) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) for comment; their comments, if any, have been incorporated into this report.

Project Description

The goal of the proposed action is to improve the storm damage reduction capability of the NFL system in Plaquemines Parish, Louisiana (Figure 1). The proposed action would involve upgrading and providing new flood protection to the existing NFL system. The Corps' selected alternative in the previous FEIS included raising the existing hurricane protection levee system to provide a 50-yr level of protection. However, a risk analysis that was prepared for the project recommended changing the level of flood risk reduction from 50-yr to approximately 25-yr for two NFL reaches (i.e., Sections 2 and 3). The decreased level of risk reduction in some of the reaches would make it possible to expand some level of flood protection throughout NFL Sections 1-5 and increase the level of risk reduction in areas that currently have limited or no flood protection.

The proposed change would require changes to the project's design that would result in realignments of the levees and floodwalls, as well as the need for additional access roads, staging areas, ramps, and other temporary work easements that were identified during design and not accounted for in the FEIS.

Figure 1. New Orleans to Venice – Incorporation of Nonfederal Levees, Plaquemines Parish, Louisiana, (NFL) Study Area.

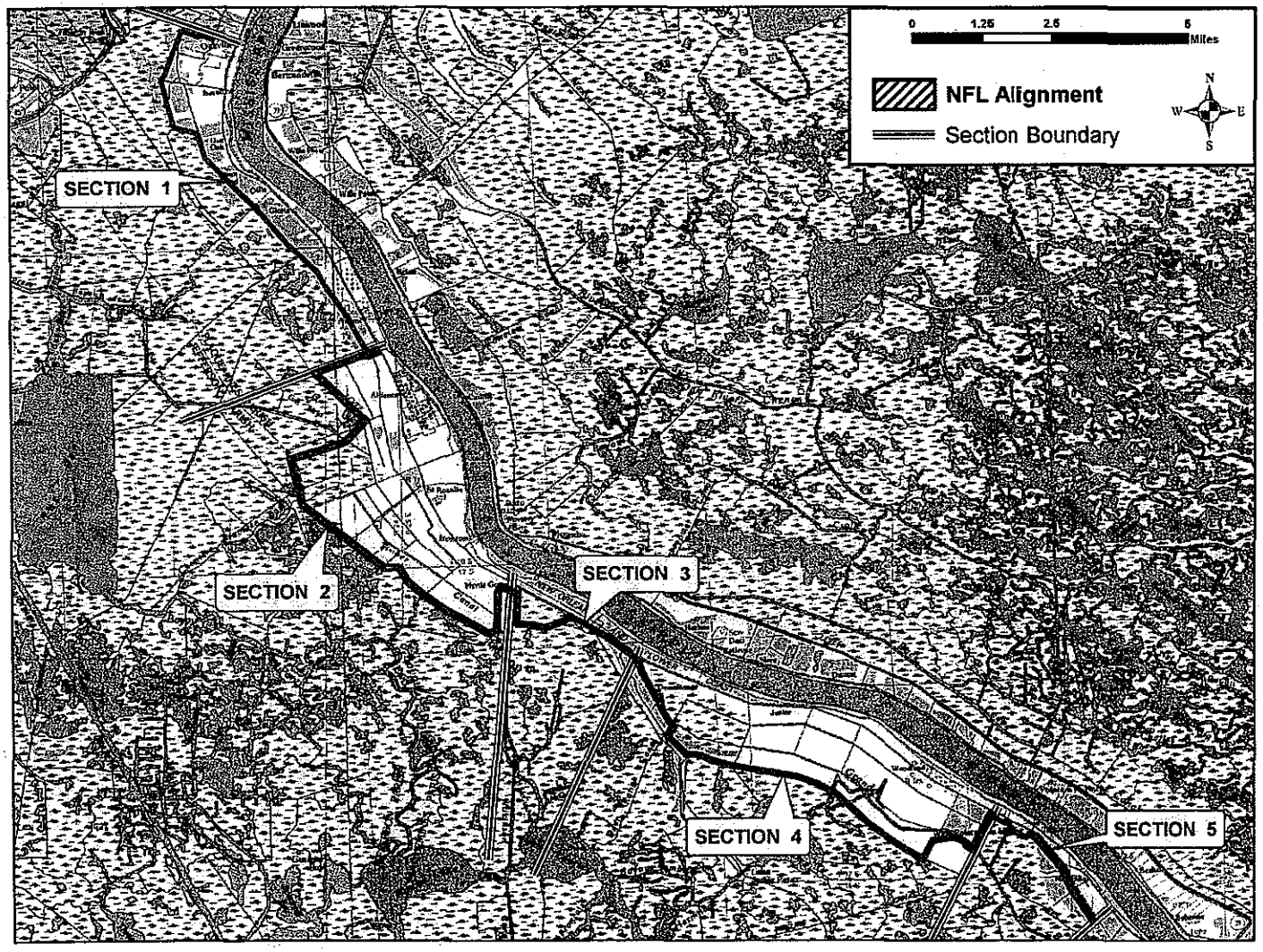


Table 1 identifies the levels of risk reduction that are proposed in each of the NFL Sections.

Table 1. Levels of Risk Reduction by NFL Section.

Section	Location	Structure Type	Level of Risk Reduction
1	Oakville to LaReussite	Levee	50-year/2%
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2	LaReussite to Wilkinson Pump Station	Levee	25-year/4%
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4	Woodpark to Pointe Celeste	Levee	25-year/4%
4	Pointe Celeste Pump State (Fronting Protection)	Floodwall and embankment earthwork	50-year/2%
4	Pointe Celeste to West Point a la Hache	Levee	25-year/4%
5	Gulf South Pipeline	T-Wall	50-year/2%
5	West Point a la Hache to St. Jude	Levee	25-year/4%
5	Magnolia Pump Station	Floodwall	50-year/2%

DESCRIPTION OF THE STUDY AREA

The NFL study area is located within the Barataria Basin of the Mississippi River Deltaic Plain of the Lower Mississippi River Ecosystem. It is defined by the Mississippi River to the east; forested and emergent wetlands to the west; a forested and emergent marsh complex and the town of Oakville, Louisiana, to the north; and the NOV hurricane protection system, emergent marsh, and the town of Magnolia, Louisiana, to the south. Within the NFL hurricane protection system, natural levees and lower lying wetlands have been leveed and drained to accommodate residential, commercial, and agricultural development; however, a majority of the land remains undeveloped. Undeveloped lands generally consist of bottomland hardwood and scrub-shrub habitats.

Description of Habitats

The major habitat types in the study area can be classified as estuarine emergent marsh, estuarine scrub-shrub wetlands, palustrine forested wetlands, wetland pasture, open water, and developed upland. Due to development and a forced-drainage system, the hydrology of the forested habitat within the Plaquemines Parish hurricane protection system has been altered. The forced-drainage system has been in operation for many years, and subsidence is evident throughout the areas enclosed by levees.

The coastal wetlands within the study area provide plant detritus to adjacent coastal waters and thereby contribute to the production of commercially and recreationally important fishes and shellfishes. Wetlands in the project area also provide valuable water quality functions such as reduction of excessive dissolved nutrient levels, filtering of waterborne contaminants, and removal of suspended

sediment. In addition, coastal wetlands buffer storm surges reducing their damaging effect to man-made infrastructure within the coastal area.

Factors that will strongly influence future fish and wildlife resource conditions outside of the protection levees include freshwater input and loss of coastal wetlands. Depending upon the deterioration rate of marshes, the frequency of occasional short-term saltwater events may increase. Under that scenario, tidal action in the project area may increase gradually as the buffering effect of marshes is lost, and use of that area by estuarine-dependent fishes and shellfish tolerant of saltwater conditions would likely increase. Regardless of which of the above factors ultimately has the greatest influence, freshwater wetlands within and adjacent to the project area will probably experience losses due to development, subsidence, and erosion.

The ongoing loss of coastal Louisiana wetlands (approximately 1,149 square miles between 1956 and 2004; average loss rate of 24 square miles per year) was recently exacerbated by Hurricanes Katrina and Rita in 2005. Those hurricanes caused an initial loss of wetlands equivalent to 9 years (approximately 217 square miles) of mean annual losses. Louisiana wetlands provide 26 percent of the seafood landed in the conterminous United States and over 5 million migratory waterfowl utilize those wetlands every year. In addition, those wetlands provide protection to coastal towns, cities and their infrastructure, as well as important infrastructure for the nation's oil and gas industry.

Non-wet bottomland hardwoods within the project area also provide habitat for wildlife resources. Between 1932 and 1984, the acreage of bottomland hardwoods in Louisiana declined by 45 percent (Rudis and Birdsey 1986). A large percentage of the original bottomland hardwoods within the Mississippi River floodplain in the Deltaic Plain are located within levees. However, losses of that habitat type are not regulated or mitigated with the exception of impacts resulting from Corps projects as required by Section 906(b) of the Water Resources Development Act of 1986.

Forested Habitats

Forested habitats in the study area are divided into two major types; bottomland hardwood forests and cypress-tupelo swamps. Bottomland hardwood forests found in the study area occur primarily on the natural levees of the Mississippi River or former distributary channels. Dominant vegetation may include sugarberry, water oak, live oak, bitter pecan, black willow, American elm, Drummond red maple, Chinese tallow-tree, box elder, green ash and elderberry. Most bottomland hardwoods that are located within the constructed hurricane protection projects have been degraded by forced drainage and resultant subsidence. Those areas are also often fragmented by development. Conversely, those bottomland hardwoods located outside the protection levees or in areas where structures through the levees maintain a hydrologic connection, still retain many wetland functions and values.

Cypress-tupelo swamps are located along the flanks of larger distributary ridges as a transition zone between bottomland hardwoods and lower-elevation marsh or scrub-shrub habitats. Cypress-tupelo swamps exist where there is little or no salinity, usually minimal daily tidal action and are usually flooded throughout most of the growing season. Bald cypress and tupelo gum are the dominant vegetation within this habitat type; however, Drummond red maple, green ash, and black willow are also common. Cypress swamps that are within the levee system and under forced drainage are often dominated by bald cypress, but vegetative species more typical of bottomland hardwoods dominate the under- and mid-story vegetation. These sites often have ecological functions closer to those of a

bottomland hardwood. Because of their altered hydrology, these areas can potentially convert to sites dominated by bottomland hardwood species.

Marshes

Marsh types within the study area include fresh, intermediate, brackish, and saline. Fresh marshes occur at the upper ends of inter-distributary basins and are often characterized by floating or semi-floating organic soils and minimal daily tidal action. Vegetation may include maidencane, bulltongue, cattail, California bulrush, pennywort, giant cutgrass, American cupscale, spikerushes, bacopa, and alligatorweed. Associated open water habitats may often support extensive beds of floating-leafed and submerged aquatic vegetation including water hyacinth, *Salvinia*, duckweeds, American lotus, white water lily, water lettuce, coontail, Eurasian milfoil, hydrilla, pondweeds, naiads, fanwort, wild celery, water stargrass, elodea, and others.

Intermediate marshes are a transitional zone between fresh and brackish marshes and are often characterized by organic, semi-floating soils. Typically, intermediate marshes experience low levels of daily tidal action. Salinities are negligible or low throughout much of the year, with salinity peaks occurring during late summer and fall. Vegetation includes saltmeadow cordgrass, deer pea, three-cornered grass, cattail, bulltongue, seashore paspalum, wild millet, fall panicum, and bacopa. Ponds and lakes within the intermediate marsh zone often support extensive submerged aquatic vegetation including southern naiad, Eurasian milfoil, and wigeongrass.

Brackish marshes are characterized by low to moderate daily tidal energy and by soils ranging from firm mineral soils to organic semi-floating soils. Freshwater conditions may prevail for several months during early spring; however, low to moderate salinities occur during much of the year, with peak salinities in the late summer or fall. Vegetation is usually dominated by saltmeadow cordgrass, but also includes saltgrass, three-cornered grass, leafy three-square, and deer pea. Shallow brackish marsh ponds occasionally support abundant beds of wigeongrass.

Saline marshes occur along the fringe of the coastal wetlands. Those marshes usually exhibit fairly firm mineral soils and experience moderate to high daily tidal energy. Vegetation is dominated by saltmarsh cordgrass but may also include saltgrass, saltmeadow cordgrass, black needlerush, and leafy three-square. Submerged aquatic vegetation is rare. Within the study area, intertidal mud flats are most common in saline marshes.

Scrub-Shrub Habitats

Scrub-shrub habitat is often found along the flanks of distributary ridges and in marshes altered by spoil deposition, drainage projects, or agriculture. Typically it is bordered by marsh at lower elevations and by developed areas, cypress-tupelo swamp, or bottomland hardwoods at higher elevations. Typical scrub-shrub vegetation includes elderberry, wax myrtle, buttonbush, black willow, Drummond red maple, Chinese tallow-tree, and groundselbush. Some scrub-shrub habitat is an early successional stage of bottomland hardwood forests. Within the project area, scrub-shrub habitat occurs within abandoned agricultural fields, cattle pastures, at sites disturbed by hurricanes, or at sites experiencing subsidence.

Wetland Pasture

Wetland pasture is often found between the distributary ridges and in marshes altered by spoil deposition, drainage projects, or agriculture. Typically it is bordered by marsh at lower elevations and by active agriculture lands, scrub-shrub habitat, or residential development at higher elevations. Typical wetland pasture vegetation includes *Panicum sp.*, *Paspalum sp.*, Bermuda grass, camphorweed, marshmallow, spikerush, soft rush, dewberry, waterprimrose, smartweed, and alligator weed. Some wetland pasture consists of marsh that is used for grazing cattle. Within the project area, wetland pasture occurs along the development/marsh interface or adjacent to the existing hurricane protection system.

