DRAFT INDIVIDUAL ENVIRONMENTAL REPORT

PRE-APPROVED CONTRACTOR FURNISHED BORROW MATERIAL # 3

JEFFERSON, PLAQUEMINES, AND ST. JOHN THE BAPTIST PARISHES, LOUISIANA, AND HANCOCK COUNTY, MISSISSIPPI

IER # 26

US Army Corps of Engineers®

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1. INTRODUCTION

The U.S. Army Corps of Engineers (USACE) Mississippi Valley Division, New Orleans District (CEMVN), has prepared this Individual Environmental Report # 26 (IER # 26) to evaluate the potential impacts associated with the possible excavation of five Pre-Approved Contractor Furnished borrow areas. The proposed action areas are located in southeastern Louisiana and southwestern Mississippi (figure 1). The term "borrow" is used in the fields of construction and engineering to describe material that is dug in one location for use at another location. The CEMVN is proposing to use suitable borrow material for construction of the proposed Greater New Orleans Hurricane and Storm Damage Risk Reduction System (GNOHSDRRS).

IER # 26 has been 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 the USACE Engineering Regulation, ER 200-2-2. The execution of an IER, in lieu of a traditional Environmental Assessment (EA) or Environmental Impact Statement (EIS), is provided for in ER 200-2-2, Environmental Quality (33 CFR §230) Procedures for Implementing the NEPA and pursuant to the Council on Environmental Quality (CEQ) NEPA Implementation Regulations (40 CFR §1506.11). The Alternative Arrangements can be found at www.nolaenvironmental.gov, and are herein incorporated by reference.

The CEMVN implemented Alternative Arrangements on 13 March 2007, under the provisions of the Council on Environmental Quality Regulations for Implementing the NEPA (40 CFR §1506.11). This process was implemented in order to expeditiously complete environmental analysis for any changes to the authorized GNOHSDRRS, formerly known as the Hurricane Protection System (HPS) authorized and funded by Congress and the Administration. The proposed actions are located in southeastern Louisiana and southwestern Mississippi and are part of the Federal effort to rebuild and complete construction of the GNOHSDRRS in the New Orleans Metropolitan Area as a result of Hurricanes Katrina and Rita in 2005.

This draft IER will be distributed for a 30-day public review and comment period. A public meeting specific to the proposed action will be held, if requested by a stakeholder during the review period. Any comments received during this public meeting will be considered part of the official record. After the 30-day comment period, and public meeting if requested, the CEMVN District Commander will review all comments received during the review period and make a determination if they rise to the level of being substantive in nature. If comments are not considered to be substantive, the District Commander will make a decision on the proposed action. This decision will be documented in an IER Decision Record. If a comment(s) is determined to be substantive in nature, an Addendum to the IER will be prepared and published for an additional 30-day public review and comment period. After the expiration of the public comment period, the District Commander will make a decision on the proposed action. The decision will be documented in an IER Decision Record.

Five potential Pre-Approved Contractor Furnished borrow areas investigated by the CEMVN Borrow Project Delivery Team (PDT) are discussed in this IER. The goal of the PDT is to acquire suitable borrow material needed for GNOHSDRRS improvements. The CEMVN's engineers currently estimate that over 100,000,000 cubic yards of suitable material is required to improve Federal and non-Federal levee and floodwall projects. Borrow areas investigated in this IER could potentially provide approximately 11,000,000 cubic yards of suitable material for levee and floodwall projects.

Due to the importance of providing safety to the citizens of southeastern Louisiana, and the amount of borrow needed to supply levee projects for the GNOHSDRRS, multiple borrow IERs are being prepared.

1.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action is to consider and disclose the environmental impacts of five potential borrow sites. The completed GNOHSDRRS would lower the risk of harm to citizens and damage to infrastructure during a storm event. The safety of people in the region is the highest priority of the CEMVN. The proposed action results from the need to provide a total of over 100,000,000 cubic yards of suitable clay for GNOHSDRRS projects that include the completion and improvement of hurricane protection levees in southeastern Louisiana. Raising levee elevations and the completion of levees requires the excavation of material from borrow areas necessary for project construction to ensure authorized levels of flood protection for local communities.

The term "100-year level of protection," as it is used throughout this document, refers to a level of protection which reduces the risk of hurricane surge and wave driven flooding that the New Orleans Metropolitan Area has a 1 percent chance of experiencing each year.

1.2 AUTHORITY FOR THE PROPOSED ACTION

The authority for the proposed action was provided as part of a number of hurricane protection projects spanning southeastern Louisiana, including the Lake Pontchartrain and Vicinity (LPV) Hurricane Protection Project and the West Bank and Vicinity (WBV) Hurricane Protection Project. Congress and the Administration granted a series of supplemental appropriations acts following Hurricanes Katrina and Rita to repair and upgrade the project systems damaged by the storms. The supplemental appropriations acts gave additional authority to the USACE to construct GNOHSDRRS projects.

The LPV project was authorized under the Flood Control Act of 1965 (Public Law [P.L.] 89-298, Title II, Sec. 204) which amended, authorized a "project for hurricane protection on Lake Pontchartrain, Louisiana ... substantially in accordance with the recommendations of the Chief of Engineers in House Document 231, Eighty-ninth Congress." The original statutory authorization for the LPV Project was amended by the Water Resources Development Acts (WRDA) of 1974 (P.L. 93-251, Title I, Sec. 92), 1986 (P.L. 99-662, Title VIII, Sec. 805), 1990 (P.L. 101-640, Sec. 116), 1992 (P.L. 102-580, Sec. 102), 1996 (P.L. 104-303, Sec. 325), 1999 (P.L. 106-53, Sec. 324), and 2000 (P.L. 106-541, Sec. 432); and Energy and Water Development Appropriations Acts of 1992 (PL 102-104, Title I, Construction, General), 1993 (PL 102-377, Title I, Construction, General), and 1994 (PL 103-126, Title I, Construction, General).

The Westwego to Harvey Canal Hurricane Protection Project was authorized by the WRDA of 1986 (P.L. 99-662, Section 401(b)). The WRDA of 1996 modified the project and added the Lake Cataouatche Project and the East of Harvey Canal Project (P.L. 104-303, Section 101(a)(17) & P.L. 104-303, 101(b)(11)). The WRDA 1999 combined the three projects into one project under the West Bank and Vicinity Hurricane Protection Project (P.L. 106-53, Section 328).

The Department of Defense, Emergency Supplemental Appropriations to Address Hurricanes in the Gulf of Mexico, and Pandemic Influenza Act of 2006 (3rd Supplemental - P.L. 109-148, Chapter 3, Construction, and Flood Control and Coastal

Emergencies) authorized accelerated completion of the project and restoration of project features to design elevations at 100 percent Federal cost. The Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery of 2006 (4th Supplemental - P.L. 109-234, Title II, Chapter 3, Construction, and Flood Control and Coastal Emergencies) authorizes construction of a 100-year level of protection; the replacement or reinforcement of floodwalls; and the construction of levee armoring at critical locations. Additional Supplemental Appropriations include the U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (5th Supplemental - P.L. 110-28, Title IV, Chapter 3, Flood Control and Coastal Emergencies, Section 4302).

1.3 PRIOR REPORTS

A number of studies and reports on water resources development in the proposed project area have been prepared by the USACE, other Federal, state, and local agencies, research institutes, and individuals. Pertinent studies, reports and projects are discussed below:

Lake Pontchartrain and Vicinity Hurricane Protection Project

- On 25 July 2008, the CEMVN signed a Decision Record on IER # 3, entitled "Lake Pontchartrain and Vicinity, Lakefront Levee, Jefferson Parish, Louisiana." The proposed action includes raising approximately nine and a half miles of earthen levees, completing upgrades to foreshore protection, replacing two floodgates, and completing fronting protection modifications to four existing pump stations in Jefferson Parish, Louisiana.

- On 18 July 2008, the CEMVN signed a Decision Record on IER # 2, entitled "LPV, West Return Floodwall, Jefferson and St. Charles Parishes, Louisiana." The proposed action includes replacing over 17,900 linear feet of floodwalls in Jefferson and St. Charles Parishes, Louisiana.

- On 9 June 2008, the CEMVN signed a Decision Record on IER # 1, entitled "Lake Pontchartrain and Vicinity, La Branche Wetlands Levee, St. Charles Parish, Louisiana." The proposed action includes raising approximately nine miles of earthen levees, replacing over 3,000 feet of floodwalls, rebuilding or modifying four drainage structures, closing one drainage structure, and modifying one railroad gate in St. Charles Parish, Louisiana.

- On 30 May 2008, the CEMVN signed a Decision Record on IER # 22 entitled "Government Furnished Borrow Material, Plaquemines and Jefferson Parishes, Louisiana." The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of excavating borrow areas for use in construction of the GNOSDRRS.

- On 6 May 2008, the CEMVN signed a Decision Record on IER # 23 entitled "Pre-Approved Contractor Furnished Borrow Material # 2, St. Bernard, St. Charles, Plaquemines Parishes, Louisiana, and Hancock County, Mississippi." The document was prepared to evaluate the potential impacts associated with the actions taken by commercial contractors as a result of excavating borrow areas for use in construction of the GNOSDRRS.

- On 14 March 2008, the CEMVN signed a Decision Record on IER # 11 (Tier 1) entitled "Improved Protection on the Inner Harbor Navigation Canal, Orleans and St. Bernard Parishes, Louisiana." The document was prepared to evaluate

potential impacts associated with building navigable and structural barriers to prevent storm surge from entering the Inner Harbor Navigation Canal from Lake Pontchartrain and/or the Gulf Intracoastal Waterway-Mississippi River Gulf Outlet-Lake Borgne complex. Two Tier 2 document discussing alignment alternatives and designs of the navigable and structural barriers, and the impacts associated with exact footprints, are being completed.

- On 21 February 2008, the CEMVN signed a Decision Record on IER # 18 entitled "Government Furnished Borrow Material, Jefferson, Orleans, Plaquemines, St. Charles, and St. Bernard Parishes, Louisiana." The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of excavating borrow areas for use in construction of the GNOSDRRS.

- On 14 February 2008, the CEMVN signed a Decision Record on IER # 19 entitled "Pre-Approved Contractor Furnished Borrow Material, Jefferson, Orleans, St. Bernard, Iberville, and Plaquemines Parishes, Louisiana, and Hancock County, Mississippi." The document was prepared to evaluate the potential impacts associated with the actions taken by commercial contractors as a result of excavating borrow areas for use in construction of the GNOSDRRS.

- In July 2006, the CEMVN signed a Finding of No Significant Impact (FONSI) on an EA # 433 entitled, "USACE Response to Hurricanes Katrina & Rita in Louisiana." The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of Hurricanes Katrina and Rita.

- On 30 October 1998, the CEMVN signed a FONSI on EA # 279 entitled "Lake Pontchartrain Lakefront, Breakwaters, Pump Stations 2 and 3." The report evaluates the impacts associated with providing fronting protection for outfall canals and pump stations. It was determined that the action would not significantly impact resources in the immediate area.

- On 2 October 1998, the CEMVN signed a FONSI on EA # 282 entitled "LPV, Jefferson Parish Lakefront Levee, Landside Runoff Control: Alternate Borrow." The report investigates the impacts of obtaining borrow material from an urban area in Jefferson Parish. No significant impacts to resources in the immediate area were expected.

- On 2 July 1992, the CEMVN signed a FONSI on EA # 169 entitled "LPV, Hurricane Protection Project, East Jefferson Parish Levee System, Jefferson Parish, Louisiana, Gap Closure." The report addresses the construction of a floodwall in Jefferson Parish to close a "gap" in the levee system. The area was previously leveed and under forced drainage, and it was determined that the action would not significantly impact the already disturbed area.

- On 22 February 1991, the CEMVN signed a FONSI on EA # 164 entitled "LPV Hurricane Protection – Alternate Borrow Area for the St. Charles Parish Reach." The report addresses the impacts associated with the use of borrow material from the Mississippi River on the left descending back in front of the Bonnet Carré Spillway Forebay for LPV construction.

- On 30 August 1990, the CEMVN signed a FONSI on EA # 163 entitled "LPV Hurricane Protection – Alternate Borrow Area for Jefferson Parish Lakefront

Levee, Reach III." The report addresses the impacts associated with the use of a borrow area in Jefferson Parish for LPV construction.

- On 2 July 1991, the CEMVN signed a FONSI on EA # 133 entitled "LPV Hurricane Protection – Alternate Borrow at Highway 433, Slidell, Louisiana." The report addresses the impacts associated with the excavation of a borrow area in Slidell, Louisiana for LPV construction.

- On 12 September 1990, the CEMVN signed a FONSI on EA # 105 entitled "LPV Hurricane Protection – South Point to Gulf Intracoastal Waterway, A. V. Keeler and Company Alternative Borrow Site." The report addresses the impacts associated with the excavation of a borrow area in Slidell, Louisiana for LPV construction.

- On 12 March 1990, the CEMVN signed a FONSI on EA # 102 entitled "LPV Hurricane Protection – 17th Street Canal Hurricane Protection." The report addresses the use alternative methods of providing flood protection for the 17th Street Outfall Canal in association with LPV activity. Impacts to resources were found to be minimal.