Open-Water Habitats

Open-water habitat within the project area consists of ponds, lakes, canals, bays, and bayous. Natural marsh ponds and lakes are typically shallow, ranging in depth from 6 inches to over 2 feet. Typically, the smaller ponds are shallow and the larger lakes and bays are deeper. In fresh and low-salinity areas, ponds and lakes may support varying amounts of submerged and/or floating-leaved aquatic vegetation. Brackish and, much less frequently, saline marsh ponds and lakes may support wigeongrass beds.

Canals and larger bayous typically range in depth from 4 or 5 feet, to over 15 feet. Strong tidal flows may occur at times through those waterways, especially where they provide hydrologic connections to other large waterbodies. Such canals and bayous may have mud or clay bottoms that range from soft to firm. Dead-end canals and small bayous are typically shallow and their bottoms may be filled in to varying degrees with semi-fluid organic material. Erosion due to wave action and boat wakes, together with shading from overhanging woody vegetation, tends to retard the amount of intertidal marsh vegetation growing along the edges of those waterways.

Drainage canals enclosed within the hurricane protection project are stagnant except when pumps are operating to remove water. Runoff from developed areas has likely reduced the habitat value of that aquatic habitat by introducing various urban pollutants, such as oil, grease, and excessive nutrients. Clearing and development has eliminated much of the riparian habitat that would normally provide shade and structure for many aquatic species.

Developed Areas

Developed habitats in the study area include residential and commercial areas, as well as roads and existing levees. Those habitats do not support significant wildlife use. Most of the development is located on higher elevations of the Mississippi River natural levees and former distributary channels. Large amounts of agricultural lands occur throughout the area; agriculture includes citrus farming, cattle production, and hay production.

Fishery/Aquatic Resources

Drainage canals in the study area do not support significant fishery resources because of dense vegetation, poor water quality, and inadequate depth. Freshwater sport fishes present in the project area, but outside of the levees, include largemouth bass, crappie, bluegill, redear sunfish, warmouth, channel catfish, and blue catfish. Other fishes likely to be present include yellow bullhead, freshwater drum, bowfin, carp, buffalo, and gar. Estuarine-dependent fishes and shellfishes such as Atlantic croaker, red drum, spot, sand seatrout, spotted seatrout, southern flounder, Gulf menhaden, striped mullet, brown shrimp, white shrimp, and blue crab are found in the intermediate to saline marshes.

Some of the waterbodies in the project area meet criteria for primary and secondary contact recreation and partially meets criteria for fish and wildlife propagation, while others do not meet the criteria for fish and wildlife propagation. Causes for not fully meeting fish and wildlife propagation criteria include excessive nutrients, organic enrichment, low dissolved oxygen levels, flow and habitat alteration, pathogens and noxious aquatic plants. Indicated sources of those problems include hydrologic modification, habitat modification, recreational activities, and unspecified upstream sources. Municipal point sources, urban runoff, storm sewers, and onsite wastewater treatment systems are also known contributors to poor water quality in the area.

Deteriorating water quality in the Barataria Basin, at least partially correlated to wetlands loss and a commensurate reduction in the area's waste assimilation capacity, is a major problem affecting fish and wildlife in that portion of the study area. According to Bahr et al. (1983), factors that currently adversely affect water quality in the Barataria Basin are those generally related to urban development and associated urban pollution (including non-point source discharge), altered land-use patterns, and hydrologic modifications (drainage, etc.) within the watershed. Two major human-related causes of water quality degradation include eutrophication and increased levels of toxic substances.

Essential Fish Habitat

Estuarine wetlands and associated intertidal and sub-tidal areas within the study area have been identified as Essential Fish Habitat (EFH) for post-larval, juvenile and sub-adult stages of brown shrimp, white shrimp, red drum, and Gulf stone crab, as well as the adult stages of those species in near-shore and offshore waters. EFH requirements vary depending upon species and life stage. Categories of EFH in the project area include estuarine emergent wetlands, estuarine water column, submerged aquatic vegetation, and estuarine water bottoms. 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 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 Bay estuary.

Wildlife Resources

Mammals known to occur in the study-area bottomland hardwoods and marshes include white-tailed deer, mink, raccoon, swamp rabbit, nutria, river otter, and muskrat. Those habitats also support a variety of birds including herons, egrets, ibises, least bittern, rails, gallinules, olivaceous cormorant, anhinga, white pelicans, pied-billed grebe, black-necked stilt, sandpipers, gulls, and terns. Forested and scrub-shrub habitats within the study area also provide habitat for many resident passerine birds and essential resting areas for many migratory songbirds including warblers, orioles, thrushes, vireos,

tanagers, grosbeaks, buntings, flycatchers, and cuckoos. Many of these and other passerine birds have undergone a decline in population primarily due to habitat loss.

Given the extent of development and drainage, waterfowl use within the hurricane protection system is likely minimal, except in the adjacent wetlands outside the levees. Swamps and fresh and intermediate marshes usually receive greater waterfowl utilization than brackish and saline marshes because they generally provide more waterfowl food. Migratory species expected to occur in the project area include gadwall, green-winged teal, blue-winged teal, fulvous whistling duck, northern shoveler, mallard, pintail, American widgeon, lesser scaup, ring-necked duck, redhead, and canvasback. Resident species expected to occur in that area include mottled duck and wood duck.

The study area also supports resident hawks and owls including the red-shouldered hawk, barn owl, common screech owl, great horned owl, and barred owl. The red-tailed hawk, marsh hawk, and American kestrel are seasonal residents which utilize habitats within the study area.

Amphibians such as the pig frog, bullfrog, leopard frog, cricket frog, and Gulf coast toad are expected to occur in the fresh and low salinity wetlands of the project area. Reptiles such as the American alligator, snapping turtle, soft-shell turtle, red-eared turtle, diamond-backed terrapin, speckled king snake, Gulf salt marsh snake, western cottonmouth, and various water snakes are also expected to occur in the project-area wetlands and waterbodies.

Endangered and Threatened Species

To aid the Corps in complying with their proactive consultation responsibilities under the Endangered Species Act (ESA), the Service provided a list of threatened and endangered species and their critical habitats within the coastal parishes of the New Orleans District in an August 7, 2006, letter to the Corps regarding construction of and improvements to Federal and nonfederal hurricane/flood protection levees throughout southern Louisiana. The Service recommended that the Corps conduct ESA consultation as soon as project-specific plans were developed and impact locations were identified. In correspondence dated December 16, 2010, the Service provided our concurrence that there are no federally listed species located within the proposed project area. However, should plans be changed significantly, or if work is not implemented within 1 year following that coordination, we recommend that the Corps conduct annual re-initiation of ESA coordination with this office to ensure that the proposed project (or any future changes or modifications) would not adversely affect any federally listed threatened or endangered species or their habitat.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.) and the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d) offer additional protection to many bird species within the project area including colonial nesting birds and the bald eagle (*Haliaeetus leucocephalus*).

The project area is located where colonial nesting waterbirds may be present. LDWF currently maintains a database of these colonies locations. That database is updated primarily by monitoring the colony sites that were previously surveyed during the 1980s. Until a new, comprehensive coast-wide survey is conducted to determine the location of newly-established nesting colonies, we recommend that a qualified biologist inspect the proposed work sites for the presence of undocumented nesting

colonies during the nesting season (e.g. February through September depending on the species). If colonies exist work should not be conducted within 1,000 feet of the colony during the nesting season.

The study-area forested wetlands provide nesting habitat for the bald eagle (*Haliaeetus leucocephalus*), which was officially removed from the List of Endangered and Threatened Species on August 8, 2007. Bald eagles nest in Louisiana from October through mid-May. Bald eagles generally nest in large trees located near coastlines, rivers, or lakes that support adequate food supplies. In the southeastern Parishes, eagles typically nest in mature trees (e.g., bald cypress, sycamore, willow, etc.) near fresh to intermediate marshes or open water. Eagles may also nest in mature pine trees near large lakes in central and northern Louisiana. Major threats to this species include habitat alteration, human disturbance, and environmental contaminants (i.e., organochlorine pesticides and lead).

Breeding bald eagles defend "territories" that may be reoccupied annually. In addition to the active nest, a territory may include one or more alternate nests that are built and maintained by the eagles, but which are not used for nesting in a given year. Potential nest trees within a territory may, therefore, provide important alternative bald eagle nest sites. Bald eagles are vulnerable to disturbance during courtship, nest building, egg laying, incubation, and brooding. Disturbance during these periods may lead to nest abandonment, cracked and chilled eggs, and exposure of small young to the elements. Human activity near a nest late in the nesting cycle may also cause flightless birds to jump from the nest tree, thus reducing their chance of survival.

There are three known nest locations within 660 feet of Sections 1 and 2 of the NFL alignment. Although the bald eagle has been removed from the List of Endangered and Threatened Species, bald eagles and their nests continue to be protected under the MBTA and the BGEPA. The Service developed the National Bald Eagle Management (NBEM) Guidelines to provide landowners, land managers, and others with information and recommendations to minimize potential project impacts to bald eagles, particularly where such impacts may constitute "disturbance," which is prohibited by the BGEPA. A copy of the NBEM Guidelines is available at: http://www.fws.gov/southeast/es/baldeagle/NationalBaldEagleManagementGuidelines.pdf. Those guidelines recommend: (1) maintaining a specified distance between the activity and the nest (buffer area); (2) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers); and (3) avoiding certain activities during the breeding season. On-site personnel should be informed of the possible presence of nesting bald eagles within the project boundary, and should identify, avoid, and immediately report any such nests to this office. If a bald eagle nest occurs or is discovered within or adjacent to the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line at: http://www.fws.gov/southeast/es/baldeagle. Following completion of the evaluation, that website will provide a determination of whether additional consultation is necessary. Results of that determination should be provided to this office. The Division of Migratory Birds for the Southeast Region of the Service (phone: 404/679-7051, e-mail: SEmigratorybirds@fws.gov) has the lead role in conducting such consultations. If after consulting those guidelines you need further assistance in determining the appropriate size and configuration of buffers or the timing of activities in the vicinity of a bald eagle nest, please contact this office.

Future Fish and Wildlife Resources

The combination of subsidence and sea level rise is called submergence or land sinking. As the land sinks the wetlands become inundated with higher water levels, stressing most non-fresh marsh plants,

bottomland hardwood plants and even cypress-tupelo swamps leading to plant death and conversion to open water. Other major causes of wetland losses within the study area include altered hydrology, storms, saltwater intrusion (caused by marine processes invading fresher wetlands), shoreline erosion, herbivory, and development activities including the direct and indirect impacts of dredge and fill (Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority 1998). The continued conversion of wetlands and forested habitat to open water or developed land represent the most serious fish and wildlife-related problems in the study area. Those losses could be expected to cause significant declines in coastal fish and shellfish production and in the study area's carrying capacity for numerous migratory waterfowl, wading birds, other migratory birds, alligators, furbearers, and game mammals. Wetland losses will also reduce storm surge protection of developed lands, and will likely contribute to water quality degradation associated with excessive nutrient inputs.

ALTERNATIVES UNDER CONSIDERATION

The Corps' selected alternative in the previous FEIS (Table 2), currently the no-action alternative for EA 537, included raising the existing hurricane protection levee system to provide a 50-yr level of protection. However, a risk analysis that was prepared for the project recommended changing the level of flood risk reduction from 50-yr to approximately 25-yr for two NFL reaches (i.e., Sections 2 and 3). The decreased level of risk reduction in some of the reaches would make it possible to expand some level of flood protection throughout NFL Sections 1-5 and increase the level of risk reduction in areas that currently have limited or no flood protection. The proposed change would require changes to the project's design that would result in realignments of the levees and floodwalls, as well as the need for additional access roads, staging areas, ramps, and other temporary work easements that were identified during design and not accounted for in the FEIS.

Table 2: Estimated Impacts for the No-action Alternative

	BLH Wet		BLH Dry (includes Subsided Ridge)		Wet Pasture (includes Relict Fresh Marsh)		Swamp		Scrub Shrub		Intermediate Marsh		Freshwater Marsh		Brackish Marsh		Open Water		Total All Habitats	
No Action (EIS ROD Action)	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs
NFL Section 1	14.6	10.3	9.0	5.7	0.0	0.0	24.9	21.1	0.0	0.0	0.0	0.0	10.4	6.8	0.0	0.0	0.0		58.9	43.9
NFL Section 2	0.1	0.1	0.0	0.0	73.6	25.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		73.7	25.8
NFL Section 3	12.6	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	5.3	0.0		21.6	14.2
Total	27.3	19.3	9.0	5.7	73.6	25.7	24.9	21.1	0.0	0.0	0.0	0.0	10.4	6.8	9.0	5.3	0.0		154.2	83.9

PROJECT IMPACTS

Proposed project impacts associated with the preferred alternative would result primarily from the expansion of existing levees, construction of two miles of new levee alignment, expansion of the levee right-of-way, and associated features (e.g., temporary workspaces, access roads). Although some of the construction will occur in cleared areas and on existing levees, project implementation will directly impact wet and non-wet bottomland hardwoods, cypress swamp, scrub-shrub, wetland pasture, and marsh habitats that provide a variable degree of low to high quality habitat value for diverse fish and wildlife resources (e.g., refugia, food resources, and nesting habitat) depending on the area of

influence. Construction staging and processing areas would be sited essentially in cleared areas and on existing levees minimizing impacts to forested habitats.

Direct impacts to bottomland hardwood and swamp habitat were quantified by acreage and habitat quality (i.e., average annual habitat units or AAHUs) via coordination between the Service and the Corps. Those impacts are presented in Table 2. The Louisiana Department of Natural Resources (LDNR) Habitat Assessment Methodology (HAM) was used to quantify the impacts of proposed

Table 3: Estimated Impacts for the Preferred Alternative

HABITAT TYPES	SECTION 1		SECTION 2		SECTION 3		SECTION 4		CANALS (SECTION 2 & 4)		SECTION 5		TOTALS	
	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs
Swamp (PF02)[a]	39.1	33.2	0.3	0.2	0	0	0	0	0	0	0	0	39.4	33.4
Seasonally Tidal BLH[b] (PFO1R)	19.3	13.6	0	0	5.7	4	9.4	6.6	2.5	0.9	66	46.4	102.8	71.5
Altered BLH[b] (PFO1Ad)	12	7.6	0	0	0	0	20	12.7	0	0	11.3	7.2	43.3	28.5
Wetland Pasture (PEM1CdR)	0	0	43.3	15.1	0	0	70	24.5	59.7[c]	20.8[c]	0	0	113.3	39.6
Scrub – shrub (E2SS)	0		0		0		1.5	1	9	5.7	0	0	10.5	[d]
Intermediate Marsh (E2EM1P6)	0	0	0	0	0	0	0.6	0.2	0	0	0	0	0.6	[e]
Fresh Marsh (E2EM1P6)	18.7	12.4	0	0	0	0	0	0	0	0	0	0	18.7	12.4
Open water (E1OW)	0.2		0		0.4		10.4		0		4.3		15.3	[f]
Brackish Marsh (E2EM1P3)	0	0	0	0	7.6	4.2	5.1	2.8	0	0	6	3.3	18.7	10.5

[a] (xxx) = National Wetlands Inventory (NWI) Classifications
[b] BLH = Bottomland Hardwoods
[c] Wet pasture impacts associated with Section 2 and 4 Canals are considered short-term and temporary; habitat values are predicted to re-establish within one year, therefore, no mitigation was assessed for these impacts.
[d] Because of its future habitat condition Scrub-shrub AAHUS were included in the Altered BLH (i.e., BLH-dry) totals.
[e] Because of the small acreage and its location, the assessment of intermediate marsh was combined with that of brackish marsh.
[f] Open water impacts are captured in the freshwater marsh AAHUs.

project features on non-wet and wet bottomland hardwood and swamp habitats. The habitat assessment models for bottomland hardwoods within the Louisiana coastal zone utilized in this evaluation were modified from those developed in the Service's Habitat Evaluation Procedures (HEP). For each habitat type, those models define an assemblage of variables considered important to the suitability of an area to support a diversity of fish and wildlife species.

The Wetland Value Assessment (WVA) methodology was used to quantify impacts to fresh, intermediate, and brackish marsh habitats (there are no impacts to saline marsh). The WVA is used to evaluate proposed projects under the Coastal Wetlands Planning Protection and Restoration Act (CWPPRA), and is similar to the Service's HEP, in that habitat quality and quantity (acreage) are

measured for baseline conditions and predicted for future without-project and future with-project conditions. As with HEP, the WVA provides a quantitative estimate of project-related impacts to fish and wildlife resources; however, the WVA is based on separate models for fresh-intermediate marsh, brackish marsh, and saline marsh. Further explanation of the assumptions affecting habitat suitability (i.e., quality) index (HSI) values for each target year for impacts to bottomland hardwood, swamp, and marsh habitats are available for review at the Service's Louisiana Field Office.

The Corps' Habitat Evaluation System (HES) for open lands was used to quantify impacts to wetland pasture. The HES uses functional curves for determining a Habitat Quality Index (HQI) value for land use, diversity of land use, distance to cover, distance to wooded areas, frequency of flooding, tract size, and the perimeter development index. Those HQI values are then entered into a formula to estimate the AAHUs for wetland pasture.

Because scrub-shrub habitat can occur naturally in marsh areas or may be early successional bottomland hardwood forest, impacts to that habitat type were grouped according to nearby habitat characteristics and future predictions of habitat change within the area. In areas where scrub-shrub habitat was indicative of early successional forest habitat, impacts were grouped with the nearest bottomland hardwood forest type (i.e., wet or dry). In areas exhibiting subsidence and surrounded by marsh, impacts to scrub-shrub habitat were grouped with the nearest marsh type.

Direct impacts to 43.3 acres of hydrologically altered (i.e., non-wet) bottomland hardwood habitat would occur as a result of implementing the preferred alternative. Impacts would result from expansion of the existing levee and right-of-way and associated features. These impacts are primarily associated with large forested tracts which appear to be stressed as a result of hurricane and storm-induced damage.

Direct impacts to 102.8 acres of tidally-influenced bottomland hardwood habitat and 39.4 acres of swamp habitat would occur as a result of implementing the preferred alternative. Impacts would result from expansion of the existing levee and right-of-way and associated features. These impacts are primarily associated with large forested tracts on the flood-side of the existing levees. Project design goals intended to minimize direct impacts to forested wetlands by expanding the existing alignment to the protected side; however, increased post-Katrina design standards and the Corps' authorization limitations have resulted in an increased flood protection easement and increased impacts. Forested wetlands impacted by all sections of the preferred alignment provide a high degree of habitat value as well as storm buffering and water quality benefits.

Direct impacts to 18.7 acres of fresh marsh and 18.7 acres of brackish marsh would occur as a result of implementing the preferred alternative. The analysis for direct impacts to 0.6-acre of intermediate marsh was included with the brackish marsh analysis due its small size and location; that acreage is reflected in the AAHUs for brackish marsh. Impacts would result from expansion of the existing levee and right-of-way and associated features. These impacts are primarily associated with large areas of solid or broken marsh along the toe of the existing levee. Project design goals intended to minimize direct impacts to emergent wetlands by expanding the existing alignment to the protected side; however, increased post-Katrina design standards and the Corps' authorization limitations have resulted in an increased flood protection easement and increased impacts. Emergent wetlands impacted the preferred alignment provide a high degree of habitat value as well as storm buffering and water quality benefits.

Direct impacts to 113.3 acres of wetland pasture would occur as a result of implementing the proposed alternative. Impacts would result from expansion of the existing levee and right-of-way, construction of 2 miles of new levee, and associated features. These impacts are primarily associated with large tracts of wetland pasture which are located along the protected side of the existing levee in Section 2. Project design goals intended to minimize direct impacts to wetlands by remaining on the existing alignment with a slight shift to the protected side; however, increased post-Katrina design standards and the Corps' authorization limitations have resulted in an increased flood protection easement, a new alignment for 2 miles of levee in Section 5, and increased impacts.

FISH AND WILDLIFE CONSERVATION AND MITIGATION MEASURES

The President's Council on Environmental Quality (CEQ) defined the term "mitigation" in the NEPA regulations to include:

1. avoiding the impact altogether by not taking a certain action or parts of an action;
2. minimizing impacts by limiting the degree or magnitude of the action and its implementation;
3. rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
4. reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
5. compensating for the impact by replacing or providing substitute resources or environments.

The Service supports and adopts this definition of mitigation and considers its specific elements to represent the desirable sequence of steps in the mitigation planning process. Based on current and expected future without-project conditions, the planning goal of the Service is to develop a balanced project (i.e., one that is responsive to demonstrated hurricane protection needs while addressing the co-equal need for fish and wildlife resource conservation).

Direct and indirect impacts have been minimized by using the existing levee alignment and expanding to the protected side of the levee to the maximum extent practicable. However, the preferred alignment continues to impact wet and dry bottomland hardwoods, scrub-shrub habitat, fresh and brackish marsh, and wetland pasture. To further minimize impacts to those wetland habitats the footprint could be reduced by implementing sheet-pile or cement floodwall into the design rather than increasing the earthen levee footprint. The Service recommends that these alternatives be evaluated further.

The Service's Mitigation Policy (Federal Register, Volume 46, No. 15, January 23, 1981) identifies four resource categories that are used to ensure that the level of mitigation recommended by Service biologists will be consistent with the fish and wildlife resource values involved. Considering the high value of forested and emergent wetlands and the relative scarcity of those habitat types, those wetlands are usually designated as Resource Category 2 habitats, the mitigation for which is no net less of in-kind habitat value. Remaining direct and indirect project impacts to forested wetlands should be mitigated via in-kind compensatory replacement of the habitat values lost. Degraded (i.e., non-wet) bottomland hardwood forest and any wet pastures that me be impacted, however, are placed in Resource Category 3 due to their reduced value to wildlife, fisheries, and lost/degraded wetland functions. Project impacts to wetlands will be minimized to some extent by hauling in material for the levee rather than using adjacent borrow. The mitigation goal for Resource Category 3 habitats is no net loss of habitat value.

Impacts to open water bottoms are anticipated as a result of construction activities. Regardless of depth, open water bottoms with no submerged aquatic vegetation (SAVs) will remain a Category 4 Resource; impacts to those areas are discouraged, if feasible. SAV beds located in open water are currently considered a Category 2, and lost functions and values should be replaced. However, because of the relatively low success rate of SAV replanting, mitigating in-kind may not be practicable. Potential impacts to any SAVs should first go through the mitigation sequencing of avoidance, minimization, and rectification, prior to compensation of impacts.

Because open water bottoms without SAVs are considered a Category 4 Resource for our trust resources the Service does not recommend mitigation. However, some tidally-influenced un-vegetated water bottoms are designated as EFH, and the loss of that habitat would result in a loss of EFH. Should EFH be impacted, coordination with the NMFS is recommended as mitigation for impacts to these areas is necessary.

The Corps is currently investigating alternative mitigation sites the Service recommends that the Corps continue coordinating with the Service and all interested Federal and State natural resource agencies in determining appropriate mitigation sites, design and success criteria, and monitoring and adaptive management plans.

SERVICE POSITION AND RECOMMENDATIONS

Construction of the NFL hurricane protection system would result in direct impacts to -28.5 AAHUs of hydrologically altered bottomland hardwood forest, -71.5 AAHUs of tidally influenced bottomland hardwood forest, -33.4 AAHUs of swamp, -12.4 AAHUs of fresh marsh, -10.5 AAHUs of brackish marsh (includes adjacent intermediate marsh), and -39.6 AAHUs of wetland pasture.

The Service does not object to providing improved hurricane protection to Plaquemines Parish, provided the following fish and wildlife conservation recommendations are incorporated into future project planning and implementation.

1. To the greatest extent possible, design (e.g., implementation of "T"-walls, sheet-pile, and/or cement floodwall in levees designs) and position flood protection features so that destruction of forested and emergent wetlands and non-wet bottomland hardwoods are avoided or minimized.

2. Minimize enclosure of wetlands with new levee alignments. When enclosing wetlands is unavoidable, acquire non-development easements on those wetlands, or maintain hydrologic connections with adjacent, un-enclosed wetlands to minimize secondary impacts from development and hydrologic alteration.

3. The Corps shall fully compensate for any unavoidable losses to wet and non-wet bottomland hardwood habitat (-100 AAHUs), swamp habitat (-33.4 AAHUs), fresh marsh (-12.4 AAHUs), brackish marsh (-10.5 AAHUs), and wetland pasture (-39.6 AAHUs) caused by project features. All aspects of mitigation planning should be coordinated with the Service, NMFS, the Environmental Protection Agency (EPA), the Louisiana Department of Natural Resources (LDNR), Coastal Protection and Restoration Authority (CPRA) and LDWF.

4. Funds for full compensatory mitigation for the entire project should be set aside up-front to ensure that the Federal and local sponsors will have the capability of offsetting unavoidable

losses to the wetland habitats as listed in item #3 above, regardless of whether construction funding is procured by each levee reach.

5. Full compensation for marsh should be defined to be no less than 0.27 AAHUs per mitigation acre; however, that replacement rate may require redefining based on design of a specific proposed mitigation project to ensure full functional replacement.

6. The Service recommends that mitigation alternatives include locating the mitigation within the basin where impacts occurred.

7. If a proposed project feature is changed significantly or is not implemented within one year of our latest, Endangered Species Act consultation letter, we recommend that the Corps reinitiate coordination with the Service to ensure that the proposed project would not adversely affect any federally listed threatened or endangered species or their critical habitat.

8. Avoid adverse impacts to wading bird nesting colonies and bald eagle nesting locations through careful design of project features and timing of construction. A qualified biologist should inspect the proposed work site for the presence of undocumented wading bird nesting colonies and bald eagle nests during the nesting seasons (i.e., February 16 through October 31 for wading bird colonies, and October through mid-May for bald eagles).

9. To minimize disturbance to colonies containing nesting wading birds (i.e., herons, egrets, night-herons, ibis, and roseate spoonbills), anhingas, and/or cormorants, all activity occurring within 1,000 feet of a rookery should be restricted to the non-nesting period (i.e., September 1 through February 15, exact dates may vary within this window depending on species present). In addition, we recommend that on-site contract personnel be informed of the need to identify colonial nesting birds and their nests, and should avoid affecting them during the breeding season.

10. If a bald eagle nest is discovered within or adjacent to the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line at: http://www.fws.gov/southeast/es/baldeagle. Following completion of the evaluation, that website will provide a determination of whether additional consultation is necessary and those results should be forwarded to this office.

11. Forest clearing associated with project features should be conducted during the fall or winter to minimize impacts to nesting migratory birds to the maximum extent practicable.

12. Acquisition, habitat development, maintenance and management of mitigation lands should be allocated as first-cost expenses of the project, and the local project-sponsor should be responsible for operational costs. If the local project-sponsor is unable to fulfill the financial mitigation requirements for operation, then the Corps should provide the necessary funding to ensure mitigation obligations are met on behalf of the public interest. All costs (i.e., performance compliance and monitoring) until year five success criteria are attained shall be at the sole expense of the Federal sponsor.

13. Construction of or purchasing credit from an approved mitigation bank for all compensatory mitigation should be conducted concurrent with construction of the NFL project (and concurrent

with the NOV federal levees project if mitigation is combined), to ensure that mitigation obligations are met on behalf of the public interest.