- On 4 August 1989, the CEMVN signed a FONSI on EA # 89 entitled "LPV Hurricane Protection, High Level Plan - Alternate Borrow Site 1C-2B." The report addresses the impacts associated with the excavation of a borrow area along Chef Menteur Highway, Orleans Parish for LPV construction. The material was used in the construction of a levee west of the Inner Harbor Navigation Canal.

- On 27 October 1988, the CEMVN signed a FONSI on EA # 79 entitled "LPV Hurricane Protection – London Avenue Outfall Canal." The report investigates the impacts of strengthening hurricane protection at an existing the London Avenue Outfall Canal.

- On 21 July 1988, the CEMVN signed a FONSI on EA # 76 entitled "LPV Hurricane Protection – Orleans Avenue Outfall Canal." The report investigates the impacts of strengthening hurricane protection at the Orleans Avenue Outfall Canal.

- On 26 February 1986, the CEMVN signed a FONSI on EA # 52 entitled "LPV Hurricane Protection – Geohegan Canal." The report addresses the impacts associated with the excavation of borrow material from an extension of the Geohegan Canal for LPV construction.

- Supplemental Information Report (SIR) # 25 entitled "LPV Hurricane Protection – Chalmette Area Plan, Alternate Borrow Area 1C-2A" was signed by the CEMVN on 12 June 1987. The report addresses the used of an alternate contractor furnished borrow area for LPV construction.

- SIR # 27 entitled "LPV Hurricane Protection – Alternate Borrow Site for Chalmette Area Plan" was signed by the CEMVN on 12 June 1987. The report addresses the us of an alternate contractor furnished borrow area for LPV construction.

- SIR # 28 entitled "LPV Hurricane Protection – Alternate Borrow Site, Mayfield Pit" was signed by the CEMVN on 12 June 1987. The report addresses the use of an alternate contractor furnished borrow area for LPV construction.

- SIR # 29 entitled "LPV Hurricane Protection – South Point to GIWW Levee Enlargement" was signed by the CEMVN on 12 June 1987. The report discusses the impacts associated with the enlargement of the GIWW.

- SIR # 30 entitled "LPV Hurricane Protection Project, Jefferson Lakefront Levee" was signed by the CEMVN on 7 October 1987. The report investigates impacts associated with changes in Jefferson Parish LPV levee design.

- SIR # 17 entitled "LPV Hurricane Protection – New Orleans East Alternative Borrow, North of Chef Menteur Highway" was signed by the CEMVN on 30 April 1986. The report addresses the use of an alternate contractor furnished borrow area for LPV construction.

- SIR # 22 entitled "LPV Hurricane Protection – Use of 17th Street Pumping Station Material for LPHP Levee" was signed by the CEMVN on 5 August 1986. The report investigates the impacts of moving suitable borrow material from a levee at the 17th Street Canal in the construction of a stretch of levee from the Inner Harbor Navigation Canal to the London Avenue Canal.

- SIR # 10 entitled "LPV Hurricane Protection, Bonnet Carré Spillway Borrow" was signed by the CEMVN on 3 September 1985. The report evaluates the impacts associated with using the Bonnet Carré Spillway as a borrow source for LPV construction, and found that "no significant adverse effect on the human environment."

- In December 1984, an SIR to complement the Supplement to final EIS on the LPV Hurricane Protection project was filed with the U.S. Environmental Protection Agency (USEPA).

- The final EIS for the LPV Hurricane Protection Project, dated August 1974. A Statement of Findings was signed by the CEMVN on 2 December 1974. Final Supplement I to the EIS, dated July 1984, was followed by a Record of Decision (ROD), signed by CEMVN on 7 February1985. Final Supplement II to the EIS, dated August 1994, was followed by a ROD signed by CEMVN on 3 November 1994.

- A report entitled "Flood Control, Mississippi River and Tributaries," published as House Document No. 90, 70th Congress, 1st Session, submitted 18 December 1927 resulted in authorization of a project by the Flood Control Act of 1928. The project provided comprehensive flood control for the lower Mississippi Valley below Cairo, Illinois. The Flood Control Act of 1944 authorized the USACE to construct, operate, and maintain water resources development projects. The Flood Control Acts have had an important impact on water and land resources in the proposed project area.

<u>West Bank and Vicinity Hurricane Protection Project</u>

- On 12 June 2008, the CEMVN signed a Decision Record on IER # 15, entitled "Lake Cataouatche Levee, Jefferson Parish, Louisiana." The proposed action includes constructing a 100-year level of protection in the project area.

- On 30 May 2008, the CEMVN signed a Decision Record on IER # 22 entitled "Government Furnished Borrow Material, Plaquemines and Jefferson Parishes, Louisiana." The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of excavating borrow areas for use in construction of the GNOSDRRS.

- On 6 May 2008, the CEMVN signed a Decision Record on IER # 23 entitled "Pre-Approved Contractor Furnished Borrow Material # 2, St. Bernard, St. Charles, Plaquemines Parishes, Louisiana, and Hancock County, Mississippi." The document was prepared to evaluate the potential impacts associated with the actions taken by commercial contractors as a result of excavating borrow areas for use in construction of the GNOSDRRS.

- On 21 February 2008, the CEMVN signed a Decision Record on IER # 18 entitled "Government Furnished Borrow Material, Jefferson, Orleans, Plaquemines, St. Charles, and St. Bernard Parishes, Louisiana." The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of excavating borrow areas for use in construction of the GNOSDRRS.

- On 14 February 2008, the CEMVN signed a Decision Record on IER # 19 titled "Pre-Approved Contractor Furnished Borrow Material, Jefferson, Orleans, St. Bernard, Iberville, and Plaquemines Parishes, Louisiana, and Hancock County, Mississippi." The document was prepared to evaluate the potential impacts associated with the actions taken by commercial contractors as a result of excavating borrow areas for use in construction of the GNOSDRRS.

- In July 2006, the CEMVN signed a FONSI on an EA # 433 entitled, "USACE Response to Hurricanes Katrina & Rita in Louisiana." The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of Hurricanes Katrina and Rita.

- On 23 August 2005, the CEMVN signed a FONSI on EA # 422 entitled "Mississippi River Levees – West Bank Gaps, Concrete Slope Pavement Borrow Area Designation, St. Charles and Jefferson Parishes, Louisiana." The report investigates the impacts of obtaining borrow material from various areas in Louisiana.

- On 22 February 2005, the CEMVN signed a FONSI on EA # 306A entitled "West Bank Hurricane Protection Project – East of the Harvey Canal, Floodwall Realignment and Change in Method of Sector Gate." The report discussed the impacts related to the relocation of a proposed floodwall moved because of the aforementioned sector gate, as authorized by the LPV Project.

- On 5 May 2003, the CEMVN signed a FONSI on EA # 337 entitled "Algiers Canal Alternative Borrow Site."

- On 19 June-2003, the CEMVN signed a FONSI on EA # 373 entitled "Lake Cataouatche Levee Enlargement." The report discusses the impacts related to improvements to a levee from Bayou Segnette State Park to Lake Cataouatche.

- On 16 May 2002, the CEMVN signed a FONSI on EA # 306 entitled "West Bank Hurricane Protection Project - Harvey Canal Sector Gate Site Relocation and

Construction Method Change." The report discusses the impacts related to the relocation of a proposed sector gate within the Harvey Canal, as authorized by the LPV Project.

- On 30 August 2000, the CEMVN signed a FONSI on EA # 320 entitled "West Bank Hurricane Protection Features." The report evaluates the impacts associated with borrow sources and construction options to complete the Westwego to Harvey Canal Hurricane Protection Project.

- On 18 August 1998, the CEMVN signed a FONSI on EA # 258 entitled "Mississippi River Levee Maintenance - Plaquemines West Bank Second Lift, Fort Jackson Borrow Site."

- The final EIS for the WBV, East of Harvey Canal, Hurricane Protection Project was completed in August 1994. A ROD was signed by the CEMVN in September 1998.

- The final EIS for the WBV, Lake Cataouatche, Hurricane Protection Project was completed. A ROD was signed by the CEMVN in September 1998.

- In December 1996, the USACE completed a post-authorization change study entitled, "Westwego to Harvey Canal, Louisiana Hurricane Protection Project Lake Cataouatche Area, EIS." The study investigated the feasibility of providing hurricane surge protection to that portion of the west bank of the Mississippi River in Jefferson Parish between Bayou Segnette and the St. Charles Parish line. A Standard Project Hurricane (SPH) level of protection was recommended along the alignment followed by the existing non-Federal levee. The project was authorized by Section 101 (b) of the WRDA of 1996 (P. L. 104-303) subject to the completion of a final report of the Chief of Engineers, which was signed on 23 December 1996.

- On 12 January 1994, the CEMVN signed a FONSI on an EA # 198 entitled, "West Bank of the Mississippi River in the Vicinity of New Orleans, LA, Hurricane Protection Project, Westwego to Harvey Canal, Jefferson Parish, Louisiana, Proposed Alternate Borrow Sources and Construction Options." The report evaluates the impacts associated with borrow sources and construction options to complete the Westwego to Harvey Canal Hurricane Protection Levee.

- In August 1994, the CEMVN completed a feasibility report entitled "WBV (East of the Harvey Canal)." The study investigated the feasibility of providing hurricane surge protection to that portion of the west bank of metropolitan New Orleans from the Harvey Canal eastwards to the Mississippi River. The final report recommends that the existing West Bank Hurricane Project, Jefferson Parish, Louisiana, authorized by the WRDA of 1986 (P.L. 99-662), approved November 17, 1986, be modified to provide additional hurricane protection east of the Harvey Canal. The report also recommends that the level of protection for the area east of the Algiers Canal deviate from the National Economic Development Plan's level of protection and provide protection for the SPH. The Division Engineer's Notice was issued on 1 September 1994. The Chief of Engineer's report was issued on 1 May 1995. Preconstruction, engineering, and design was initiated in late 1994 and is continuing. The WRDA of 1996 authorized the project.

- On 20 March 1992, the CEMVN signed a FONSI on EA # 165 entitled "Westwego to Harvey Canal Disposal Site."

- In February 1992, the USACE completed a reconnaissance study entitled "West Bank Hurricane Protection, Lake Cataouatche, Louisiana." The study investigated the feasibility of providing hurricane surge protection to that portion of the west bank of the Mississippi River in Jefferson Parish, between Bayou Segnette and the St. Charles Parish line. The study found a 100-year level of protection to be economically justified based on constructing a combination levee/ sheetpile wall along the alignment followed by the existing non-Federal levee. Due to potential impacts to the Westwego to Harvey Canal project, the study is proceeding as a post-authorization change.

- On 3 June 1991, the CEMVN signed a FONSI on EA # 136 entitled "West Bank Additional Borrow Site between Hwy 45 and Estelle PS."

- On 15 March 1990, CEMVN signed a FONSI on EA # 121 entitled "West Bank Westwego to Harvey Changes to EIS." The report addresses the impacts associated with the use of borrow material from Fort Jackson for LPV construction. The material was used for constructing the second life for the Plaquemines West Bank levee upgrade, as part of LPV construction.

- In December 1986, the USACE completed a Feasibility Report and EIS entitled, "West Bank of the Mississippi River in the Vicinity of New Orleans, La." The report investigates the feasibility of providing hurricane surge protection to that portion of the west bank of the Mississippi River in Jefferson Parish between the Harvey Canal and Westwego, and down to the vicinity of Crown Point, Louisiana. The report recommends implementing a plan that would provide SPH level of protection to an area on the west bank between Westwego and the Harvey Canal north of Crown Point. The project was authorized by the WRDA of 1986 (P.L. 99-662). Construction of the project was initiated in early 1991.

1.4 INTEGRATION WITH OTHER IER

The foremost public concern is reducing risk of hurricane, storm, and flood damage for businesses and residences, and enhancing public safety during major storm events in the Greater New Orleans Metropolitan Area.

In addition to this IER, the CEMVN is preparing a draft Comprehensive Environmental Document (CED) that will describe the work completed and remaining to be constructed. The purpose of the draft CED will be to document the work completed by the CEMVN on a system-wide scale. The draft CED will describe the integration of individual IERs into a systematic planning effort. Overall cumulative impacts and future operations and maintenance requirements will also be included. Additionally, the draft CED will contain updated information for any IER that had incomplete or unavailable data at the time it was posted for public review.

The draft CED will be available for a 60-day public review period. The document will be posted on www.nolaenvironmental.gov, or can be requested by contacting the CEMVN. availability of the draft CED for review. Additionally, a notice will be placed in national and local newspapers. Upon completion of the 60-day review period all comments will be compiled and appropriately addressed. Upon resolution of any comments received, a final CED will be prepared, signed by the District Commander, and made available to any stakeholders requesting a copy.

Compensatory mitigation for unavoidable impacts associated with this and other proposed GNOHSDRRS projects will be documented in forthcoming mitigation IERs, which are being written concurrently with all other IERs.