14. If mitigation lands are purchased for inclusion within Federal or State managed lands, those lands must meet certain requirements; therefore, the land manager of that management area should be contacted early in the planning phase regarding such requirements.

15. Further detailed planning of project features (e.g., Design Documentation Report, Engineering Documentation Report, Plans and Specifications, or other similar documents) should be coordinated with the Service, NMFS, EPA, LDNR, and LDWF, and the Corps shall provide them with an opportunity to review and submit recommendations on all work addressed in those reports.

16. If applicable, a General Plan should be developed by the Corps, the Service, and the managing natural resource agency in accordance with Section 3(b) of the FWCA for mitigation lands.

17. A report documenting the status of mitigation implementation and maintenance should be prepared by the managing agency and provided to the Corps, the Service, NMFS, EPA, LDNR, and LDWF. That report should also describe future management activities and identify any proposed changes to the existing management plan.

18. The Service encourages the Corps to finalize mitigation plans and proceed to mitigation construction so that it will be concurrent with project construction. If construction is not concurrent with mitigation implementation then revising the impact and mitigation period-of-analysis to reflect additional temporal losses will be required.

19. Impacts to Essential Fish Habitat (EFH) should be avoided and minimized to the greatest extent possible. Because impacts to designated EFH habitat may need to be mitigated the Corps should coordinate with the NMFS regarding this need and maintain an account of all EFH habitats (e.g., openwater, marsh) impacted and mitigated.

20. The Corps should implement prior to initiation of construction and maintain during construction non-point source erosion control measures to protect wetlands and water bodies.

21. The Corps should ensure that clearing of forested vegetation does not result in impacts outside of the construction rights-of-way.

LITERATURE CITED

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Appendix

Louisiana Department of Wildlife and Fisheries Comment Letter

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana
DEPARTMENT OF WILDLIFE AND FISHERIES

CHARLES J. MELANCON
SECRETARY

January 20, 2016

Mr. Brad Rieck, Acting Supervisor
U.S. Fish and Wildlife Service
646 Cajundome Blvd.
Suite 400
Lafayette, LA 70506

RE: *Notice Number: New Orleans to Venice Hurricane Protection Project*
Applicant: U.S. Fish and Wildlife Service
Notice Date: January 7, 2016

Dear Mr. Boggs:

The professional staff of the Louisiana Department of Wildlife and Fisheries (LDWF) has reviewed the above referenced draft Fish and Wildlife Coordination Act Report detailing impacts to fish and wildlife resources resulting from the New Orleans to Venice Nonfederal Levee Project (NOV-NFL) in Plaquemines Parish, Louisiana. Based upon this review, the following has been determined:

LDWF concurs with U.S. Fish and Wildlife's recommendations for the reduction and mitigation of impacts to fish and wildlife resources associated with the NOV-NFL and also does not object to providing improved hurricane protection to Plaquemines Parish. However, LDWF does wish to add the following general conditions to those currently being provided by U.S. Fish and Wildlife:

The applicant shall implement adequate erosion/sediment control measures to insure that no fill material or other activity related debris are allowed to enter into adjacent wetlands or waters. Establishing long-term stands of grass on exposed soil surfaces, and installation of erosion and sediment control blankets, silt fences, and/or straw bale barriers are conceivable control measures. These measures should be implemented immediately upon placement of fill material and maintained until all loose soils have been stabilized.

LDWF recommends that all forested vegetation cleared during construction activities be hauled to a non-wetland disposal location, or chipped and spread on site in a manner that is beneficial to the surrounding environment (i.e., placed in thin layers not to exceed 4 inches).

One 24 inch culvert shall be installed approximately every 250 feet should access roads be constructed through wetlands. Priority for the placement of those culverts should be given to natural low areas and drainages. Those culverts shall be maintained to ensure that the existing flow of surface water is uncompromised.

The Louisiana Department of Wildlife and Fisheries appreciates the opportunity to review and provide recommendations to you regarding this proposed activity. Please do not hesitate to contact Habitat Section biologist Matthew Weigel at 225-763-3587 should you need further assistance.

Sincerely,

Kyle F. Balkum
Biologist Director

zc

This project has been reviewed for effects to Federal trust resources under the jurisdiction and statutory controls of the Endangered Species Act of 1973 (Act). The project as proposed:
( ) Will have no effect on those resources
( ) Is not likely to adversely affect those resources.
This finding fulfills the requirements under Section 7(a)(2) of the Act.

D. D Watt 6 Jan 2016

Acting Supervisor
Louisiana Field Office
U.S. Fish and Wildlife Service

Mr. David Walther USFWS
646 Cajundome Blvd., Suite 400
Lafayette, LA 70506

Tammy Gilmore
Biologist/Environmental Resource Specialist
USACE, Regional Planning and Environment Division South

16 December 2015

Subject: Threatened and Endangered Species concurrence for EA #537 New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana.

Mr. Walther,

Reference is made to *Final Supplemental Environmental Impact Statement (SEIS), New Orleans to Venice (NOV), Federal Hurricane Protection Levee, Plaquemines Parish, Louisiana* and *Final Environmental Impact Statement (EIS), New Orleans to Venice, Louisiana, Hurricane Risk Reduction Project: Incorporation of Non-Federal Levees (NFL) From Oakville to St. Jude, Plaquemines Parish, Louisiana.* The Record of Decision (ROD) for each of these projects was signed on 31 October, 2011. On March 2013, the USFWS concurred with the Corps' determination of "not likely to adversely affect" any federally listed threatened or endangered species.

The U.S. Army Corps of Engineers (USACE), New Orleans District (MVN), is preparing to perform the work described in Environmental Assessment (EA) #537, *New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana.* The EA is being prepared to address modifications to the actions described in the aforementioned EIS. The project modifications consist of additional work areas that have been identified outside of the original project right-of-way as documented by the EIS, and would include changes to levee and floodwall alignments, additional access corridors, ramps, staging areas, and other temporary work easements; consideration of changes to the level of risk reduction from the 50-year (2%) to the 25-year (4%) in several locations throughout the NFL reaches; improvements to and enlargement of an existing drainage canal and associated lateral drainage ditches to replace an existing drainage canal that will be filled in by the NFL levee work; and the construction of an earthen levee across the Jefferson Lake Canal Marina. We are requesting concurrence with our determination of "not likely to adversely affect" any federally listed threatened or endangered species for the proposed work in EA #537.

See attached the previous T&E coordination and CAR for the project area and supporting information. If you have any questions about the project or need additional information, please contact me at (504) 862-1002.

Sincerely,
Tammy Gilmore

APPENDIX D

Section 106 SHPO and Tribal Concurrence

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

REPLY TO
ATTENTION OF

JAN 15 2016

Regional Planning and
Environmental Division, South
New Orleans Environmental Branch

The proposed undertaking will have no adverse effect on historic properties. This effect determination could change should new information come to our attention.

Mr. Phil Boggan
State Historic Preservation Officer
Department of Culture, Recreation and Tourism
Office of Cultural Development
P.O. Box 44247
Baton Rouge, Louisiana 70804

Phil Boggan
Deputy State Historic Preservation Officer

Re: New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana.

Dear Mr. Boggan:

The U.S. Army Corps of Engineers, New Orleans District (USACE) is preparing to release a draft Supplemental Environmental Assessment (SEA) #537, for public review. This SEA #537 was prepared to update environmental effects relating to construction of the Non-Federal Levees Project (NFL), Plaquemines Parish. The NFL Project was initially documented and assessed in the Final Environmental Impact Statement (FEIS) titled "*Final Environmental Impact Statement New Orleans to Venice, Louisiana Hurricane Risk Reduction Project: Incorporation of Non-Federal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana*" with a Record of Decision ("ROD") signed October 31, 2011. Cultural resource investigations were conducted for the FEIS by New South Associates and URS from August, 2008 through September, 2009 (Valk et al. 2010; State Report 22-3459). These investigations involved a Phase I Archaeological Survey of proposed alignments and Phase II evaluative testing at several sites identified in the Phase I study.

The Louisiana State Historic Preservation Officer (SHPO) and consulting federally recognized Tribes were informed of the USACE finding of no adverse effect, as a result of the 2009 study, in a letter dated April 13, 2010. The SHPO concurred with USACE eligibility determinations and finding of no adverse effect in a letter dated May 11, 2010, provided the USACE avoids impacts to the Becnel-Perez Mound site (Site 16PL186) and Sites 16PL188, 16PL189, and 16PL190. Nine federally recognized Tribes were contacted during the consultation process, including the Alabama Coushatta Tribe of Texas, the Caddo Nation of Oklahoma, the Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, the Coushatta Tribe of Louisiana, Mississippi Band of Choctaw Indians, Quapaw Tribe of Oklahoma, the Seminole Tribe of Florida, the Seminole Tribe of Oklahoma, and the Tunica-Biloxi Tribe of Louisiana. The Alabama-Coushatta responded by letter dated May 4, 2010, concurring with the USACE finding of no adverse effect, and the Choctaw Nation of Oklahoma by letter dated June 15, 2010, concurring with the USACE finding of no adverse effect.

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

REPLY TO
ATTENTION OF:

JAN 19 2016

Regional Planning and Environment
Division South

Ms. Pam Breaux
State Historic Preservation Officer
LA Office of Cultural Development
P.O. Box 44247
Baton Rouge, LA 70804-4247

Dear Ms. Breaux:

Draft Supplemental Environmental Assessment #537 (SEA #537) and a draft Finding of No Significant Impact (FONSI), prepared by the U.S. Army Corps of Engineers, New Orleans District are enclosed for your review and comment.

SEA #537 evaluates the proposed action to upgrade and incorporate 32 miles of existing non-Federal levees on the west bank of the Mississippi River in Plaquemines Parish between the communities of Oakville and St. Jude into the Federal levee system and construct from ground level 2 miles of earthen back levees. The NFL project was documented and assessed in the Final Environmental Impact Statement (" FEIS") titled " Final Environmental Impact Statement New Orleans to Venice, Louisiana Hurricane Risk Reduction Project: Incorporation of Non-Federal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana" with a Record of Decision (" ROD") signed October 31, 2011. The original design features, environmental impacts, and mitigation requirements as defined in the FEIS are supplemented by this SEA #537. The FEIS and ROD are hereby incorporated into this document by reference.

The proposed action as discussed in the SEA #537 would include modifications to Alternative B as described in the FEIS. The modifications to Alternative B would include additional work areas that have been identified outside of the original project right-of-way that includes changes to levee and floodwall alignments; additional access corridors, ramps, staging areas, and other temporary work easements; changes to the level of risk reduction from the 50-year (2%) to the 25-year (4%) in several of the NFL reaches; improvements to and enlargement of an existing drainage canal by the Plaquemines Parish Government; and the construction of an earthen levee across the Jefferson Lake Canal Marina.

Consultation with the SHPO and federally recognized Indian Tribes for the proposed action, that includes the results of the cultural resources surveys conducted for the drainage canal relocation, is ongoing. Letters were mailed to the SHPO and federally recognized Tribes on January 19, 2016 with a finding of no adverse effect. Consultation pursuant to Section 106 of the National Historic Preservation Act is ongoing and will be completed prior to the final EA and signing of the Finding of No Significant Impact.

Please review the enclosed documents and provide comments within 30 days of the date of this letter. The FONSI will not be signed until all environmental review and compliance requirements have been completed. A copy of the signed FONSI will be provided upon request.

Comments should be mailed to the attention of Mr. Eric M. Williams; U.S. Army Corps of

Engineers; Regional Planning and Environment Division South; New Orleans Environmental Branch; CEMVN-PDN-NCR; P.O. Box 60267; New Orleans, Louisiana 70160-0267.

Comments may also be provided by email to eric.m.williams@usace.army.mil, or by fax to (504) 862-2088. Mr. Eric M. Williams may be contacted at (504) 862-2862 if questions arise.

Sandra Stiles

for Joan M. Exnicios
Chief, Environmental Planning Branch

The proposed undertaking will have no adverse effect on historic properties. This effect determination could change should new information come to our attention.

Phil Boggan

Phil Boggan
Deputy State Historic Preservation Officer

Date

02/15/2016

Williams, Eric MVN

From: Stockton, Trent MVN
Sent: Thursday, March 03, 2016 9:21 AM
To: Hughbanks, Paul J MVN; Williams, Eric MVN
Subject: FW: [EXTERNAL] Section 106 SEA #537 Plaquemines Parish Louisiana
Attachments: Card for "Kim Penrod" <kpenrod@caddonation.org>.vcf

Comment from Caddo Nation of OK.

Trent

-----Original Message-----
From: Kim Penrod [mailto:kpenrod@caddonation.org]
Sent: Thursday, March 03, 2016 9:00 AM
To: Stockton, Trent MVN <Trent.C.Stockton@usace.army.mil>
Cc: 'Kim Penrod' <kpenrod@caddonation.org>
Subject: [EXTERNAL] Section 106 SEA #537 Plaquemines Parish Louisiana

Dear Dr. Stockton,

Thank you for the recent correspondence related to the Federal Levees Project located in Plaquemines Parish, Louisiana.
As with any new project, we never know what may come to light until work begins.
The Caddo Nation of Oklahoma asks that you keep us up to date on the progress of this project and
if any discoveries arise please contact us immediately.
Kim

--

Respectfully,
Kim Penrod
Director
Caddo Nation Heritage Museum, Library and Archives
Acting NAGPRA Coordinator
Acting THPO
Caddo Nation of Oklahoma
P.O. Box 487
Binger, OK 73047
405-656-2344 wk
405-924-9485 cell
kpenrod@caddonation.org
kimpenrod@yahoo.com

Be who you are and say what you feel, because those who mind don't matter and those who matter don't mind.~Dr. Seuss <Blockedhttp://www.brainyquote.com/quotes/quotes/d/drseuss104299.html>

Williams, Eric MVN

From: Stockton, Trent MVN
Sent: Tuesday, March 01, 2016 3:09 PM
To: Hughbanks, Paul J MVN; Williams, Eric MVN
Subject: FW: Section 106 Consultation - Supplemental Environmental Assessment #537 - New Orleans to Venice Hurricane Risk Reduction Project - Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana

Concurrence from Jena Band of Choctaw Indians.

Trent

-----Original Message-----
From: Alina Shively [mailto:ashively@jenachoctaw.org]
Sent: Tuesday, March 01, 2016 2:01 PM
To: Stockton, Trent MVN <Trent.C.Stockton@usace.army.mil>
Subject: [EXTERNAL] RE: Section 106 Consultation - Supplemental Environmental Assessment #537 - New Orleans to Venice Hurricane Risk Reduction Project - Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana

Dear Mr. Stockton:

Regarding the above-mentioned project and draft SEA, the Jena Band of Choctaw Indians' THPO hereby concurs with the determination of No Effect to Historic Properties. Should any inadvertent discoveries or unanticipated impacts occur, please contact all Tribes with interest in this area. Thank you.

Sincerely,

Alina J. Shively
Jena Band of Choctaw Indians
Tribal Historic Preservation Officer
P.O. Box 14
Jena, LA 71342
(318) 992-1205
ashively@jenachoctaw.org
-----Original Message-----
From: Stockton, Trent MVN [mailto:Trent.C.Stockton@usace.army.mil]
Sent: Tuesday, January 26, 2016 10:33 AM
To: Alina Shively <ashively@jenachoctaw.org>
Subject: Section 106 Consultation - Supplemental Environmental Assessment #537 - New Orleans to Venice Hurricane Risk Reduction Project - Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana

Dear Mrs. Shively:

The U.S. Army Corps of Engineers, New Orleans District (USACE) has released a draft Supplemental Environmental Assessment (SEA) #537 for public review. This SEA #537 was prepared to update environmental effects relating to construction of the Non-Federal Levees Project (NFL), Plaquemines Parish. The NFL Project was initially documented and assessed in the Final Environmental Impact Statement (FEIS) titled "Final Environmental Impact Statement New Orleans to Venice, Louisiana Hurricane Risk Reduction Project: Incorporation of Non-Federal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana" with a Record of Decision ("ROD") signed October 31, 2011. Cultural resource investigations were conducted for the FEIS by New South Associates and URS from August, 2008 through September,

Williams, Eric MVN

From: Stockton, Trent MVN
Sent: Monday, February 29, 2016 8:32 AM
To: Hughbanks, Paul J MVN; Williams, Eric MVN
Subject: FW: Section 106 Consultation - Supplemental Environmental Assessment #537 - New Orleans to Venice Hurricane Risk Reduction Project - Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana

Choctaw Nation of OK wants shape files and previous CR investigations for this project. They have new personnel reviewing Section 106 issues AND they have recently expanded their area of historic interest to include more of Louisiana than had been the case previously.

I will call Ms. Bilyeu today and let her know we are gathering what she requests.

Eric: the TL will need additional funding for this added consultation.

Trent

-----Original Message-----
From: Lindsey Bilyeu [mailto:lbilyeu@choctawnation.com]
Sent: Friday, February 26, 2016 4:51 PM
To: Stockton, Trent MVN <Trent.C.Stockton@usace.army.mil>
Subject: [EXTERNAL] RE: Section 106 Consultation - Supplemental Environmental Assessment #537 - New Orleans to Venice Hurricane Risk Reduction Project - Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana

Mr. Stockton,

The Choctaw Nation of Oklahoma thanks the USACE, New Orleans District, for the correspondence regarding the above referenced project. Plaquemines Parish, LA lies in the Choctaw Nation's area of historic interest. Since issuing a determination of "no adverse effect", the Choctaw Nation Historic Preservation Department has had a few staff changes. Since taking over the consultation as the Senior Compliance Review Officer, I do not believe that I have consulted on this project. Our area of historic interest has also changed during this time and we are now aware of many more Choctaw sites in Louisiana than we were at the time of issuing the "no adverse effect" determination. With that being said, there is a chance that our determination could change for this project.

Before issuing a final response for this project, I will need to receive some additional information. Please forward me the GIS shapefiles for the project so that I can determine if any Choctaw cultural or sacred sites lie within the APE. Also, please forward our office the previous cultural resources investigations so that I can re-examine the previous findings.

If you have any questions, please contact me.

Thank you,

Lindsey D. Bilyeu
Senior Compliance Review Officer
Historic Preservation Department
Choctaw Nation of Oklahoma
P.O. Box 1210
Durant, OK 74702

APPENDIX E

2011 Record of Decision:
New Orleans to Venice Hurricane Risk Reduction Project
Incorporation of Non-Federal Levees from Oakville to St. Jude,
Plaquemines Parish, Louisiana

RECORD OF DECISION
New Orleans to Venice Hurricane Risk Reduction Project
Incorporation of Non-Federal Levees from Oakville to St. Jude,
Plaquemines Parish, Louisiana

Environmental Impact Statement

The final Environmental Impact Statement (EIS), "New Orleans to Venice Hurricane Risk Reduction Project: Incorporation of Non-Federal Levees (NFL) from Oakville to St. Jude, Plaquemines Parish, Louisiana," provides documentation in support of a recommended plan for the replacement or modification of the NFL system for incorporation into the New Orleans to Venice (NOV) Federal project in Plaquemines Parish. per the Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery of 2006 (4th Supplemental - Public Law 109-234, Title II, Chapter 3, Flood Control and Coastal Emergencies [120 STAT. 454-455]). The Recommended Plan will provide enhanced storm damage risk reduction and protect evacuation routes. Based on my review and that of my staff, I find the plan recommended in the final EIS to be technically feasible and in compliance with applicable environmental statues and in the public interest.

The specific features of the Recommended Plan (Alternative C), which maximizes system reliability and minimizes impacts to the human population and highly valued environmental resources, include:

- Replacement or modification of 21 miles of existing non-Federal back levees on the west bank of the Mississippi River in Plaquemines Parish from Oakville to Citrus Lands for incorporation into the NOV Federal levee system.

- At the southern terminus of Section 3, the levee is designed to turn 90 degrees to the east and tie into the existing Mississippi River Levee (MRL).

- Enhancement of Sections 1-3 of the NFL system to an authorized 2 percent design elevation, or approximately a 50-year level of risk reduction (LORR) based on current hurricane modeling techniques.

The final EIS provides detailed analysis for three final alternatives as well as a no-action alternative. The final EIS originally identified Alternative B as the tentatively selected plan. The EIS also stated that based on the availability of funds, the possibility existed that a portion of the levee may proceed through design stage only and implementing Alterative C would be necessary in addition to the Recommended Plan; other alternatives evaluated as a basis for plan selections were:

Alternative A (No-Action Plan). This alternative, also known as the future without-project condition, is a requirement of the Council on Environmental Quality regulations to implement the National Environmental Policy Act (NEPA) (40 CFR Part 1500, *et seq.*). This alternative assumes no replacement or modification of the existing NFL system which received extensive damage during Hurricanes Katrina and Rita. This alternative also assumes that the NFL system will continue to be operated and maintained by private landowners and the Plaquemines Parish Government. The No-Action Plan would be the least environmentally damaging alternative. However, implementation of the no-action alternative would not result in the social benefits gained by implementing the congressionally authorized storm damage risk reduction project.

Alternative B. Alternative B would modify the existing levee sections (Sections 1-5) to the designed height for a 2 percent LORR and incorporate 32 miles of the existing NFL into the Federal hurricane and storm protection system by employing alignment alternatives which closely follow the existing levee alignment, only deviating from existing alignment for engineering reasons. Alternative B will also construct from ground level 2 miles of earthen back levees. The existing levee elevation would increase by approximately 3 to 4 feet, National Geodetic Vertical Datum (NGVD), in the northern portion of the project area and approximately 8 feet, NGVD, in the southern portion.

A locally preferred plan (non-Federal sponsor plan) was also included in the analysis and is referred to as Alternative B2 in the final EIS. Alternative B2 would modify and incorporate the NFL into the Federal hurricane and storm damage risk reduction system, but would differ from Alternative B by the implementing of a 1 percent LORR in Section 1. Sections 2-5 of Alternative B2 would be identical to Sections 2-5 of Alternative B. Any cost increase over and above Alternative B would be paid 100 percent by the local sponsor. Currently, the local sponsor will not be implementing the locally preferred plan.

Alternative C (Recommended Plan). Alternative C will modify the existing levee sections to the designed height of 2 percent LORR and incorporate Sections 1-3 of the NFL into the Federal hurricane and storm damage risk reduction system by employing alignment alternatives which closely follow the existing levee alignment. At the southern terminus of Section 3, the levee is designed to turn 90 degrees to the east and tie into the existing MRL. Section 3, which is designed to the same LORR as Sections 1 and 2, will tie into the MRL at a proposed site estimated to be directly south of Citrus Lands (i.e., where the NFL and MRL are at the closest proximity). Sections 4 and 5 would not be raised to the 2 percent LORR due to insufficient funds. In the event additional funding was appropriated to complete the project, Sections 4 and 5 would then later be incorporated into the Federal hurricane and storm protection system utilizing the same alignment as Alternatives B and C.

The environmental impacts of the MRL tie-in levee have been assessed and were disclosed in the EIS except for the small 0.25-mile section of the tie-in. A recent archeological survey of the tie-in did not locate any cultural resources, and the U.S. Army Corps of Engineers (USACE) original finding of "no historic properties affected" remains. This information was shared with the State Historic Preservation Officer (SHPO) and consulting Federally recognized tribes, and the SHPO concurred with the USACE's finding.

Where possible, levee enlargement activities were designed as a protected-side shift in order to avoid and minimize impacts to wetland habitats. In instances where conditions existed (such as residential areas or interior freshwater canals) that prohibited a protected-side shift, a straddle or flood-side shift was necessary and unavoidable. Although avoidance and minimization of wetland impacts were applied during plan formulation, implementation of the Recommended Plan will result is the loss of 36.3 acres of bottom-land hardwoods, 10.4 acres of freshwater marsh, 9.0 acres of brackish marsh, 24.9 acres of swamp, and 73.6 acres of wet pasture. Mitigation for these impacts will be required for the implementation of the Recommended Plan.

The Mitigation Plan (Appendix J of the EIS) outlines the proposed plans for mitigation and monitoring and provides the basis for compliance with Section 2036 for Water Resources Development Act of 2007 and 2009 USACE Implementation Guidance. A site-specific plan for specific mitigation sites and methods will be coordinated in a supplemental Environmental Assessment(s) (EA) subsequent to this Record of Decision (ROD) prior to project construction. This supplemental EA(s) finalizing specific mitigation will be coordinated with the public and agencies for a 45-day comment period. Full compensatory mitigation for the selected alternative impacts and associated borrow will be implemented concurrently with project construction. Adequate funding for this effort has been budgeted. If, during project implementation, the currently budgeted funding for mitigation is found to be inadequate, additional project funds will be applied to ensure that the adverse impacts of construction activities have been fully compensated. Construction will not begin on any particular levee reach until the mitigation requirements for that particular item have been incorporated into the mitigation plan and vetted with the Project Delivery Team (PDT).

Priority consideration will be given to areas along the west and east sides of the Mississippi River for potential mitigation identified in the final Fish and Wildlife Coordination Act Report. Secondary consideration will be given to potential mitigation areas near the project area. Preservation of existing wetlands is not being considered as a mitigation strategy for this project.

The draft EIS was released to the public on March 4, 2011. A Notice of Availability for the draft EIS was transmitted to the Environmental Protection Agency (EPA) and published in the *Federal Register* on March 4, 2011. The 45-day public comment period ended April 18, 2011. Three public meetings on the draft EIS were held to present the proposed project and receive comments on (1) April 5, 2011, in Buras, Louisiana; (2) April 6, 2011, in Belle Chasse,

Louisiana; and (3) April 7, 2011, in Davant, Louisiana. The draft EIS underwent Agency Technical Review prior to its release to the public, and those comments and/or recommendations were incorporated. Public and resource agency comments received during the 45-day comment period focused primarily on the LORR, project cost and duration, impacts to wetlands, procurement of borrow material, levee alignment, and potential impacts to the Myrtle Grove Marina Subdivision. Responses were prepared for all public and agency comments, and the EIS was revised as appropriate. The final EIS was released for a 30-day public and resource agency review. Resource agency comments focused primarily on the lack of a specific mitigation site being identified in the mitigation plan. In response, a teleconference was held on July 18, 2011, with the U.S. Fish and Wildlife Service, EPA, and the National Marine Fisheries Service to address those concerns. The teleconference resulted in a commitment by USACE to form a PDT consisting of USACE members and other interested state and Federal agencies to develop screening criteria for potential mitigation sites and to plan, locate, and implement any specific mitigation projects once a ROD has been signed.

The Recommended Plan is in compliance with the Endangered Species Act, Sections 401 and 404 of the Clean Water Act, the Coastal Zone Management Act, Executive Orders (EO) 11988 and 11990, NEPA, and other applicable environmental and cultural resources statutes and regulations. All practicable means were employed to avoid or minimize adverse effects to the environment. Should project changes develop in the future, NEPA or other statutes and regulations may be required as well.

Technical, environmental, and economic criteria used in the analysis of the alternatives were those specified in the Water Resources Council's Economic and Environmental Principles and Guidelines. All applicable laws, EOs, regulations, and local government plans were considered in the evaluation of the alternatives. Based on review of these evaluations, I find that the benefits of the Recommended Plan, along with mitigation, that would be implemented concurrent with project construction outweigh any adverse effects. This ROD completes the NEPA process.