1.5 PUBLIC CONCERNS

The public has had the opportunity to give input about proposed GNOHSDRRS work throughout the planning process through a number of outlets (i.e., public meetings, written comments, www.nolaenvironmental.gov). IER # 18, IER # 19, IER # 22, and IER # 23 were the first in a series of IERs investigating the impacts of borrow excavation related to the GNOHSDRRS. Final IER # 18, Final IER # 19, Final IER # 22, and Final IER # 23 contain public comments regarding borrow issues (appendix B – all documents). These documents are available at www.nolaenvironmental.gov, or upon request.

According to the results of focus groups held by Unified New Orleans Plan (UNOP) the public places very high priority on storm protection. The public wants a 100-year or higher level of protection from storm events. Borrow excavation is an integral part of upgrading hurricane protection in the New Orleans Metropolitan Area. Some members of the public feel that the remaining land left in coastal parishes should not be excavated. Some members of the public feel that the borrow areas should be backfilled; the CEMVN is currently looking into the feasibility of backfilling utilized borrow areas. The public is concerned about impacting wetlands; the CEMVN is currently avoiding all jurisdictional wetlands as other reasonable alternatives are being investigated (see section 2.1). The public is concerned about truck haulers causing traffic congestion. The public is concerned about safety issues during and after the borrow area is excavated. Landowners are concerned about the USACE using their privately-owned property as a source of borrow material.

1.6 DATA GAPS AND UNCERTAINTIES

At the time of submission of this report, geotechnical evaluations have not been completed for all of the proposed borrow areas. Final selection and/or footprints of borrow areas could vary based on these evaluations. Borrow area footprints would be decreased in the case of negative geotechnical findings; areas not included in this investigation would be discussed in a supplemental to this IER, or the CED.

Transportation impacts and routes for the delivery of borrow material have not been determined, as it currently is uncertain to which GNOHSDRRS construction sites each proposed borrow area would provide material. Large quantities of material would be delivered to GNOHSDRRS construction sites, as well as to other ongoing flood protection projects in the area. This could have localized short-term impacts to transportation corridors that can not be quantified at this time. The CEMVN is completing a transportation study to determine any impacts associated with the transporting of material to construction sites. This analysis will be discussed in the CED once it is completed.

Details on environmental justice impacts from the proposed borrow areas will be analyzed when further project planning data become available at conclusion of small group neighborhood focus meetings and will be included in the CED.

Noise impacts are unknown at this time, some of the sites may never be used. Once noise impacts are determined the analysis will be discussed in the CED.

The backfilling of borrow areas is uncertain and is the responsibility of the contractor to coordinate and secure appropriate permits from the local parish/county authority. Some Contractor Furnished borrow sites may need backfilling if required by local law. The most likely source of backfill material will be from the Mississippi River. Some uncertainties from backfilling would be traffic impacts, river dredging impacts, stockpile/staging locations, sediment pipeline routes, and water quality impacts.

Air impacts from the excavation of South Kenner Road, Willow Bend, Willswood, Meyer, and Frierson proposed borrow areas are unknown at this time and the air impacts will be discussed in the CED.

Cumulative visual impacts from the excavation of the proposed borrow areas are unknown at this time as the borrow area selection and excavation process is ongoing; the impacts will be discussed in the CED.

Some construction schedules are changing or not known at this time.

2. ALTERNATIVES

2.1 ALTERNATIVES DEVELOPMENT AND PRELIMINARY SCREENING CRITERIA

NEPA requires that in analyzing alternatives to a proposed action a Federal agency consider an alternative of "No Action." Likewise, Section 73 of the WRDA of 1974 (PL 93-251) requires Federal agencies to give consideration to non-structural measures to reduce or prevent flood damage. Since this IER deals with Pre-Approved Contractor Furnished borrow material there are no nonstructural alternatives. Non-structural alternatives will be evaluated in the IERs dealing directly with the construction of the GNOHSDRRS.

The CEMVN is pursuing three avenues of obtaining the estimated amount of borrow material needed for GNOHSDRRS construction. The three avenues that are being pursued by the CEMVN to obtain borrow material are Government Furnished (the Government acquires rights to property), Pre-Approved Contractor Furnished (a CEMVN levee construction contractor works in partnership with a landowner to provide suitable pre-approved borrow material from the landowner's property), and Supply Contract (a landowner or corporation delivers a pre-specified amount of suitable borrow material to a designated location for use by a CEMVN levee construction contractor). Two of the avenues being pursued (Pre-Approved Contactor Furnished and Supply Contract) allow a private individual or corporation to propose a site where borrow material could come from. It is possible that some of the Government Furnished, Contractor Furnished, and Supply Contract sources of borrow material may come from anywhere in the United States. IER # 18 and IER # 22 discussed Government Furnished borrow alternatives. Pre-Approved Contractor Furnished borrow areas were discussed in IER # 19 and IER # 23. This IER discusses potential Pre-Approved Contractor Furnished borrow areas. An additional IER(s) will discuss potential Supply Contract alternatives. Additional borrow IERs will be prepared as future potential Government Furnished and Pre-Approved Contractor Furnished borrow areas are identified.

The U.S. Fish and Wildlife Service (USFWS) supports the CEMVN's prioritization selection of potential borrow areas in the following order: existing commercial areas, upland sources, previously disturbed/manipulated wetlands within a levee system, and

low-quality wetlands outside a levee system (appendix D). USFWS recommended that prior to utilizing borrow areas, every effort should be made to reduce impacts by using sheetpile and/or floodwalls to increase levee heights wherever feasible. The USFWS also recommended the following protocol be adopted and utilized to identify borrow sources in descending order of priority:

1. "Permitted commercial sources, authorized borrow sources for which environmental clearance and mitigation have been completed, or non-functional levees after newly constructed adjacent levees are providing equal protection.

2. Areas under forced drainage that are protected from flooding by levees, and that are:

    a) non-forested (e.g., pastures, fallow fields, abandoned orchards, former urban areas and non-wetlands;
    b) wetland forests dominated by exotic tree species (i.e., Chinese tallow) or non-forested wetlands (e.g. wetland pastures), excluding marshes;

    c) disturbed wetlands (e.g., hydrologically altered, artificially impounded).

3. Areas that are outside a forced drainage system and levees, and that are:

    a) non-forested (e.g. pastures, fallow fields, abandoned orchards, former urban areas) and non-wetlands;

    b) wetland forests dominated by exotic tree species (i.e., Chinese tallow) or non-forested wetlands (e.g. wetland pastures), excluding marshes;

    c) disturbed wetlands (e.g., hydrologically altered, artificially impounded)."

The USFWS is currently assisting the CEMVN in meeting this protocol.

The GNOHSDRRS includes the completion and raising of storm protection levees in southeastern Louisiana. Raising levee elevations and completion of levees requires the excavation of material from borrow areas for use in project construction. As part of construction the following methods shall be followed:

- Numerous utilities, including electrical services, gas lines, telephone poles and lines, storm drainpipes, subdrain lines, and storm drain catch basins, would be avoided or relocated.

- The access routes and land would be cleared using bulldozers and excavators. Woody debris would be stockpiled on-site and placed in the area once excavation is completed or in some cases the material may be removed to an approved landfill.

- Silt fencing would be installed around the perimeter of the borrow area to control runoff, as per Best Management Practices (BMPs).

- Contractors would be responsible for obtaining National Pollutant Discharge Elimination System (NPDES) permits, if applicable, and implementing BMPs, including standard USACE storm water prevention requirements at all borrow area locations, as well as complying with all other Federal, state, and local laws, regulations, and ordinances.

- In most cases, excavation of the borrow areas would commence from the back of the areas to the access road to provide adequate space for staging haul trucks and stockpiled material.

- To make optimum use of available material, excavation should begin at one end of the borrow area and be made continuous across the width of the areas to the allowed borrow depths to provide surface drainage to the low side of the borrow area as excavation proceeds. During this process the overburden (topsoil that lays on top of suitable borrow material) would be stockpiled.

- The excavation activities shall be long enough to provide the required quantity of material, and shall be accomplished in such manner that all available material within the required width to full depth will be utilized when possible.

- Upon completion of excavation, site restoration will include placing the stockpiled overburden back into the borrow area to create islands and smooth out corners.

- If additional overburden is available at the areas, it would be used to create gradual side slopes, islands, and smooth out corners within the borrow area to enhance wildlife and fishery habitat. The Environmental Design Considerations for Main Stem Levee Borrow Areas Along the Lower Mississippi River Report 4: Part V, incorporated by reference, and the CEMVN operating procedures will be basic guidelines referred to when designing the borrow areas. However, the full depth of the borrow area should be excavated according to the borrow area management plan for the approved borrow area depths to minimize impacts to the human and natural environment.

Contractors may be required to backfill in accordance with local ordinances where applicable

2.2 DESCRIPTION OF THE ALTERNATIVES

Four alternatives were considered. These included the no action, the proposed action, use of Government Furnished Borrow Material, and use of borrow material from a Supply Contract.

No Action. Under the no action alternative the proposed borrow areas would not be used by the CEMVN. GNOHSDRRS levee and floodwall projects would be built to authorized levels using Government and Pre-Approved Contractor Furnished borrow sites described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action. A CEMVN levee contractor would be authorized to work in partnership with a landowner to provide suitable pre-approved borrow material from the landowner's property. See section 2.3.

Government Furnished Borrow Material. The Government acquires the rights to a property, from which suitable borrow material is used for construction of the GNOHSDRRS. Government Furnished borrow alternatives were discussed in IER # 18 and IER # 22, and will be explored in future borrow IERs.

Supply Contract Borrow Material. The Supply Contract would allow a private individual(s) or corporation(s) to deliver a pre-specified amount of suitable borrow material from an area(s) anywhere in the United States where suitable borrow material could come from. The individual(s) or corporation(s) would deliver the borrow material to a designated location for use by a CEMVN construction contractor. Some contractor furnished sites discussed in IERs 19, 23, and 26 could be resubmitted for evaluation under the Supply Contract. Previously cleared and new Supply Contract borrow alternative sites may be discussed in future IERs.

Without knowing the exact location(s) of this area(s) it is impossible to know the effects excavation of this borrow material would have on significant resources discussed in this document. IER(s) relating to Supply Contract-furnished material will be released independent of IER # 26, and as such no further discussion of Supply Contract Borrow Material will be done in this document.

2.3 PROPOSED ACTION

The proposed action (preferred alternative) consists of approving the potential excavation of all suitable material from the proposed five borrow areas (figure 1). In order to meet the borrow needs of the GNOHSDRRS, personnel from the CEMVN Project Management, Engineering, Real Estate, Office of Counsel, Relocations, and Environmental branches established a Borrow Project Delivery Team. This team worked closely with other CEMVN elements (Hurricane Protection Office, Protection and Restoration Office, and Regulatory Functions Branch) to accomplish its mission. The team's goal is to locate and procure high quality clay borrow sources suitable for levee and floodwall construction in such a way as to be least damaging to both the natural and human environments within the proposed borrow areas.

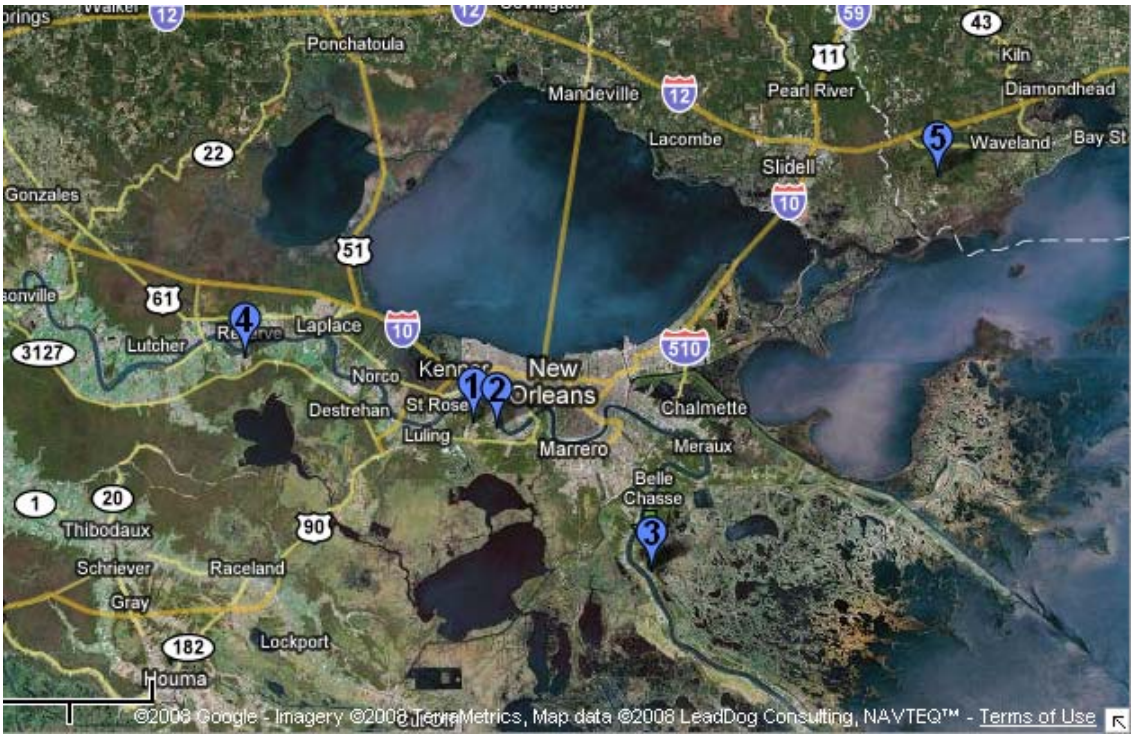

Figure 1: Proposed Borrow Areas

1: South Kenner Road / 2: Willswood / 3: Meyer / 4: Willow Bend / 5: Frierson

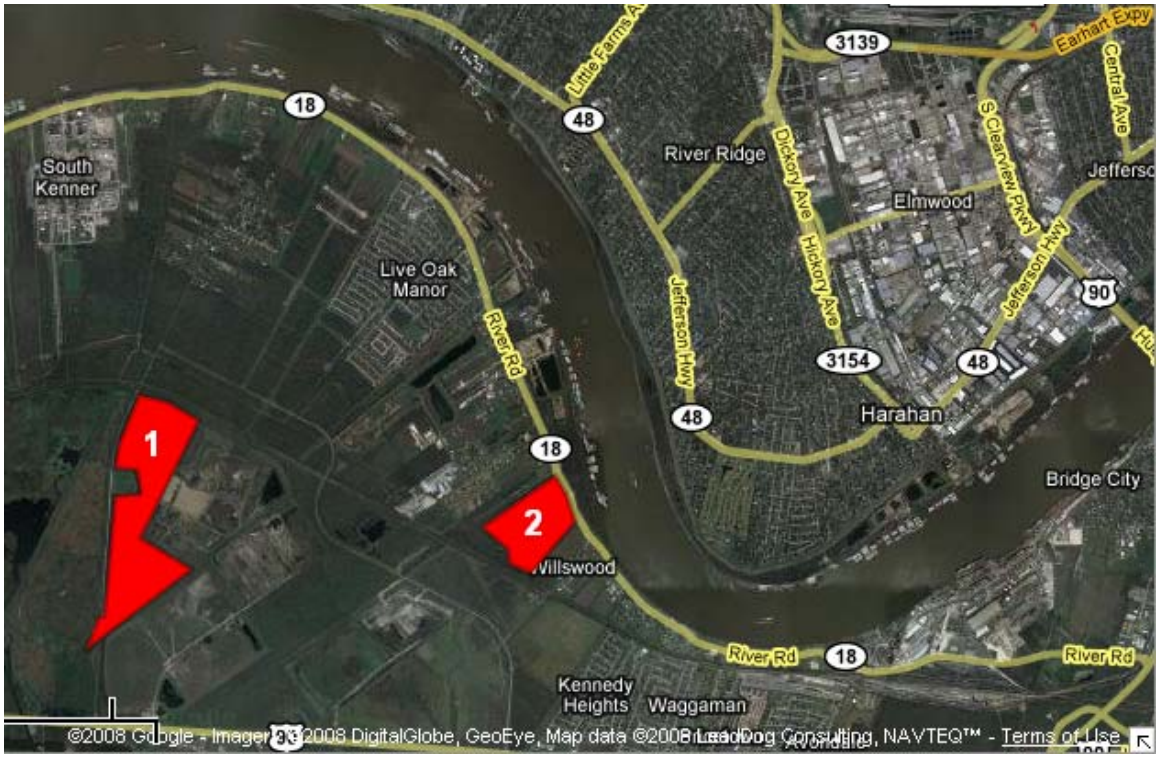

Figure 2: Proposed South Kenner Road (1) and Willswood (2) Bororw Areas

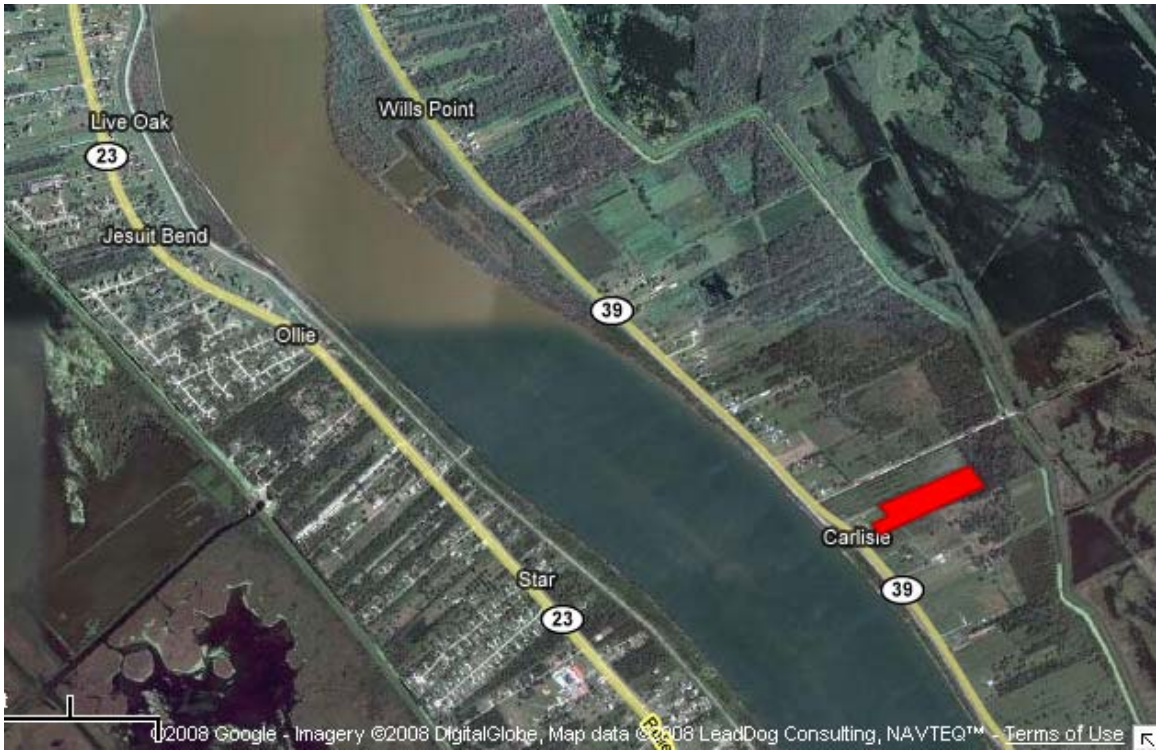

Figure 3: Proposed Meyer Borrow Area

Figure 4: Proposed Willow Bend Borrow Area

Figure 5: Proposed Frierson Borrow Area

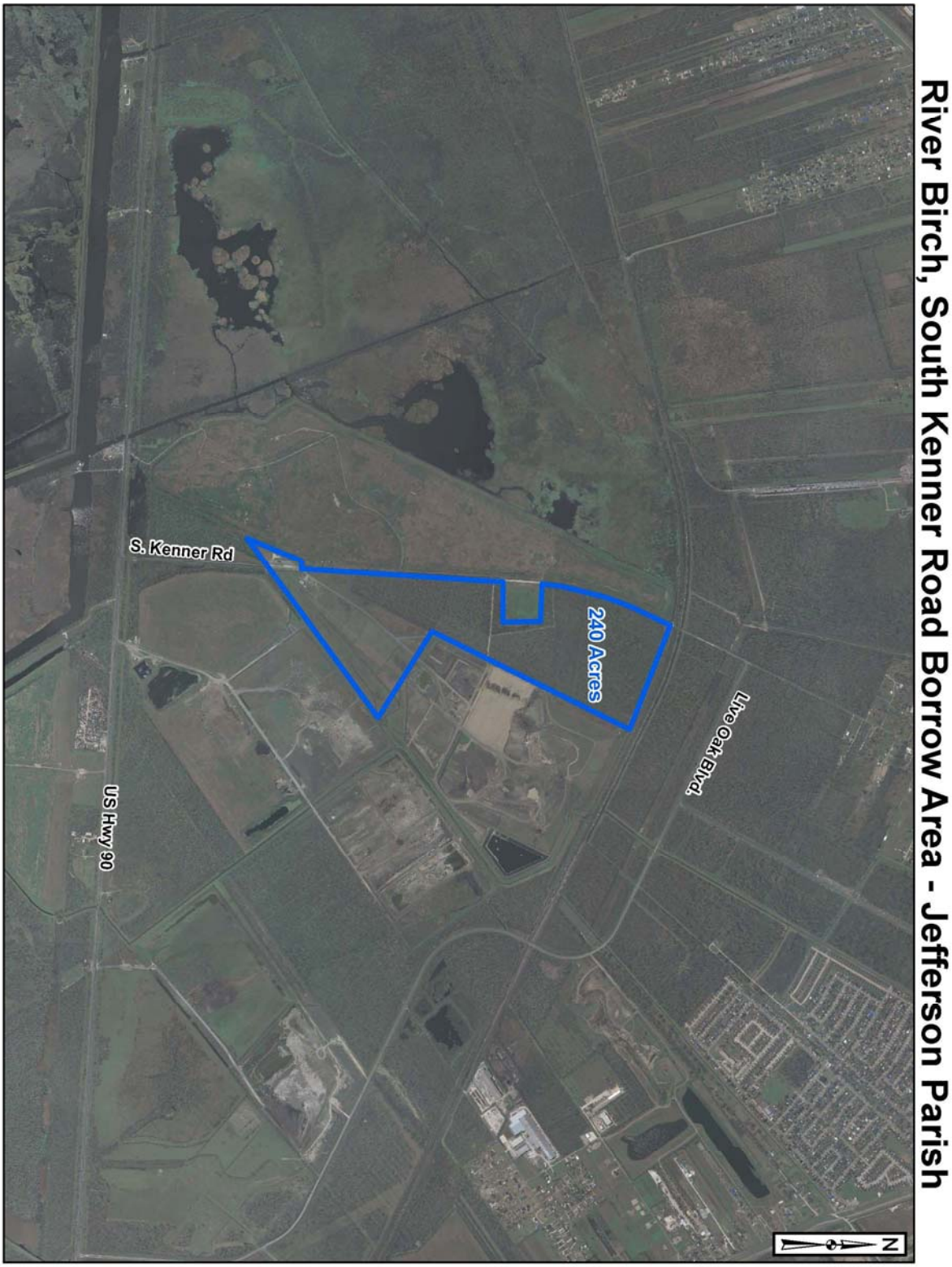

Figure 6: Proposed South Kenner Road Borrow Area

Figure 7: Proposed Willswood Borrow Area

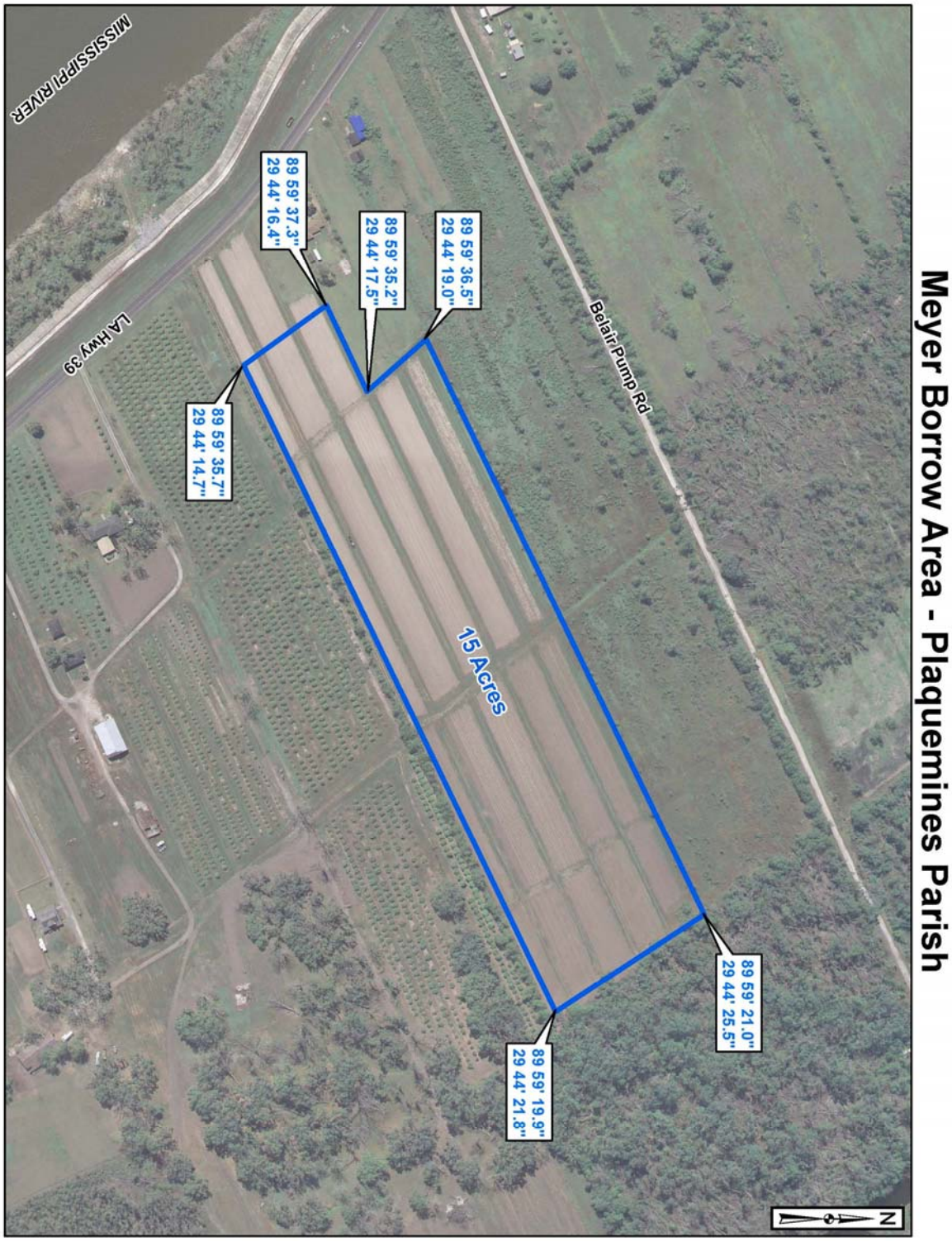

Figure 8: Proposed Meyer Borrow Area

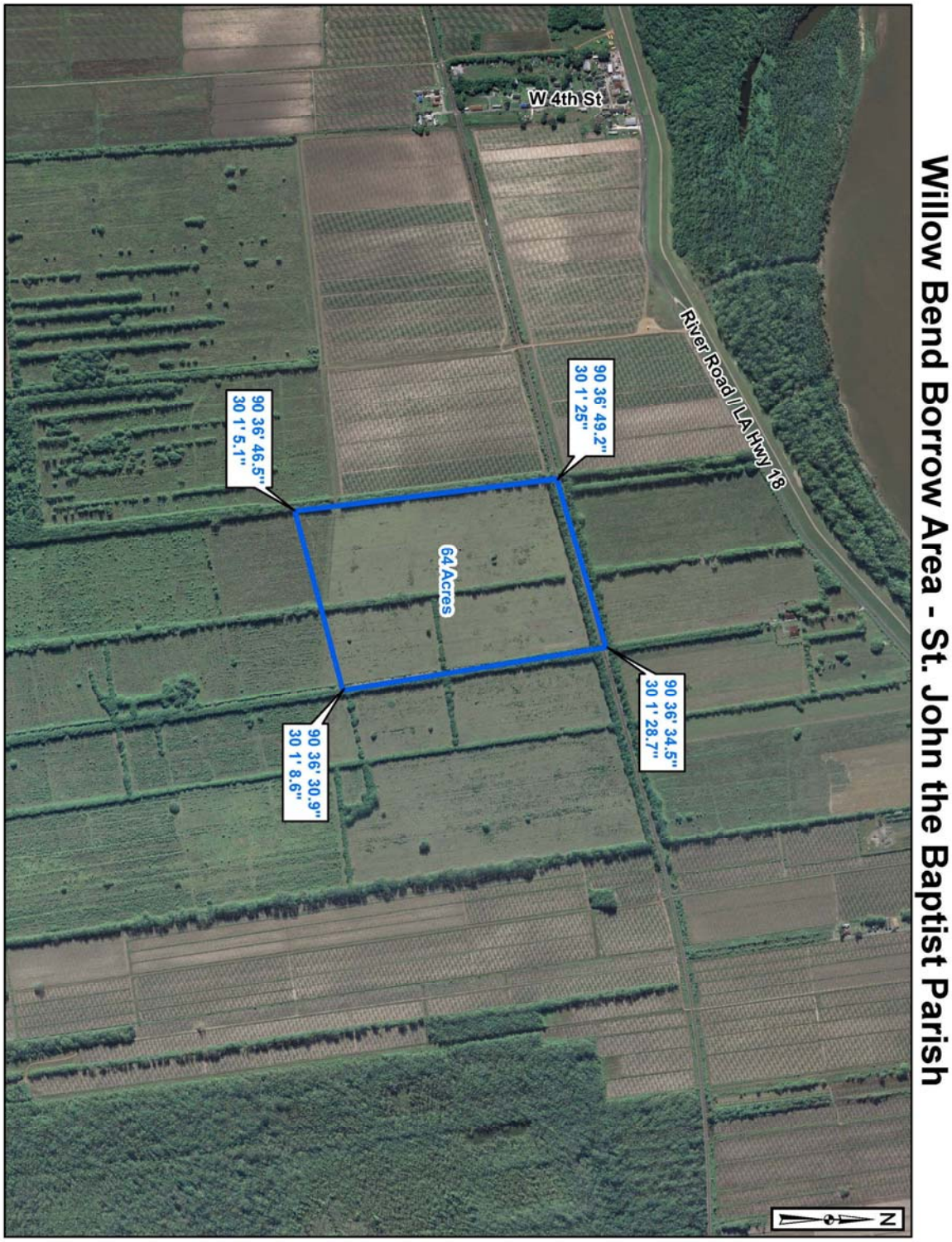

Figure 9: Proposed Willow Bend Borrow Area

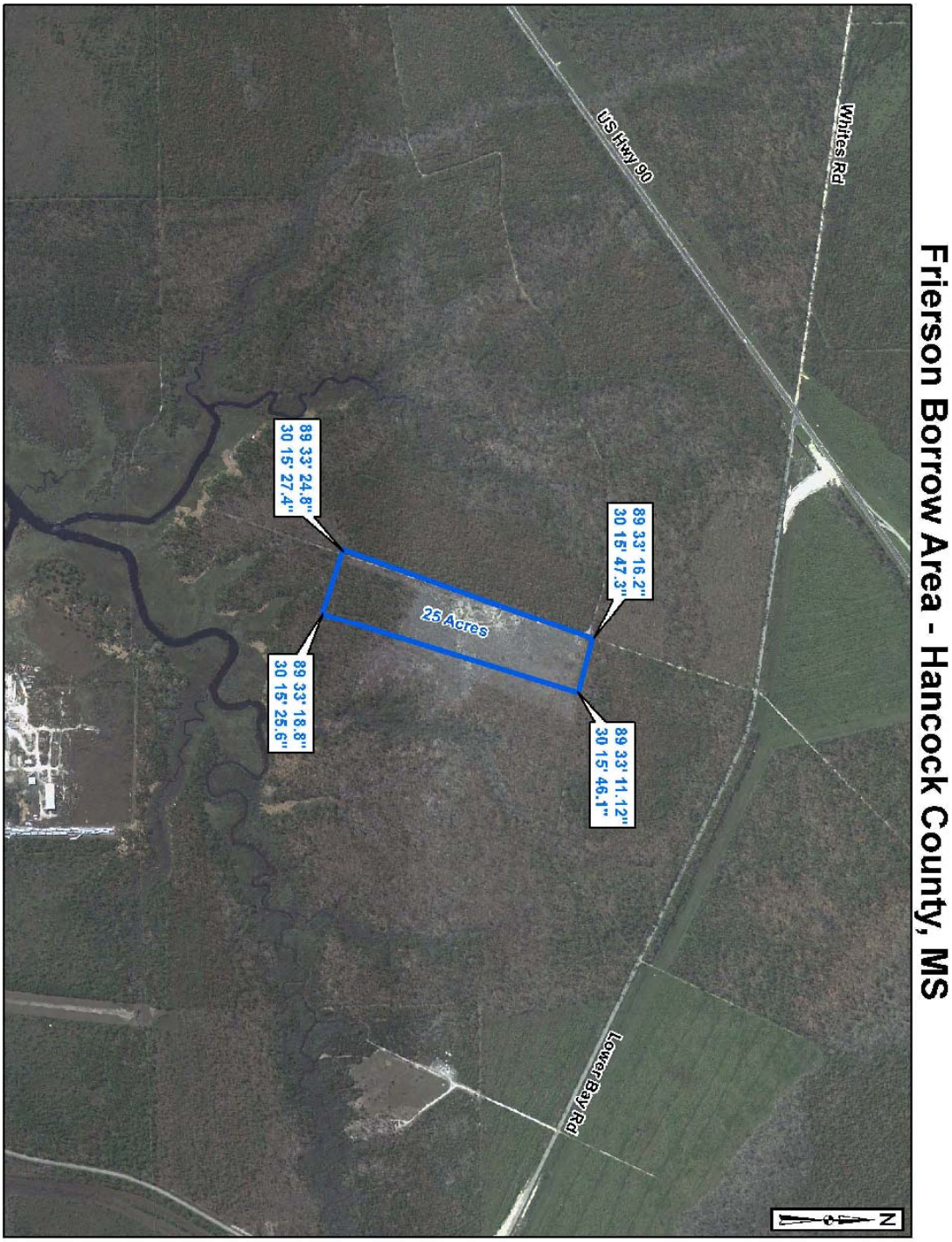

Figure 10: Proposed Frierson Borrow Area

The team investigated and completed environmental coordination on the proposed borrow areas, and is currently investigating others. Pre-Approved Contractor Furnished borrow areas were initially evaluated by reviewing the contractor-provided information packet required for the use of proposed borrow areas. The contractor packet was considered approved if it consisted of the following: 1) a signed right of entry; 2) maps that showed the property boundaries and areas being proposed for use as a Pre-Approved Contractor Furnished borrow area: 3) an approved Jurisdictional Wetland Determination from the CEMVN Regulatory Functions Branch indicating no wetland impacts, or a Section 404 (of the Clean Water Act- see appendix A) permit and proof of compensatory mitigation; 4) a Coastal Use permit or letter of no objection from the Louisiana Department of Natural Resources, Coastal Management Division (LDNR) (or state agency equivalent if the borrow site is in a state other than Louisiana) or local parish coastal management; 5) a concurrence letter from the U.S. Department of the Interior, USFWS indicating no threatened or endangered (T&E) species or their critical habitat would be affected; 6) a cultural resources assessment; 7) a Phase 1 Environmental Site Assessment (ESA); 8) geotechnical boring logs and soil analysis identifying the suitability of potential borrow material.

The proposed action consists of removing all suitable material from the following five borrow areas. Excavation would have no effect on cultural resources, or threatened and endangered species or their critical habitat. All HTRW issues would be avoided.

- The South Kenner Road area is located on South Kenner Road in Jefferson Parish, Louisiana (figures 2 and 6). The proposed borrow area is a 240 acre construction and demolition landfill expansion.

- The Willswood area is located on River Road in Jefferson Parish (figures 2 and 7). The 97-acre proposed borrow area is a retention pond for a subdivision.

- The Meyer area is located off of Highway 39 in Plaquemines Parish (figures 3 and 8). The proposed borrow area is 15 acres.

- The Willow Bend area is located south of River Road in St. John the Baptist Parish, Louisiana (figures 4 and 9). The proposed borrow area is 64 acres.

- The Frierson area is located south of Lower Bay Road in Hancock County, Mississippi (figures 5 and 10). The proposed borrow area is 25 acres.