31 Oct 2011
Date

Michael J. Walsh
Major General, U.S. Army
Division Commander

APPENDIX F

Clean Water Act Section 401 and 404(b)(1)

From:	Elizabeth Hill
To:	Williams, Eric MVN
Subject:	[EXTERNAL] RE: Plaquemines Parish Non-Federal Levees Project - CWA Section 401 Permit (WQC 110520-01/AI 101235/CER 20110002) (UNCLASSIFIED)
Date:	Thursday, January 07, 2016 4:30:33 PM
Importance:	High

Eric,

CORRECTION

AI 101235
WQC 110520-01

CER20160001

-----Original Message-----
From: Elizabeth Hill
Sent: Thursday, January 07, 2016 4:20 PM
To: 'Williams, Eric MVN'
Subject: RE: Plaquemines Parish Non-Federal Levees Project - CWA Section 401 Permit (WQC 110520-01/AI 101235/CER 20110002) (UNCLASSIFIED)

The current WQC is valid. LDEQ has no objections to the modifications to Alternative B.
Please use WQC 110520-01/AI 101235/CER20150006 for this activity.

-----Original Message-----
From: Williams, Eric MVN [mailto:Eric.M.Williams@usace.army.mil]
Sent: Thursday, January 07, 2016 2:49 PM
To: Elizabeth Hill
Cc: Williams, Eric MVN
Subject: RE: Plaquemines Parish Non-Federal Levees Project - CWA Section 401 Permit (WQC 110520-01/AI 101235/CER 20110002) (UNCLASSIFIED)
Importance: High

CLASSIFICATION: UNCLASSIFIED

Elizabeth,
Have you had a chance to consider the need to update the WQC for the Plaquemines non-Federal levees project?

State Water Quality Certification WQC 110520-01/AI 101235/CER 20110002 was issued on July 6, 2011 for the proposed action as originally documented and assessed in the Final Environmental Impact Statement ("FEIS") titled "Final Environmental Impact Statement New Orleans to Venice, Louisiana Hurricane Risk Reduction Project: Incorporation of Non-Federal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana" with a Record of Decision ("ROD") signed October 31, 2011..

Supplemental Environmental Assessment #537 is being prepared to evaluate proposed modifications to the original design features, environmental impacts, and mitigation requirements as defined in the FEIS. The FEIS and ROD are incorporated into SEA #537 by reference.

The proposed action as discussed in the SEA #537 would include modifications to Alternative B as described in the FEIS. The modifications to Alternative B would include additional work areas that have been identified outside of the original project right-of-way that includes changes to levee and floodwall alignments; additional access corridors, ramps, staging areas, and other temporary work easements; changes to the level of risk reduction from the

50-year (2%) to the 25-year (4%) in several of the NFL reaches; improvements to and enlargement of an existing drainage canal by the Plaquemines Parish Government; and the construction of an earthen levee across the Jefferson Lake Canal Marina. The Plaquemines Parish Government would be responsible for water quality certification for the improvements to and enlargement of the existing drainage canal. The Corps project would be essentially the same as evaluated for the original WQC.

Thanks,

Eric M. Williams
USACE, New Orleans District
CEMVN-PDN-NCR
(504)862-2862
eric.m.williams@usace.army.mil

-----Original Message-----
From: Williams, Eric MVN
Sent: Monday, December 21, 2015 2:49 PM
To: 'Elizabeth.Hill@la.gov' <Elizabeth.Hill@la.gov>
Subject: Plaquemines Parish Non-Federal Levees Project - CWA Section 401 Permit (WQC 110520-01/AI 101235/CER 20110002) (UNCLASSIFIED)
Importance: High

CLASSIFICATION: UNCLASSIFIED

Elizabeth,
Please refer to the attached documents.

The USACE, New Orleans District is preparing an EA for modifications to the subject project that will include additional project areas outside of the original right-of-way, the Jefferson Lake Canal Marina area (as discussed in the attachment with Jeff Corbino), and a drainage canal relocation that will actually be done by the Parish and not as part of the USACE project (we have included it in our EA to ensure compliance with the NEPA). The Parish should be seeking their own WQC for the drainage canal work.

Based on the existing WQC for the project and the conversations with Jeff Corbino regarding Jeff Lake Canal, do you feel that an new or updated WQC is required for this work? The EA will be out for public review by mid-January.

Thanks,
Eric M. Williams
USACE, New Orleans District
CEMVN-PDN-NCR
(504)862-2862
eric.m.williams@usace.army.mil

CLASSIFICATION: UNCLASSIFIED
CLASSIFICATION: UNCLASSIFIED

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

REPLY TO
ATTENTION OF:

JAN 25 2016

Regional Planning and
Environment Division South
Environmental Planning Branch

CLEAN WATER ACT, SECTION 404
PUBLIC NOTICE

NEW ORLEANS TO VENICE
HURRICANE RISK REDUCTION PROJECT:
CHANGES TO THE NON-FEDERAL LEVEES PROJECT,
OAKVILLE TO ST. JUDE,
PLAQUEMINES PARISH, LOUISIANA

Interested parties are hereby notified that the U.S. Army Corps of Engineers, New Orleans District (CEMVN), proposes modifications to the New Orleans to Venice Non-Federal Levees ("NFL"). The modification and construction of the NFL system involves the discharge of dredged material and fill into navigable waters of the U.S.; therefore, the provisions of Title 33 CFR Parts 336.1(b)(1) and 337.1, effective April 26, 1988, are applicable and issuance of this public notice is required.

This notice is being distributed to all interested state and Federal agencies and other known parties to make known our intentions to initiate and continue maintenance in the areas of work listed herein.

PROJECT: New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana.

PROJECT AUTHORITY: Congress approved a series of supplemental appropriations acts following Hurricanes Katrina and Rita to repair or improve Federal and non-Federal flood control projects and related works in the affected area. The USACE, New Orleans and Vicksburg Districts, conducted the study described in this document under the authorities described below.

Under these authorities, a total of $671,000,000 was allocated for construction at full Federal expense to replace or modify the NFL on the west bank in Plaquemines Parish from Oakville to St. Jude, and to incorporate the levees into the Federal levee system for the purpose of providing enhanced storm surge risk reduction and protection of the evacuation route.

The Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery of 2006 (4th Supplemental - Public Law 109-234, Title

II, Chapter 3, Flood Control and Coastal Emergencies [120 STAT. 454-455]) provides: "For an additional amount for 'Flood Control and Coastal Emergencies,' as authorized by section 5 of the Act of August 18, 1941 (33 U.S.C. 701n), for necessary expenses relating to the consequences of Hurricane Katrina and other hurricanes, $3,145,024,000, to remain available until expended: Provided, that the Secretary of the Army is directed to use the funds appropriated under this heading to modify, at full Federal expense, authorized projects in southeast Louisiana to provide hurricane and storm damage reduction and flood damage reduction in the greater New Orleans and surrounding areas; . . . *$215,000,000 shall be used to replace or modify certain non-Federal levees in Plaquemines Parish to incorporate the levees into the existing New Orleans to Venice hurricane protection project*; . . . ." The Flood Control and Coastal Emergencies Section of Title II, Chapter 3, of the Joint Explanatory Statement of the Committee of Conference, page 115, states: "Funds totaling $3,145,024,000 are recommended to continue repairs to flood and storm damage reduction projects . . . *These projects are to be funded at full Federal expense* . . . Additionally, the Conferees include: . . . *$215,000,000 for incorporation of non-Federal levees on the west bank of the Mississippi River in Plaquemines Parish in order to provide improved storm surge protection and to protect evacuations routes*; . . . ."

The U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (5th Supplemental - Public Law 110-28, Title IV, Chapter 3, Flood Control and Coastal Emergencies [121 STAT. 153-154]) provides: "For an additional amount for 'Flood Control and Coastal Emergencies,' as authorized by section 5 of the Act of August 18, 1941 (33 U.S.C. 701n), for necessary expenses relating to the consequences of Hurricanes Katrina and Rita and for other purposes, $1,407,700,000, to remain available until expended:

Provided, . . . *The Secretary of the Army is . . . to prosecute these projects in a manner which promotes the goal of continuing work at an optimal pace, while maximizing, to the greatest extent practicable, levels of protection to reduce the risk of storm damage to people and property* . . . ."

The Supplemental Appropriations Act, 2008 (6th Supplemental – Public Law 110-252, Title III, Chapter 3, Flood Control and Coastal Emergencies [122 STAT. 2349-2350]) provides: "For an additional amount for 'Flood Control and Coastal Emergencies,' as authorized by section 5 of the Act of August 18, 1941 (33 U.S.C. 701n), for necessary expenses relating to the consequences of Hurricane Katrina and other hurricanes of the 2005 season, $2,926,000,000, to become available on October 1, 2008, and to remain available until expended: *Provided*, That funds provided herein shall be used to reduce the risk of hurricane and storm damages to the greater New Orleans metropolitan area, at full Federal expense, for the following: . . . *$456,000,000 shall be used to replace or modify certain non-Federal levees in Plaquemines Parish to incorporate the levees into the existing New Orleans to Venice hurricane protection project*; . . . ."

PROJECT PURPOSE AND NEED: On 29 August 2005, Hurricane Katrina caused major damage to the Federal and non-Federal flood control projects in southeast Louisiana. Hurricane Rita followed this storm on 24 September 2005, made landfall on the Louisiana-Texas state border, and also caused damage to Federal and non-Federal flood control projects in southern Louisiana. Subsequent to the storms, the Corps, working with state and local officials, undertook emergency repairs to Federal and non-Federal flood control projects and related works in the affected area.

The existing back levee was constructed with non-Federal funds on the west side of the Mississippi River to provide hurricane flood risk reduction to the communities from Oakville to St. Jude. The levee has settled and degraded to various degrees, with the northern portion in better condition and at higher elevations than the southern portion. The average grade elevation of the existing levee varies from approximately 8 feet on the northern end to approximately 3 feet in some NFL Sections on the southern end. Because the grade elevation varies by as much as 5 feet and recent hurricanes have further degraded certain Sections, the current level of risk reduction is of low reliability.

The NFL, as previously noted, has received only emergency repairs from hurricane-related damages. This condition exposes residents and businesses in several west bank communities and the hurricane evacuation route (Louisiana Highway 23 (LA 23)), to a higher potential for flooding in the event of a storm or hurricane. The majority of the existing NFL is below the authorized 50-year level of risk reduction (2% level of risk reduction). This deficiency creates a 64 percent chance that homes would be inundated during a hurricane event that produces a 50-year flood level.

DESCRIPTION OF ACTION: The proposed action includes modifications to the New Orleans to Venice Non-Federal Levees ("NFL"). The NFL project consists of approximately 32 miles of levees along the west bank of the Mississippi River. Currently, the levee heights vary throughout the NFL alignment. Authorization was granted for incorporation of replacements and modifications into the New Orleans to Venice Federal project after the NFL received extensive damage from Hurricanes Katrina and Rita. The proposed project includes additional work areas identified outside of the original project right-of-way consisting of proposed changes to the levee and floodwall alignments; additional access corridors, ramps, staging areas, and other temporary work easements; changes to the level of risk reduction from the 50-year (2%) to the 25-year (4%) in several portions of the NFL; the construction of an earthen levee across the Jefferson Lake Canal Marina; and improvements to and enlargement of an existing drainage canal that would be a project constructed by the Plaquemines Parish Government ("PPG").

The NFL project consists of approximately 32 miles of levees along the west bank of the Mississippi River. Currently, the levee heights vary throughout the NFL alignment. Authorization was granted for incorporation, replacements, and modifications into the New Orleans to Venice Federal project after the NFL received extensive damage from

Hurricanes Katrina and Rita. The NFL project is divided into five distinct levee sections, for planning purposes, and a detailed description of each section is provided below. **Table 1** provides a description of each contract reach by NFL Section and proposed level of risk reduction.

NFL Section 1 – Oakville to La Reussite. This section begins at Oakville and extends south to La Reussite. The beginning point is south of the Hero Canal west of Highway (LA-23). The section runs 8 miles south to the end point near the outfall canal of the Mississippi siphon pipes at La Reussite.

NFL Section 2 – La Reussite to Myrtle Grove. This section begins where Section 1 ends near the outfall canal of the Mississippi River siphon pipes at La Reussite and runs south 11.8 miles ending to the south of Marina Road at Myrtle Grove.

NFL Section 3 – Myrtle Grove to Citrus Lands. This section begins where Section 2 ends near Marina Road in Myrtle Grove and runs 3.1 miles south ending south of Lake Hermitage Road referred to as Citrus Lands.

NFL Section 4 – Citrus Lands to Pointe Celeste. This section begins at the end of Section 3 near Lake Hermitage Road at Citrus Lands and runs south 9.0 miles ending south of Pointe Celeste approximately 1,500 feet north and west of the West Pointe a la Hache pump station and siphon. This endpoint is where the existing NFL approaches LA-23 from the south and makes a right turn to parallel the highway.

NFL Section 5 – Pointe Celeste to St. Jude. The section begins at the end of Section 4 and runs 3.1 miles south ending at St. Jude Road where the north end of the existing St. Jude to City Price Federal back levee begins. There are 1.1 miles of existing NFL in the upper or northern portion of this section. In the lower portion of Section 5, there is no existing non-Federal back levee along the gulf side of LA-23 for a distance of approximately 2 miles.

TABLE 1. LEVELS OF RISK REDUCTION BY NFL SECTION AND CONTRACT REACH.