Some of the proposed borrow areas have a designated stockpile area delineated. If additional material is needed for levee construction the stockpile areas may be utilized as a borrow source rather than impacting new areas.

2.4 ALTERNATIVES TO THE PROPOSED ACTION

The other alternatives to the proposed action that were considered were the no action, the proposed action, use of Government Furnished Borrow Material, and use of borrow material from a Supply Contract. These alternatives are described in Section 2.2.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 ENVIRONMENTAL SETTING

The proposed borrow areas described in this report are located in Jefferson, Plaquemines, and St. John the Baptist parishes, Louisiana, and Hancock County, Mississippi. The study area is bounded to the north by Lake Pontchartrain, to the west by the town of Wallace, and to the east by Pearlington, Mississippi. The area is bordered to the south by an extensive marsh system that provides a barrier between the cities within these parishes and county, and the Gulf of Mexico. Louisiana's coastal plain remains the largest expanse of coastal wetlands in the contiguous United States.

The South Kenner Road site is located in a rural area and the Willswood site is located in a suburban area of Jefferson Parish. The Meyer site is located in a rural area of Plaquemines Parish. The Willow Bend site is located in a rural area of St. John the Baptist Parish. The Frierson site is located in a rural area of Hancock County, Mississippi.

Fauna and Flora

The Louisiana and Mississippi Coastal Plain area contains an extraordinary diversity of estuarine habitats that range from narrow natural levee and beach ridges to expanses of bottomland hardwood (BLH) forest, forested swamps and fresh, brackish, saline marshes, and pasture lands. The wetlands support various functions and values, including commercial fisheries, harvesting of furbearers, recreational fishing and hunting, ecotourism, critical wildlife habitat (including threatened and endangered species), water quality improvement, navigation and waterborne commerce, flood control, and buffering protection from storms.

Terrestrial animals that may inhabit some of the proposed borrow areas include nutria, muskrat, raccoon, mink, and otter, which are harvested for their furs. White-tailed deer, feral hogs, rabbits, various small mammals, and a variety of birds, reptiles, amphibians, and mosquitoes also occur in the study area. Forests, wetlands, BLH, and pastures may be found in some of the proposed borrow areas. Agricultural crops grown in the vicinity of some of the proposed borrow areas include citrus fruits and truck crops.

Soils

The USACE Hurricane and Storm Damage Reduction System Design Guidelines, of which the soil standards previously discussed are a part, are reviewed and updated as necessary to ensure that the Corps is constructing the safest levees possible. Changes to the guidelines are reviewed and approved by USACE experts at the local, regional and headquarters level; additional reviews are completed by academia and private individuals who are recognized experts in their fields. Additionally, the guidelines being utilized by the CEMVN have been reviewed by members of the Interagency Performance Evaluation Team (IPET). The design guidelines may be updated from time to time to respond to new engineering analysis of improved technology, innovative processes, or new data.