Section		Location	Structure Type	Contract Reach	Level of Risk Reduction
1		Oakville to La Reussite	Levee	NOV-NF-W-04a	50-year/2%
1		Oakville to La Reussite	T-Wall	NOV-NF-W-04a.1	50-year/2%
1		Ollie Pump Station Fronting Protection	Floodwall	NOV-NF-W-04b	50-year/2%
2		La Reussite to Wilkinson Pump Station	Levee	NOV-NF-W-05a.1	25-year/4%

3		Wilkinson Pump Station to Woodpark	Levee	NOV-NF-W-05a.2	25-year/4%
3		Woodpark	T-Wall	NOV-NF-W-06b.1	50-year/2%
4		Woodpark to Pointe Celeste	Levee	NOV-NF-W-06a.1	25-year/4%
4		Pointe Celeste Pump State (Fronting Protection)	Floodwall and embankment earthwork	NOV-NF-W-06b.2	50-year/2%
4		Pointe Celeste to West Point a la Hache	Levee	NOV-NF-W-06a.2	25-year/4%
5		Gulf South Pipeline[1]	T-Wall	NOV-NF-W-06b.3	50-year/2%
5		West Point a la Hache to St. Jude	Levee	NOV-NF-W-06a.3	25-year/4%
5		Magnolia Pump Station	Floodwall	NOV-NF-W-06b.5	50-year/2%

[1]Work for the Gulf South Pipeline will be performed at two separate locations; near the existing West Point a la Hache Pump Station and Jefferson Lake Canal.

The NFL project was originally documented and assessed in the Final Environmental Impact Statement ("FEIS") titled "*Final Environmental Impact Statement New Orleans to Venice, Louisiana Hurricane Risk Reduction Project: Incorporation of Non-Federal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana*" with a Record of Decision ("ROD") signed October 31, 2011.

The FEIS and ROD for the project included an analysis of several alternatives for the construction of the NFL levee. Among the action alternatives, "Alternative B" was developed to replace or modify 32 miles of the west bank NFL and construct from ground level 2 miles of earthen back levees where no NFL levees previously existed (NFL Section 5 - West Point a la Hache to St. Jude). As part of "Alternative B" Sections 1-5 of the levees would be raised to an authorized 2 percent design elevation, or approximately a 50-year level of risk reduction elevation. An "Alternative C" was also evaluated and included NFL Sections 1-3 of the levee as proposed in Alternative B, but included a "cut-through" to the Mississippi River Levee at the end of NFL Section 3. This would have resulted in NFL Sections 4 and 5 being designed only, and not constructed due to insufficient funding.

The draft EIS was released for public comment in May 2011, and at the time of public review, the Tentatively Selected Plan was "Alternative B". In August of 2011, an internal re-evaluation of funding by the USACE for the NFL project determined that the then-current funding levels would most likely not be sufficient to complete the NFL project as

proposed in "Alternative B". Therefore, the signed ROD on October 31, 2011 approved "Alternative C" as the Recommended Plan.

A risk analysis performed for the New Orleans to Venice/Non-Federal Levees project by the U.S. Army Corps of Engineers Risk Management Center in August 2015 determined that changing the level of risk reduction elevation from 50-year to approximately 25-year for NFL Sections 2 and 3 would make construction of levees possible for NFL Sections 4 and 5 despite funding constraints. As a result, the current plan under consideration would result in reverting the proposed action back to "Alternative B" but modifies it to lower the levels of risk reduction in certain areas, as indicated in **Table 1**, as well as the modifications that would include additional right-of-way; construction of an earthen levee across the Jefferson Lake Canal Marina; and the relocation, enlargement, and improvement to the drainage canal and associated lateral ditches by the PPG.

Areas Outside of Right-Of-Way and Changes to the Level of Risk Reduction:

The proposed change from Alternative C to a modified Alternative B would require changes to the project's design resulting in realignments of the levees and floodwalls, as well as the need for additional access roads, staging areas, ramps, and other temporary work easements that were identified during design and not accounted for in the FEIS.

Drainage Canal Relocation:

As a consequence of expanding the levee base in portions of NFL Sections 2 and 4, the PPG drainage canal located on the protected side of the existing NFL would be filled. The filling of the PPG canal at the toe of the NFL was approved in the FEIS and ROD. In order to maintain the existing PPG drainage system capacity, the service provided by the filled drainage canal must be re-established, and would be done so as a compensable relocation by the PPG. The relocation of the drainage canal as proposed by the PPG would improve and enlarge existing interior drainage canals in Sections 2 and 4 **(Figure 2)** to provide the same level of service as that of the existing drainage canal at the protected-side toe of the NFL levee. The relocation and improvements to the drainage canal would be constructed by the PPG, and the PPG would be responsible for any environmental permits required and mitigation for any impacts wetlands or other habitat types resulting from the relocation of the drainage canal.

The drainage service area in Section 2 extends for approximately 5 miles from La Reussite to Myrtle Grove. Waters collected in this system drain to the Wilkinson Canal Pump Station, which is being relocated as part of the NFL project. The drainage service area in Section 4 extends for approximately 7 miles from Lake Hermitage Road to West Pointe a la Hache. Waters in this system drain to the Point Celeste Pump Station.

Excavation activities would also include four areas in Section 2 and four areas in Section 4 (**Figure 2**) where drainage between the central canal and existing lateral

ditches would be improved. Surface water flow in the lateral ditches located between the central drainage canal segments and the NFL currently drains in a southwesterly direction into the existing drainage canal. The existing ditches would be deepened to create gravity flow in the opposite direction and the connections to the improved canal segments would be established utilizing polyvinyl chloride (PVC) pipes, installed or replaced as needed.

Excavation activities in the drainage canal segments and lateral ditches are estimated to produce approximately 1.05 million cubic yards of excavated canal sediments and vegetation material. The excavated material would be transported to fill the inactive Conoco Phillips borrow pit area of approximately 42.1 acres on the Conoco Phillips property located in Section 2. The material would also be temporarily stockpiled in one area located in Section 2 (approximately 66.88 acres) and two areas located in Section 4 (approximately 50.44 acres and 45.10 acres). The stockpiled material would be used by the respective landowners. The fill and stockpile areas do not contain any wetlands and would not be used to fill wetlands. A 0.09 mile segment of existing interior drainage canal at the southeastern end of Section 2 would also be filled with the excavated material.

The proposed action includes improving the existing road networks to provide access for construction and maintenance of the project. The project areas contain parish roads and several other existing access roads. The road network is not complete and the condition of the existing access roads varies. Therefore, in order to facilitate access to the NFL and the drainage canal improvement areas, the construction of six new access roads and one temporary access road, and the improvement of two existing roads would be necessary. The proposed activities in Section 2 include a temporary road between the improved canal and the former Conoco Phillips borrow pit that is proposed to be filled with excavated material. Four new roads are proposed to be constructed in Section 4. These roads would provide access to the work areas for the proposed project. New construction and road improvements involve surfacing approximately 5.95 miles of new roads, 0.80 mile of temporary road, and resurfacing approximately 3.03 miles of existing roads. After construction, all the access roads, except the temporary road, would be maintained by the parish for access to the NFL and the drainage canals.

A 20-foot maintenance road along the widened canal would be part of the construction easement. The width of the canal bottom would vary from 20 to 60 feet and the depth from top of bank to canal bottom would vary from 4 to 9 feet. The canal segments increase to the greatest width and depth where they enter the intake basins for the pump stations. The total construction easement width for improved canal segments would not exceed 200 feet. Approximately 10.52 miles of canal would be excavated and the same length of maintenance roads would be surfaced with aggregate.

Three new canal segments would be excavated, and would include a 20-foot maintenance road. The construction easement for these new segments is

approximately 100 to 125 feet wide, with a canal bottom width of 20 to 40 feet. The length for both the new canal segments and maintenance roads is approximately 2.78 miles.

All access roads including the maintenance roads within the canal segments total approximately 20.08 miles. All of these roads would be surfaced with geotextile fabric overlaid with approximately 55,400 tons of aggregate.

Some existing culverts would be replaced and some new culverts would be installed in order to maintain water flow under the access and maintenance roads. Depending upon the width of the canal and length of the road crossing, 1 to 4 barrels of 24, 36, or 48 inches would be installed. Approximately 50 feet of 12-inch PVC pipe would be used for the lateral ditch connections.

Four temporary staging areas along the project route comprising approximately 43.2 acres would be cleared and surfaced with stone or gravel **(Figure 2)**.

Work performed for the drainage canal excavations and modifications and other project features would be accomplished using ground-based excavation equipment including track-hoes, bulldozers, dump trucks, and other standard earth moving equipment.

Jefferson Lake Canal Marina Earthen Levee:
A levee would be constructed across the Jefferson Lake Canal Marina property. Construction of the levee segment may be divided into land- and marine-based activities (**Figure 3**).

Land-Based Activities: Tracked vehicles (including excavators, backhoes, and bulldozers) would clear and grub grounds within the levee footprint. Clearing and grubbing would include the removal of vegetation, excavation of the top 3 feet of soil and debris, and leveling of the excavated area. A 3-foot thick base layer of sand would be placed on top of all excavated grounds before construction of the levee. All excavated materials would be disposed of at a permitted disposal facility.

Marine-Based Activities: Docks within the levee footprint would be demolished, and piles would be cut at the mud-line. Dock and pile debris would be hauled to a permitted disposal facility.

Approximately 30,000 cubic yards of sand would be placed within the marina to form a stable base for the levee, with fill placement beginning near LA 23 at the project's protected-side levee toe and progressing south-southwest towards the Jefferson Lake Canal and the project's flood-side levee toe. The sand would completely fill the marina to the water's surface. The sand base would cover approximate 90,000 square-feet, and would have a maximum thickness of about 8-feet. Equipment including front-end loaders, bulldozers, and long-reach excavators would be used to place the fill.

It is anticipated that a portion of the existing marina sediments would be displaced during construction of the levee base (in addition to sediments that are buried and compacted under the sand). The marina sediments have a moisture content generally above 60%, and may be displaced as a mud-wave propagating towards the Jefferson Lake Canal. To accommodate the sand base, a long-reach excavator with an approximate boom reach of 80-feet would be used to "push" the mud-wave towards the canal. A maximum of 9,000 cubic yards of marina sediment could be displaced during construction of the sand base. Displaced material that is not buried by the sand would migrate down the canal beyond the flood-side levee toe thru propagation of the mudwave aided by mechanical degradation.

GENERAL DESCRIPTION OF DREDGED OR FILL MATERIAL:

General Characteristics of Material

Fill material used in the NFL project would predominantly consist of clays from previously evaluated Government and/or Contractor furnished borrow areas interbedded with layers of silts and sands.

Quantity and Source of Material

Approximately 14,206,596 cubic yards of non-compacted clay will be required for the entire Plaquemines NFL levee project. Earthen levee construction requires a specific type of clay material which compacts well and prevents seepage. This material has specific requirements related to the amounts of sand, organic material, etc. Before borrow material can be used for levee construction, soil borings, testing, and environmental clearance of potential borrow sites needs to be completed. Several sources of suitable borrow material exist, and are available for use by the NFL project. Potential sources for suitable borrow material includes the use of previously evaluated Government-furnished and Contractor-furnished borrow areas. A contract-by-contract borrow analysis will be completed for each of the NFL project contract reaches.

DESCRIPTION OF THE PROPOSED DISCHARGE SITES:

Location

The discharge of fill material would be at NFL contract reach construction sites and the drainage canal relocation and improvements by the Plaquemines Parish Government.

Size

The project encompasses the 32-mile NFL footprint. Wetlands impacted by the proposed construction would total approximately 422.1 acres.

Types of Sites

Sites are located on both cleared and uncleared acreages. Discharge sites would include the NFL contract reach construction sites and the drainage canal relocation and improvement by the Plaquemines Parish Government.

Types of Habitat

Habitat types include bottomland hardwoods wet/dry, swamp, marsh, wet pasture, scrub/shrub, and open water. **Table 2** displays wetland impacted acreage by habitat type.

TABLE 2. IMPACTS BY HABITAT TYPE AND ACREAGE.

Habitat Type	Bottomland Hardwoods Wet	Bottom-land Hardwoods Dry	Swamp	Marsh	Wet Pasture	Scrub Shrub	Open Water
Acres	102.8	43.3	39.4	38	113.3	10.5	15.3

NATIONAL ENVIRONMENTAL POLICY ACT DOCUMENTATION: The NFL project was originally documented and assessed in the Final Environmental Impact Statement ("FEIS") titled "*Final Environmental Impact Statement New Orleans to Venice, Louisiana Hurricane Risk Reduction Project: Incorporation of Non-Federal Levees from Oakville to St. Jude, Plaquemines Parish, Louisiana"* with a Record of Decision ("ROD") signed October 31, 2011. The modifications to "Alternative B" discussed above that include additional right-of-way, the earthen levee across the Jefferson Lake Canal Marina, and the relocation and improvements to the drainage canal by the Plaquemines Parish Government are being evaluated in the Supplemental Environmental Assessment #537 titled "*New Orleans to Venice Hurricane Risk Reduction Project: Changes to the Non-Federal Levees Project, Oakville to St. Jude, Plaquemines Parish, Louisiana*" that is available for public review and comment from January 19 to February 17, 2016. Mitigation for impacts to wetlands and other habitat types resulting from the proposed NFL project are being evaluated in Environmental Assessment #543 and will be made available for public review and comment when the draft is available.

A Section 404(b)(1) public notice for the NFL project was completed in 2011 and included as Appendix F in the FEIS.

STATE WATER QUALITY CERTIFICATION: The Louisiana Department of Environmental Quality issued water quality certification WQC 110520-01/AI 101235/CER 20110002 in their letter dated July 6, 2011. Coordination with the Louisiana Department of Environmental Quality on January 7, 2016 determined that the existing water quality certification was valid and that a revised certification is not required. Water quality certification WQC 110520-01/AI 101235/CER 20160001 was assigned.

COASTAL ZONE CONSISTENCY DETERMINATION: The CEMVN applied for Coastal Zone Consistency concurrence (Mod 1 to C20100384) from the Louisiana Department of Natural Resources by letter dated December 30, 2015. Coordination is currently ongoing and will be completed prior to construction.

THREATENED AND ENDANGERED SPECIES: In a letter dated December 16, 2015, the CEMVN requested concurrence from the US Fish and Wildlife Service that the proposed action is not likely to adversely affect any threatened or endangered species or critical habitat. On January 6, 2016, the US Fish and Wildlife Service concurred with the CEMVN finding that the proposed NFL project will have no effect on threatened or endangered species.

Three active bald eagle nests exist in close proximity to the NFL project area. The Corps currently holds a Federal Fish and Wildlife Permit for eagle take associated with, but not the purpose of, the activities discussed in the previously approved FEIS. The permit includes avoidance, minimization and mitigation measures that the Corps must comply with which include but are not limited to (a) bi-weekly monitoring of all nests during nesting season (b) maintaining a specified distance between the activity and the nest (buffer area), (c) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers), and (d) avoiding certain activities during the breeding season. Specifically, construction activity is prohibited within 660 feet of an active nest during the nesting season (October 1 – May 15), work cannot damage any part of a nesting tree, and no tree clearing should occur within 330 feet of a nest tree.

CULTURAL RESOURCES: Consultation under Section 106 of the National Historic Preservation Act is on-going. A finding of "no adverse effect" to historic properties was coordinated with the Louisiana State Historic Preservation Officer in a letter dated January 15, 2016, and with federally recognized Indian Tribes in a letter dated January 21, 2016. No properties listed on the National Register of Historic Places are located within the vicinity of the project area.

COORDINATION: The following is a partial list of agencies to which a copy of this notice is being sent:

U.S. Environmental Protection Agency, Region VI
U.S. Fish and Wildlife Service
National Marine Fisheries Service
U.S. Coast Guard, Eighth District
Louisiana Department of Environmental Quality
Louisiana Department of Natural Resources
Louisiana Department of Wildlife and Fisheries
Louisiana Department of Transportation and Development
Louisiana State Historic Preservation Officer

This notice is being distributed to these and other appropriate Congressional, federal, state, and local interests, environmental organizations, and other interested parties.

PROJECT PLANS: Plans for the proposed work will be on file in the Regional Planning Division South Office, Environmental Compliance Branch, Coastal Environmental Planning Section, US Army Corps of Engineer District, New Orleans, 7400 Leake Avenue, New Orleans, Louisiana 70118, and may be seen by anyone having an interest in them.

PUBLIC INVOLVEMENT: Interested parties may submit comments or suggest modifications regarding the proposed work in writing to Mr. Eric M. Williams, PDC-CEP, PO Box 60267, New Orleans, Louisiana 70160-0267. Mr. Williams can also be reached at (504) 862-2862.

Comment period ends 30 days from the date of this notice.

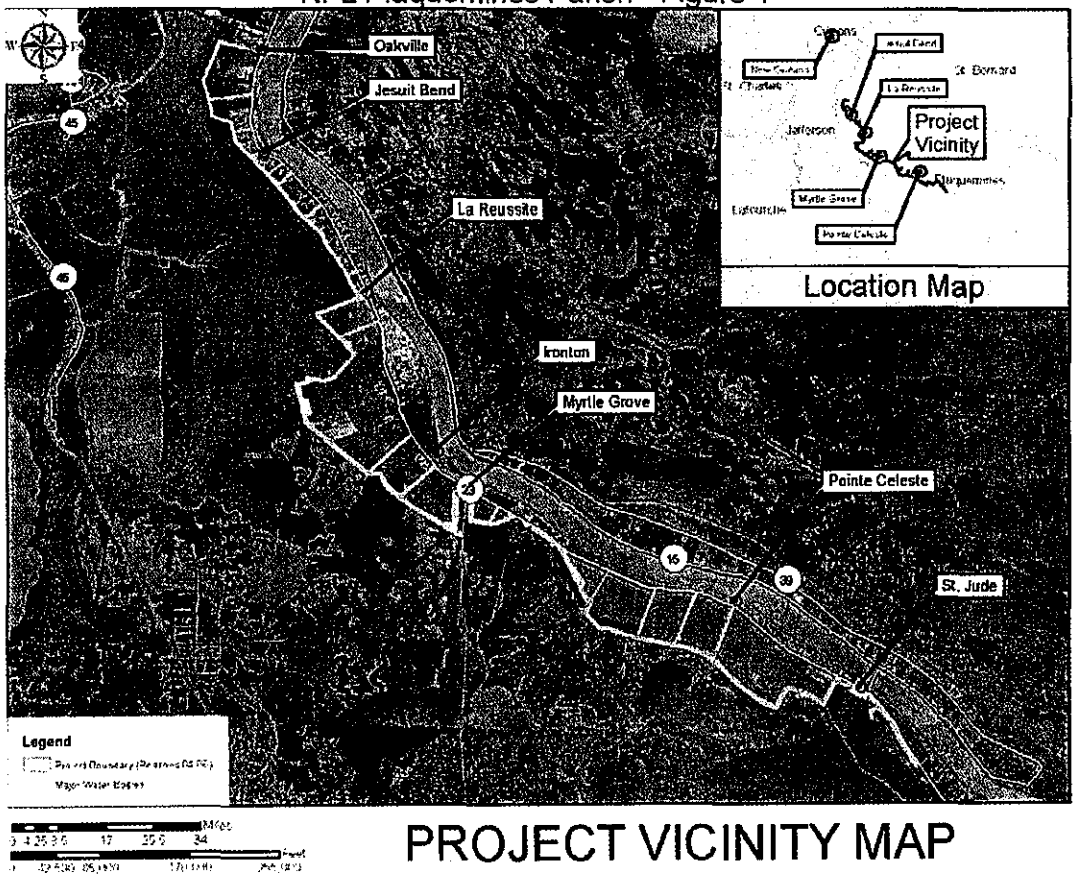
Any person who has an interest that may be affected by proposed project action may request a public hearing. The request must be submitted in writing to Mr. Williams within the comment period of this notice and must clearly set forth the interest that may be affected and the manner in which the interest may be affected by the proposed action. You are requested to communicate the information contained in this notice to any parties who may have an interest in the proposed action.

Sincerely,

Joan M. Exnicios
Chief, Environmental Planning Branch

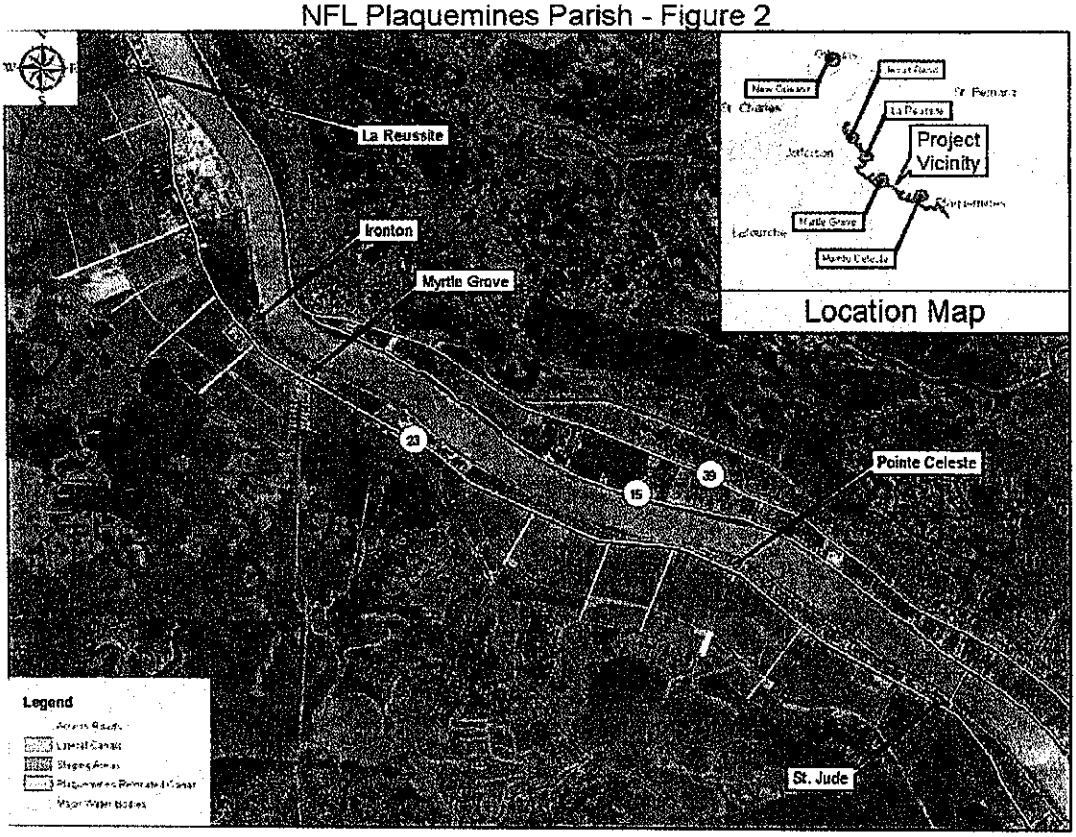
Enclosure(s)

NFL Plaquemines Parish - Figure 1



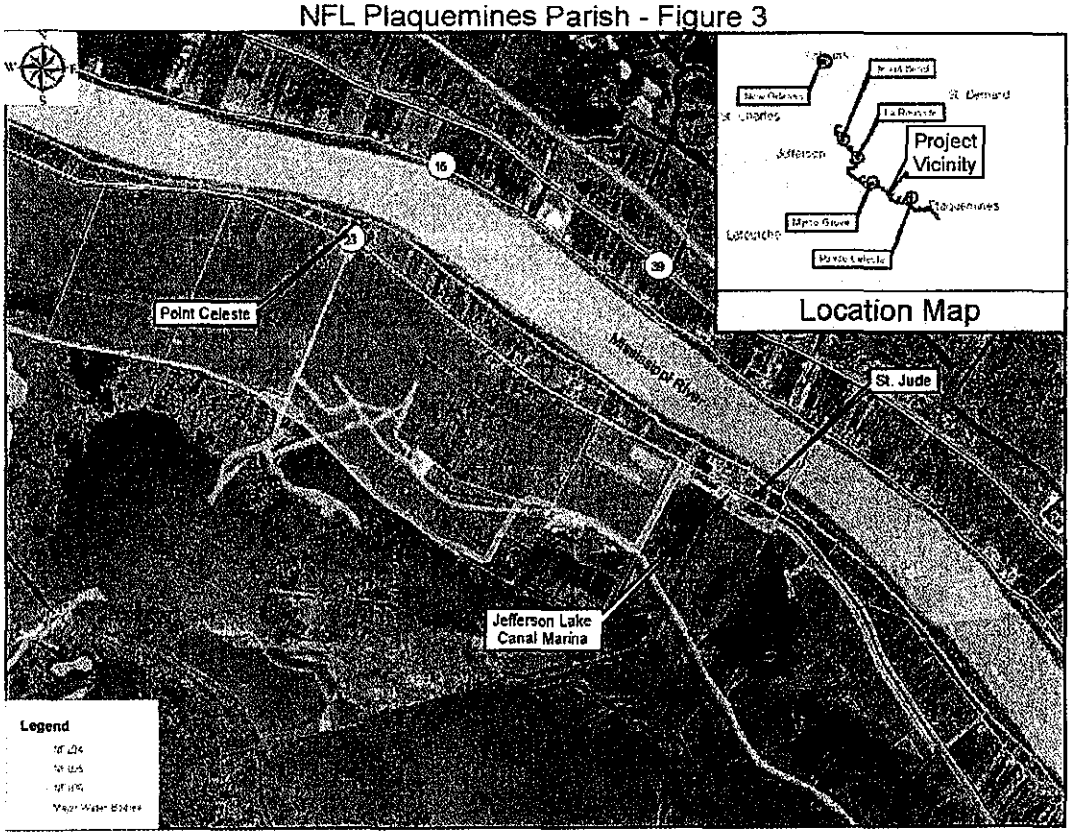
PROJECT VICINITY MAP

NFL Plaquemines Parish - Figure 2



DRAINAGE CANAL LOCATION

NFL Plaquemines Parish - Figure 3



JEFFERSON LAKE CANAL

APPENDIX G

Coastal Zone Consistency
C20100384 Mod 7

JOHN BEL EDWARDS
GOVERNOR

THOMAS F. HARRIS
SECRETARY

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF COASTAL MANAGEMENT

March 14, 2016

Eric Williams
Corps of Engineers- New Orleans District
P.O. Box 60267
New Orleans, LA 70160-0267

RE: **C20100384 mod 07,** Coastal Zone Consistency
New Orleans District, Corps of Engineers
Direct Federal Action
Changes to alignment, access, and level of flood protection along some reaches of New Orleans to Venice non-federal levee enlargement
Plaquemines Parish, Louisiana

Dear Mr. Williams:

The above referenced project has been reviewed for consistency with the approved Louisiana Coastal Resource Program (LCRP) as required by Section 307 of the Coastal Zone Management Act of 1972, as amended. The project, as proposed in the application, is consistent with the LCRP. If you have any questions concerning this determination, please contact Carol Crapanzano of the Consistency Section at (225) 342-9425 or 1-800-267-4019.

Sincerely yours,

/S/ Don Haydel
Acting Administrator
Interagency Affairs/Field Services Division

DH/SK

cc: Dave Butler, LDWF
Frank Cole, OCM