The term "borrow" is used in the fields of construction and engineering to describe material that is dug in one location for use at another location. The term "suitable" as it relates to borrow material discussed in this document is defined as meeting the following current criteria after placement as levee fill:

- Soils classified as clays (CH or CL) are allowed as per the Unified Soils Classification System;
- Soils with organic contents greater than 9 percent are not allowed;
- Soils with plasticity indices (PI) less than 10 are not allowed;
- Soils classified as silts (ML) are not allowed;
- Clays will not have more than 35 percent sand content.

Clay Specifications

The earthen clay material shall be naturally occurring or Contractor blended. Addition of lime, cement, or other soil amendments for any reason is not permitted. Soil that is classified in accordance with ASTM D2487 and the Unified Soil Classification System as CH and CL are suitable. Soil classified as ML shall be considered unsuitable; however, minor amounts of ML may be suitably blended with CH or CL to formulate a material that classifies as a CL as per ASTM D2487. Soil must be free from masses of organic matter, sticks, branches, roots, and other debris, including hazardous and regulated solid wastes. Soil from a Contractor-supplied earthen clay material source may not contain excessive amounts of wood, however isolated pieces of wood will not be considered objectionable in the embankment provided their length does not exceed 1 foot, their cross-sectional area is less than four (4) square inches, and they are distributed throughout the fill. Not more than 1% (by volume) of objectionable material shall be contained in clay material ordered by the Government. Pockets and/or zones of wood shall not be acceptable. Material consisting of greater than 35% sands (by dry weight) or materials with a Plasticity Index (PI) of less than 10 will not be accepted as well as material having an organic content exceeding 9% by weight. Under no circumstances shall frozen earth, snow, or ice in the material be considered acceptable.

The geotechnical analysis shall consist of the following:

A Geotechnical Report stamped and signed by a licensed civil engineer with a specialization in geotechnical engineering certifying that the proposed source contains suitable material meeting the specifications outlined in our Soil Boring Factsheet.

The Geotechnical Report must consist of a summary and conclusion section in the main body of the report with any supporting data attached separately. The licensed engineer shall determine the sub-surface investigations required. These investigations could include but are not limited to soil borings, test sites, or cone penetrometer tests.

Investigations shall be spaced according to the geotechnical engineer’s sub-surface evaluation and be representative of the entire proposed source. The licensed engineer’s test plan must provide a comprehensive sampling to at least 5 feet below the bottom of the proposed excavation.

All soil samples must be classified in accordance with the Unified Soil Classification system. See below for required soil testing. The supporting data attached to the geotechnical report shall be comprehensive and include as a minimum all field logs, soil sampling and testing results and a detailed investigation location map with the location of the potential borrow source and all investigation locations superimposed. The soil investigation locations must include latitudes and longitudes for plotting purposes.

Laboratory Tests shall include:

1. Soil classification shall be performed in accordance with the Unified Soil Classification System and ASTM D 2487.

2. Atterberg Limits Test shall be performed in accordance with ASTM D 4318.

3. Determination of moisture content shall be performed in accordance with ASTM D 2216 or ASTM D 4643.

4. Determination of organic content shall be performed in accordance with ASTM D 2974, Method C.

5. Control compaction curves shall be established in accordance with ASTM D 698 (Standard Proctor Compaction Tests). A control compaction curve is required for each soil type from each source. Where material is blended and stockpiled, a control compaction curves will be required for each resulting blend of material and will be utilized in lieu of those required for the "unblended materials".

6. Sand Content shall be determined by- 200 wash in accordance with ASTM D-1140.

Test Procedures for Borings shall include:

1. A moisture content determination shall be made and recorded on all samples classified as (CH), (CL), and (ML) at no less than 2 foot intervals.

2. For (CH), (CL), and (ML) soils, Atterberg Limits and Organic Content Testing (ASTM D 2974, Method C), is required every 5 feet (minimum).

3. Samples with moisture contents at 70% or higher or having a Liquid Limit of 70 or higher must be tested for organic content for that sample as well as for a sample 2 feet above and 2 feet below that sample.

4. Sand content tests will be required for samples that classify as CL (with a PI greater than 10) and for all clay samples (CH and CL) with greater than 10% coarse grain materials estimated by visual classification for 2 or more consecutive feet.

5. Sand content tests shall be limited to one test every 5 feet of sampling and shall conform to ASTM D1140-00 (#200 sieve required).

6. Sand content tests will be required for samples that classify as a ML, but limited to one test every 5 feet of sampling.
The resulting classification, plasticity, water content, and organic content determinations and borrow area boring logs with GPS readings at the boring locations were analyzed for potential borrow use by the CEMVN to determine the suitability of the soil. Geotechnical testing and soil analysis is ongoing at some of the areas, so it is possible that the area of suitable acreage may decrease as results are finalized.

<u>Government Furnished Sites</u>
For Government furnished borrow sites, the Corps of Engineers will conduct site visits, perform soil borings and testing, acquire all pertinent environmental clearances, and be responsible for borrow material excavations. Using this method, the landowner simply provides the New Orleans District with a signed right-of-entry (ROE) form and the district takes care of the rest.

<u>Contractor Furnished Sites</u>
For Contractor Furnished borrow sites, individual landowners are responsible for soil boring and testing and acquiring state and Federal environmental clearances. Upon

completing all required tasks, the landowner will submit a complete package to New Orleans District for approval. After this approval, the borrow site will be placed on the Government Approved list. Agreements will solely be between private entities, and at no point in time will the landowner have an agreement with New Orleans District. Additionally, there are no guarantees that the landowner will ever sell borrow material for the HSDRRS levees.

Supply Contract
The Government may secure borrow material through a supply contractor that would deliver material to the construction site and/or stockpile area for placement by the construction contractor. For supply contracts, borrow sites, individual bidders are responsible for soil boring and testing and acquiring state and federal environmental clearances. Upon completing all required tasks, the landowner will submit a complete package to New Orleans District for approval when requested as per a contract Request form Proposal. Sites will be evaluated and if approved, the bidders will be allowed to participate in the supply contract process.

3.2 SIGNIFICANT RESOURCES

This section contains a list of the significant resources located in the vicinity of the proposed action, and describes in detail those resources that would be impacted, directly or indirectly, by the alternatives. Direct impacts are those that are caused by the action taken and occur at the same time and place (40 CFR §1508.8(a)). Indirect impacts are those that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable (40 CFR §1508.8(b)). Cumulative impacts are discussed in section 4.

The resources described in this section are those recognized as significant by laws, executive orders, regulations, and other standards of Federal, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public. Further detail on the significance of each of these resources can be found by contacting the CEMVN, or on www.nolaenvironmental.gov, which offers information on the ecological and human value of these resources, as well as the laws and regulations governing each resource. Search for "Significant Resources Background Material" in the website's digital library for additional information. Table 1 shows those significant resources found within the project area, and notes whether they would be impacted by any of the alternatives.

Table 1: Significant Resources in Project Study Area

Significant Resource	Impacted	Not Impacted
Jurisdictional Wetlands		X
Non-Jurdictional Bottomland Hardwood Forest		X
Non-Wetland Resources/Upland Resources	X	
Prime and Unique Farmland	X	
Wildlife	X	
Threatened and Endangered Species		X
Cultural Resources		X
Recreational Resources		X
Noise	X	
Air Quality	X	
Water Quality		X

Significant Resource	Impacted	Not Impacted
Aesthetics	X	
Socioeconomics	X	
Transportation	X	

3.2.1 Jurisdictional Wetlands

Existing Conditions

At this time, the CEMVN is working diligently to avoid impacts to jurisdictional wetlands (as defined by Section 404 of the Clean Water Act) associated with providing borrow material for authorized and 100-year hurricane protection construction. The CEMVN selection prioritization of potential borrow areas (section 2.1), as well as USFWS guidance (appendix D), relating to impacts to jurisdictional wetlands are and will continue to be followed. The CEMVN will coordinate with governmental agencies and the public if jurisdictional wetlands may be impacted during future proposed borrow activities.

The jurisdictional wetland habitat types found near the proposed borrow areas may include pasture wetland, cypress swamps, and pine flatwoods. Jurisdictional wetlands contain hydrophytic vegetation, hydric soils, and hydrology indicators. Pasture wetlands are comprised of soft rushes, flat sedges, smartweed, alligator weed, and other wetland grasses. Cypress swamp areas are dominated by bald cypress and tupelo gum. Some understory species include dewberry, lizard's tail, and poison ivy. A variety of birds utilize these hardwoods for nesting, breeding, brooding, and as perches. Hard mast (nuts) and soft mast (samaras, berries) provide a valuable nutritional food source for birds, mammals, and other wildlife species.

During initial investigations a jurisdictional wetland determination from the CEMVN Regulatory Functions Branch was completed for each potential borrow area. The five potential areas described in this document do not contain jurisdictional wetlands.

- The CEMVN jurisdictional wetland determinations MVN-2006-1442-SU dated 15 June 2006, and MVN-2006-3862-SU dated 20 November 2006, at the proposed South Kenner Road borrow area indicated no jurisdictional wetlands are located on the site.

- The CEMVN jurisdictional wetland determination MVN-2007-3992-SK dated 04 March 2008, at the proposed Willswood borrow area indicated jurisdictional section 404 waters and wetlands located north of the railroad tracks on the site. The non-wetland area is proposed for borrow use.

- The CEMVN jurisdictional wetland determination MVN-2007-2617-SU dated 15 January 2008, at the proposed Meyer borrow area indicated no jurisdictional wetlands are located on the site.

- The CEMVN jurisdictional wetland determination MVN-2007-0232-SU dated 14 March 2007, at the proposed Willow Bend borrow area indicated no jurisdictional wetlands are located on the site.

- The USACE Vicksburg District (CEMVK) jurisdictional wetland determination MVK-2007-1209 dated 07 November 2007, at the proposed Frierson borrow area indicated no jurisdictional wetlands are located on the site.

Discussion of Impacts

No Action
With implementation of this alternative, no direct, indirect, or cumulative impacts to jurisdictional wetlands through the CEMVN's actions would occur at the proposed borrow areas. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action
With implementation of the proposed action, no direct, indirect, or cumulative impacts to jurisdictional wetlands would occur since the borrow areas described in this document are non-wetland. Suitable material from the areas would be used on Federal GNOHSDRRS projects. Any jurisdictional wetland areas outside of the areas would be avoided. The areas would be converted to ponds and small lakes if water is retained, or to vegetated areas if water is not retained. It is expected that either type would attract a variety of wildlife including birds, reptiles, amphibians, and small mammals.

3.2.2 Non-Jurisdictional Bottomland Hardwood Forest

Existing Conditions
The proposed borrow areas described in this document do not contain non-jurisdictional BLH forests.

Non-jurisdictional BLH forests are comprised of dominant species such as hackberry, Chinese tallow tree, pecan, American elm, live oak, water oak, green ash, bald cypress, black willow, box elder, and red maple. Some understory species include dewberry, elderberry, ragweed, Virginia creeper, and poison ivy. A variety of birds utilize these hardwoods for nesting, breeding, brooding, and as perches. Hard mast (nuts) and soft mast (samaras, berries) provide a valuable nutritional food source for birds, mammals, and other wildlife species. Non-jurisdictional BLH forests lack one or more of the following criteria to be considered a jurisdictional wetland: hydrophytic vegetation, hydric soils, and/or wetland hydrology (USACE 1987). Manmade ditches, canals, and/or pumping stations are present at some of the proposed borrow areas.

Discussion of Impacts

No Action
With implementation of this alternative, there would be no direct, indirect, or cumulative impacts to BLH through the CEMVN actions at the proposed borrow areas. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action
With implementation of the proposed action, there would be no direct, indirect, or cumulative impacts to BLH forest. The land uses of the sites are pasture, agriculture, pine plantation, and clearcut areas. The South Kenner Road site is maintained for ongoing landfill expansion. The area would be converted to ponds and small lakes if water is retained, or by vegetation and woody plants if water is not retained. It is expected that either type of area would attract a variety of wildlife including birds, reptiles, amphibians, and small mammals. The South Kenner Road site would be used as a construction and demolition landfill.

3.2.3 Non-Wetland Resources/Upland Resources

Existing Conditions

Some species identified in the non-wet pasture areas include Johnson grass, yellow bristle grass, annual sumpweed, arrow-leaf sida, vasey grass, Brazilian vervain, and eastern false-willow. The scrub/ shrub areas are comprised of Chinese tallow tree, eastern false-willow, wax myrtle, giant ragweed, dew berry, elderberry, red mulberry, pepper vine, and dog-fennel.

The areas listed below show representative vegetation found in the pasture and scrub/ shrub areas.

- The South Kenner Road area is 240 acres of maintained land.
- The Willswood area is 97 acres of maintained pasture land.
- The Meyer area is comprised of 15 acres of farmland.
- The Willow Bend area is 64 acres of maintained pasture land.
- The Frierson area is 25 acres of loblolly pine plantation and cutover.

Discussion of Impacts

No Action

With implementation of this alternative, no direct, indirect, or cumulative impacts to non-wetland resources/upland resources through the CEMVN's actions would occur at the proposed borrow areas. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action

With implementation of the proposed action, direct impacts to non-wetland resources/upland resources at Willswood, Meyer, Willow Bend, and Frierson would occur from clearing and excavation. Some indirect effects are expected from water accumulating and creating ponds and small lakes. The pasture and farmland areas would no longer provide grasses for herbivores such as deer, rabbits, and cattle or provide crops. Some scrub/shrub areas may develop around the borrow area perimeters in time. Borrow areas that remain dry would be expected to be colonized by vegetation and woody plants, which could offset some habitat loss. The South Kenner Road site is a permitted construction and demolition landfill. The permittee is responsible for complying with the terms and conditions of the landfill permit.

The excavation of 441 acres of non-wetland resources/upland resources would contribute to the cumulative loss of these upland resources within the GNOHSDRRS.

3.2.4 Prime and Unique Farmland

Existing Conditions

Three proposed borrow areas contain prime and unique soils according to the National Resources Conservation Service (NRCS) (table 2).

Table 2: Prime and Unique Farmland Soils Present

Site Name	Parish	Soil map unit(s)	Prime Farmland	Acres of Prime and Unique Farmland
South Kenner Road	Jefferson	Aquents	No	N/A
		Allemands muck		
		Barbary muck		
		Kenner muck		
Willswood	Jefferson	Schriever clay	Yes	95.5
		Cancienne silt loam		
		Vacherie silt loam		
Meyer	Plaquemines	Cancienne silty clay loam	Yes	15
		Schriever clay		
Willow Bend	St. John the Baptist	Gramercy silty clay	Yes	51.7
Frierson	Hancock County	Beaureguard silt loam	No	N/A
		Guyton silt loam		

Discussion of Impacts

No Action
With implementation of this alternative, no direct,indirect, or cumulative impacts to prime and unique farmland through the CEMVN's actions would occur at the proposed borrow areas. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action
With implementation of the proposed action, prime and unique farmlands at Willswood, Meyer, and Willowbend would be cleared and excavated. Removing soils from these proposed borrow areas would result in a direct permanent loss of prime and unique farmlands, and the areas would no longer be available for farming. Indirect effects from construction would be from the proposed borrow areas filling with water and converting to ponds or small lakes. Borrow areas that do not retain water would probably not be able to produce food and fiber crops. The land would no longer provide grasses for herbivores such as deer, rabbits, or cattle.

The excavation of 162.2 acres of prime and unique farmland resources would contribute to the cumulative loss of these prime farmland resources within the GNOHSDRRS.

3.2.5 Wildlife

Existing Conditions

The study area contains a great variety of mammals, birds, reptiles, and amphibians. Species inhabiting the area include nutria, muskrat, mink, otter, raccoon, white-tailed deer, skunks, rabbits, squirrels, armadillos, and a variety of smaller mammals. Wood ducks and some migratory waterfowl may be present during winter.

Non-game wading birds, shore birds, and sea birds including egrets, ibis, herons, sandpipers, willets, black-necked stilts, gulls, terns, skimmers, grebes, loons, cormorants, and white and brown pelicans are found in the project vicinity. Various raptors such as barred owls, red-shouldered hawks, northern harriers (marsh hawks), American kestrel, and red-tailed hawks may be present. Passerine birds in the areas include sparrows, vireos, warblers, mockingbirds, grackles, red-winged blackbirds, wrens, blue jays, cardinals, and crows. Many of these birds are present primarily during periods of spring and fall migrations. The areas may also provide habitat for the American alligator, salamanders, toads, frogs, turtles, and several species of poisonous and nonpoisonous snakes. The area currently provides suitable breeding habitat for various species of mosquitoes.

The bald eagle is a raptor that is found in various areas throughout the United States and Canada as well as throughout the study area. Bald eagles are Federally protected under the Bald Eagle Protection Act of 1940. The bald eagle feeds on fish, rabbits, waterfowl, seabirds, and carrion (Ehrlich et al. 1988). The main basis of the bald eagle diet is fish, but they will feed on other items such as birds and carrion depending upon availability of the various foods. Eagles require roosting and nesting habitat, which in Louisiana consists of large trees in fairly open stands (Anthony et al. 1982). Bald eagles nest in Louisiana and Mississippi from October through mid-May. Eagles typically nest in bald cypress trees near fresh to intermediate marshes or open water in the southeastern parishes.

Discussion of Impacts

No Action

With implementation of this alternative, no direct, indirect, or cumulative impacts to wildlife through the CEMVN's actions would occur at the proposed borrow areas. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action

With implementation of the proposed action, direct impacts from wildlife displacement would occur when the South Kenner Road, Willswood, Meyer, Willow Bend, and Frierson areas are excavated. No bald eagle nests were recorded at these sites. The areas may be converted to ponds and small lakes. Aquatic vegetation may colonize the shallow littoral edge of the areas, and wildlife (otters, alligators, raccoons, wading birds, and ducks) adapted to an aquatic environment would be expected to expand their range into the new waterbodies. A variety of plant species may colonize adjacent to the water that could provide important wildlife habitat utilized for nesting, feeding, and cover. Any areas that remain dry would be expected to be colonized by vegetation and woody plants, which could offset some habitat loss. The dense vegetation could attract a variety of wildlife including birds, reptiles, amphibians, and small mammals. While the borrow areas have the potential to become mosquito breeding areas, the amount of surface acres of water is

considered to be small compared to surrounding wetlands. However, local parish mosquito control programs, not the CEMVN, are responsible for mosquito control.

Excavation of the proposed actions would not result in significant cumulative impacts, but would contribute to the cumulative losses of wildlife resources within the GNOHSDRRS.

3.2.6 Threatened and Endangered Species

Existing Conditions

There are no known T&E species, or critical habitats, in the vicinity of any of the proposed borrow areas.

Discussion of Impacts

No Action

With implementation of this alternative, no direct, indirect, or cumulative impacts to T&E species through the CEMVN's actions would occur at the proposed borrow areas. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.-

Proposed Action

Under the proposed actions, no listed endangered, threatened, or candidate species are known to exist in the potential borrow areas. Therefore, no direct, indirect, or cumulative effects would be predicted to protected species or their critical habitat as a result of implementing the proposed actions. The USFWS concurred with the contractors' that excavation of the proposed borrow areas are not likely to adversely affect T&E species or their critical habitat (table 3).

Table 3: USFWS T&E Concurrence

Proposed Borrow Area	USFWS Concurrence
South Kenner Road	22 January 2008
Willswood	02 July 2007
Meyer	19 June 2007
Willow Bend	25 January 2008
Frierson	26 March 2008

3.2.7 Cultural Resources

Existing Conditions

CEMVN's selection of proposed Contractor Furnished Borrow areas seeks to avoid adverse impacts to historic properties. Cultural resource investigations in the vicinity of the proposed borrow areas reveal the presence of both prehistoric and historic sites in the vicinity of the proposed borrow areas. Prehistoric archaeological sites, such as shell middens, hunting and gathering camps, habitation sites, villages and mounds sites, tend to be located on active and abandoned distributary channel levee complexes, major beach ridges, and on older stable portions of the delta, and in association with freshwater marshes. Similarly, historic period sites, such as forts, plantations, and industrial features tend to be located on levees and waterways. The geologic processes associated with the Mississippi River including delta lobe formation, meander progressions, and alluvial sedimentation from floods greatly influence site location and preservation. For example, the geologic progression of the Mississippi River delta lobes suggests that the earliest

archaeological sites in the region date to the Poverty Point Phase (1700 – 500 B.C.)(Wiseman et al 1979). In addition, sedimentation from floods buries and preserves some sites, while channel erosion and subsidence obliterate other sites.

Cultural resource investigations of the four proposed borrow areas include reconnaissance surveys and Phase I cultural resource surveys. Researchers focus their investigations toward identifying known and previously unrecorded historic properties within proposed borrow areas and the areas of potential effect (APE). Background research for each borrow area involves a review of known resources within the area, identifying soil and geomorphologic characteristics, and assessing the existing conditions. This information is used to assess the likelihood that archaeological sites could be present within a borrow area. A reconnaissance survey of the Willow Bend proposed borrow area (Rawls and Smith 2008) updates an earlier Phase I archaeological survey (McIntire 1978). Phase I archaeological surveys of the Frierson Mine, Meyers, South Kenner Road and Willswood borrow areas investigate the likelihood and presence of unrecorded archaeological sites (Eberwine 2008a, 2008b; Thorne 2007a, 2007b, Wells 2008). Section 106 of the National Historic Preservation Act of 1966, as amended, consultation includes correspondence with the State Historic Preservation Officer (SHPO) and Indian Tribes that have an interest in the region (Table 4). Taken together, the results of these investigations reveal that no known sites eligible for listing on or listed on the National Register of Historic Places properties exist within the proposed borrow areas or will be affected by the proposed development.

The proposed Frierson Mine borrow area lies within the Coastal Flatwoods of the Gulf Coastal Plain physiographic district (Garafalo 1982). Geomorphological development of the Coastal Plain differs from the Mississippi Delta lobes of southeastern Louisiana. While the geomorphology allows for the presence of older archaeological sites older then the Poverty Point Phase, survey of the proposed borrow did not identify any cultural resources within the APE. Furthermore, investigations of this borrow area reveal topsoil erosion from Hurricane Katarina's storm surge in 2005. The extent of the storm surge surface soil loss is unknown; however evidence suggests that the loss was substantial (Thorne 2007b: 4).

Two of the proposed borrow areas (South Kenner and Willswood) are located partially in drained backswamps. While backswamps were utilized for resource extraction during prehistoric and historic periods, there is little evidence of occupation in this eco-zone. Consequently, the likelihood for the presence of undiscovered cultural sites within these project areas remains low.

The proposed Meyers and Willow Bend borrow areas and portions of proposed Willswood borrow area lie within natural levee soils. While natural levee soils present a high probability for the presence for prehistoric and historic sites, field investigations confirm the absence of sites within the proposed borrow areas. The Meyers, Willow Bend, and Willswood proposed borrow areas also lie within agricultural fields of historic plantations,(Mississippi River Commission [MRC] 1879: Charts 72,75, and 78). The proposed Willow Bend borrow area is located in the vicinity the "German Coast", a short-lived eighteenth Century German settlement (Deiler 1970). Given the short-term occupation, archaeological deposits of the German Coast are expected to be ephemeral; however, archaeological survey of the proposed borrow pit did not identify sites within the APE (Rawls and Smith 2008).

Cultural resource surveys revealed the presence of least three probable sugar mills within 2000 feet of the Willow Bend proposed borrow area boundaries. A protective 400 foot buffer is placed around these archaeological resources and the proposed borrow areas do

not intersect the buffer zone. Therefore, the proposed action would have no affect to these historic archaeological sites. These sugar mills do not appear on the 1879 MRC map. Ongoing investigations at one of these sites suggest that the sugar mill operated for several decades prior to the Civil War (Malcom Shuman, Surveys Unlimited Research, Associates, Inc., personal communication, 4 April 2008). Following the Civil War the sugar industry transformed from small scale plantation based operations to larger scale industrial operations (Goodwin et al. 1989).

Discussion of Impacts

No Action

Without implementation of the proposed action no direct, indirect, or cumulative impacts to cultural resources are anticipated. Any undiscovered or unreported cultural resources or traditional cultural properties would remain intact and in their current state of preservation. The burial or subsidence of historic land surfaces could continue in the current pattern. There is not reason to believe that No Action would have any direct, indirect, or cumulative positive or negative impacts to cultural resources.

Proposed Action

With implementation of the proposed action, any undiscovered cultural resources may be damaged during borrow excavation and construction operations. However, it is unlikely that such direct impacts would occur because cultural resource surveys have been completed in order to identify cultural resources within the proposed borrow areas. Indirect impacts to cultural resources located adjacent to the proposed borrow areas are unlikely because implementation of proposed buffer zones would protect the cultural resources during work activities. In addition, no cumulative impacts are anticipated for cultural resources.

Table 4. Summary of Section 106 of NHPA Correspondence and Date of Concurrence Letter with CEMVN's "Finding of No Adverse Effect to Historic Properties".

Proposed Borrow Area	**Parish**	**CEMVN letter date**	**SHPO Concurr-ance**	**Chitimacha Tribe of Louisiana[1]**	**Mississippi Band of Choctaw Indians**	**Choctaw Nation of Oklahoma**	**Alabama Coushatta Tribe of TX[1]**	**Caddo Nation of OK[1]**	**Coushatta Tribe of LA[1]**	**Jena Band of Choctaw Indians**	**Quapaw Tribe of OK[1]**	**Seminole Nation of OK[1]**	**Seminole Tribe of FL[1]**	**Tunica-Biloxi Tribe of LA**	**Chickasaw Nation[2]**
Frierson	Hancock County, MS	14 Jan. 2008	27 Nov. 2007	--	14 Jan 2008	5 Mar 2008	--	--	--	18 Feb 2008*	--	--	--	18 Feb 2008*	18 Feb 2008*
Meyer	Plaquemines	12 Mar 2008	3 Apr 2008	14 Apr 2008*	14 Apr 2008*	3 Apr 2008	14 Apr 2008*	14 Apr 2008*	14 Apr 2008*	14 Apr 2008*	14 Apr 2008*	14 Apr 2008*	14 Apr 2008*	14 Apr 2008*	--
River Birch/South Kenner Road	Jefferson	11 April 2006	5 May 2008	12 May 2008	21 April 2008	28 April 2008	12 May 2008	12 May 2008	12 May 2008	12 May 2008	12 May 2008	12 May 2008	12 May 2008	12 May 2008	
Willow Bend	St. John the Baptist	22 Feb. 2008	6 Mar 2008	28 Mar 2008*	28 Mar 2008*	5 March 2008	28 Mar 2008*	28 Mar 2008*	28 Mar 2008*	28 Mar 2008*	28 Mar 2008*	28 Mar 2008*	28 Mar 2008*	28 Mar 2008*	--
Willswood	Jefferson	11 April 2008	5 May 2008	12 May 2008	12 May 2008	28 April 2008 29 May 2008	12 May 2008	12 May 2008	12 May 2008	12 May 2008	12 May 2008	12 May 2008	12 May 2008	12 May 2008	--

[1] Tribe consults on projects in Louisiana only.
[2] Tribe consults on projects in Mississippi only.
* Response date reflects the end of the 30 day comment period. No response implies concurrence with a "Finding of no adverse effect" as per 36 CFR §800.5(c)(1).

3.2.8 Recreational Resources

Existing Conditions

The region in which the proposed actions are to take place is rich with recreation resources. The five specific sites studied in this IER may have some recreational potential, but contain no existing recreational infrastructure or specific features and are not open to public access. The Willswood site has several residences within close proximity.

Discussion of Impacts

No Action

Without proposed action, there should be no direct, indirect, or cumulative impacts to recreation resources. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action

The proposed South Kenner Road, Willswood, Meyer, Willow Bend, and Frierson areas borrow areas will not directly, indirectly, or cumulatively impact recreation resources in the region. In some cases depending on how the end site is left, the habitat may be suitable to support some recreational activities (i.e., wildlife viewing and fishing) for the private landowner.

3.2.9 Noise Quality

Existing Conditions

Some of the proposed borrow areas are located near highways, interstates, landfills, and residential areas, while others are located in rural areas. Currently, sound levels in and around the proposed areas are expected to be moderate. The primary producers of sound would be from traffic, people, and, wildlife. Local traffic may have short-term sound levels that are high. While the sites are not surrounded by dense development, there are residences in the vicinities of some of the sites that may be affected by noise impacts.

Discussion of Impacts

No Action

With implementation of this alternative, no direct, indirect, or cumulative impacts to noise quality through the CEMVN's actions would occur at the proposed borrow areas. Noise quality may be impacted by non-Federal actions if the landowner chooses to use the land as a borrow source for other purposes. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action

With implementation of the proposed action direct impacts caused from noise levels during construction are expected at the Willswood and Meyer borrow areas. The Willswood site, has houses approximately 200 feet from the proposed borrow area and the Meyer site has a house approximately 400 feet from the proposed borrow area. There is a data gap because at this time the contractor's don't know their operation hours or sound levels produced from equipment. This noise would be associated with construction equipment such as bulldozers, excavators, haul trucks,

and/or chainsaws. Portable pumps would also be used if needed. Elevated noise levels may impact nearby residents.

The South Kenner Road, Willow Bend, and Frierson sites are located in rural areas, the number of residences and commercial properties exposed to the adverse impacts of noise is minimal. There is greater potential, however, for noise impacts to be generated by construction vehicles and personal vehicles for contract laborers that may require the use of public roads and highways for access to construction sites. However, these impacts would only be present during the excavation period, and would be temporary.

Cumulative noise impacts from the excavation of South Kenner Road, Willow Bend, Willswood, Meyer, and Frierson proposed borrow areas are unknown at this time the impacts will be discussed in the CED.

3.2.10 Air Quality

Existing Conditions

As of June 15, 2005, the 1-hour ozone standard for the New Orleans Metropolitan Area (Orleans, Jefferson, St. Bernard, St. Charles, St. John the Baptist, and Plaquemines parishes) was revoked and replaced by an 8-hour standard. The New Orleans area is currently in attainment of the 8-hour ozone standard and all other critical pollutant National Ambient Air Quality Standards (NAAQS) as established by the Clean Air Act. The parishes listed above are currently in attainment of all NAAQS. This classification is the result of area-wide air quality modeling studies. Hancock County, Mississippi, which is where the Frierson proposed borrow area is located, is in a NAAQS attainment area according to the Mississippi Department of Environmental Quality.

Discussion of Impacts

No Action

With implementation of this alternative no direct, indirect, or cumulative impacts to air quality through the CEMVN's actions would occur at the proposed borrow areas. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action

With implementation of the proposed action, there would be direct short-term impacts to air quality that would result from the excavation of South Kenner Road, Willow Bend, Willswood, Meyer, and Frierson borrow areas controlled by proper BMPs. Air quality impacts would be limited to those produced by heavy equipment, and suspended dust particles generated by bulldozing, dumping, and grading. Operation of construction equipment and support vehicles would generate volatile organic compounds (VOCs), particulate matter (PM) 10, PM 2.5, nitrogen oxides (NO_x), carbon monoxide (CO), ozone (O_3) and sulfur oxides (SO_x) emissions from diesel engine combustion. The construction equipment and haul trucks should have catalytic converters and mufflers to reduce exhaust emissions. During the construction of the proposed project, routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within the appropriate design standards. Contractors are required to obtain appropriate air quality permits from the Louisiana Department of Environmental Quality (LDEQ) and Mississippi Department of Environmental Quality (MDEQ) before construction.

Dust suppression methods would be implemented to minimize dust emissions. Emissions associated with the proposed actions would be temporary and should not significantly impair air quality in the region. Due to the short duration of excavation, any increases or impacts on ambient air quality are expected to be short-term and minor and are not expected to cause or contribute to a violation of Federal or state ambient air quality standards.

Cumulative air impacts from the excavation of South Kenner Road, Willow Bend, Willswood, Meyer, and Frierson proposed borrow areas are unknown at this time and the air impacts will be discussed in the CED.

3.2.11 Water Quality

Existing Conditions

LDEQ and Mississippi Department of Environmental Quality regulates both point and nonpoint source pollution. Many of the proposed borrow areas are uplands with associated drainage features.

Discussion of Impacts

No Action

With implementation of this alternative, no direct, indirect, or cumulative impacts to water quality through the CEMVN's actions would occur at the proposed borrow areas. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action

Despite the use of BMPs, with implementation of the proposed action there would be some direct and indirect impacts to water quality in the immediate vicinity of the South Kenner Road, Willow Bend, Willswood, Meyer, and Frierson proposed borrow areas from sediments getting around silt fencing during high rain events.

The contractor would be required to secure all proper Federal, state, and local permits required for potentially impacting water quality. The CEMVN requires that construction BMPs be implemented and followed during the construction phase. A sediment control plan including silt fencing and hay bales would be installed around the perimeter of the proposed borrow areas to control runoff. To make optimal use of available material, excavation would begin at one end of the borrow area and be made continuous across the width of the areas to the required borrow depths, to provide surface drainage to the low side of the borrow area as excavation proceeds. Excavation for semi-compacted fill would not be permitted in water nor shall excavated material be scraped, dragged, or otherwise moved through water. In some cases the borrow areas may need to be drained with the use of a sump pump. Upon abandonment, site restoration would include placing the stockpiled overburden back into the area and grading the slopes to the specified cross-section figures. Abrupt changes in grade should be avoided, and the bottom of the borrow area should be left relatively smooth and sloped from one end to the other. Abrupt changes in borrow area alignment shall be avoided. Because there are no waterbodies immediately adjacent to the proposed borrow areas direct and indirect disturbance of water quality would be temporary, confined, and short lived.

The excavation of South Kenner Road, Willow Bend, Willswood, Meyer, and Frierson would contribute to the cumulative losses of water quality within the region.

3.2.12 Transportation

Existing Conditions

Additional information on the potential impacts associated with transporting borrow material is being developed by the CEMVN, and will be discussed in the CED. This is a known data gap (section 1.6).

The following is a listing of each proposed borrow area by parish/county and the sites' proximity to roads and highways.

- Jefferson Parish: The proposed South Kenner Road borrow area is located on South Kenner Road. The proposed Willswood borrow area is located on the south side of River Road.

- Plaquemines Parish: The proposed Meyer borrow area is located in Braithwaite, Louisiana on the east side of Highway 39.

- St. John the Baptist Parish: The proposed Willow Bend borrow area is located on the south side of River Road.

- Hancock County: The proposed Frierson borrow area is located south of Lower Bay Road.

Discussion of Impacts

No Action

With implementation of this alternative, no direct, indirect, or cumulative impacts to transportation routes through the CEMVN's actions would occur at the proposed borrow areas. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action

With implementation of the proposed action, construction equipment such as bulldozers and excavators would need to be delivered to the sites, and haul trucks would be entering and exiting the areas on a daily basis during the period of excavation. Direct impacts from truck hauling would temporarily impede vehicle traffic and result in a reduction in the level of service (LOS, a metric describing traffic volume relative to capacity) on some local road segments. Flagmen, signage, cones, barricades, and detours would be used where required to facilitate the movement of heavy equipment and local traffic on affected road segments. The proposed design of all areas would require methods to avoid exposure of adjacent traffic routes and other urban developments. Appropriate measures to ensure safety and facilitate the movement of traffic would be implemented at all approved borrow areas.

- Jefferson Parish: The proposed South Kenner Road and Willswood borrow areas are located on road segments that do not presently receive heavy traffic loads and South Kenner Road bisects Highway 90. If these proposed borrow areas are used, material would more than likely be used for GNOHSDRRS

construction sites closest to them, minimizing the disruption of transportation through highly developed areas. Even with use of these borrow areas, road congestion is not expected to be great.

- Plaquemines Parish: The proposed Meyer borrow area is in a rural area, road congestion is not expected to be great.

- St. John the Baptist Parish: The proposed Willow Bend borrow site is in a rural area with no GNOHSDRRS projects in the area, material excavated would likely be hauled out of the parish.

- Hancock County: The proposed Frierson borrow area is located in a rural area road congestion is not expected to be great.

Appropriate measures to ensure safety and facilitate the movement of traffic would be implemented at all potential borrow areas. The current traffic volume at these areas is unknown.

Cumulative transportation impacts from the excavation of South Kenner Road, Willow Bend, Willswood, Meyer, and Frierson proposed borrow areas are unknown at this time and the transportation impacts will be discussed in the CED.

3.2.13 Aesthetic (Visual) Resources

Existing Conditions
The South Kenner Road, Meyer, Willow Bend, and Frierson proposed borrow areas contain similar land use patterns (i.e., former- or presently-cultivated land or existing borrow areas) in the immediate and adjacent areas and are visually remote and inaccessible. Generally, they lack distinct qualities that make them visually significant. However, the Willswood proposed borrow area is adjacent to residential areas in a rural setting where borrow areas do not currently exist.

Discussion of Impacts

No Action
With implementation of this alternative, no direct, indirect, or cumulative impacts to visual resources through the CEMVN's actions would occur at the proposed borrow areas. These resources may be impacted by non-Federal actions if the landowner chooses to use the land as a borrow source. GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified.

Proposed Action
The Willswood proposed borrow area is adjacent to residential areas where its existence may not be considered as a positive visual environmental feature; currently, borrow areas do not exist in the area. Upon completion of excavation, the Environmental Design Considerations for Main Stem Levee Borrow Areas Along the Lower Mississippi River Report 4: Part V, incorporated by reference, and the CEMVN operating procedures will be basic guidelines referred to when designing the borrow area as a positive visual environmental feature. For example, during the borrow excavation process any overburden (topsoil that lays on top of suitable borrow material) would be stockpiled.

Upon completion of excavation, site restoration may include placing the stockpiled overburden back into the borrow area to create islands and smooth out corners for visual enhancement. Therefore, the direct and indirect impacts may be considered insignificant. However, the Pre-Approved Contractor Furnished borrow areas must conform to local zoning ordinances and land use regulations, and, in so doing, not violate public and local governmental expectations of private property land use norms.

Cumulatively, visual impacts from the excavation of South Kenner Road, Willow Bend, Willswood, Meyer, and Frierson proposed borrow areas are unknown at this time as the borrow area selection and excavation process is ongoing; the impacts will be discussed in the CED.

3.3 SOCIOECONOMIC RESOURCES

The focus of this section is to evaluate the relative socioeconomic impacts of construction activities associated with acquiring borrow material from five sites in the vicinity of the New Orleans Metropolitan Area. This borrow material would be used to construct GNOHSDRRS projects, usually a construction project close to where it is acquired. The 'No Action' alternative in this case would necessitate finding other borrow locations, either Contractor or Government Furnished. The 'Proposed Action' is to use the five privately-owned borrow sites discussed in this report.

3.3.1 Population and Housing, Business and Industry, Property Values, Public Facilities & Services

Existing Conditions

Mostly located within the New Orleans Metropolitan Area and within non-wetland areas, the proposed borrow areas have more property value than large tracts of adjacent wetlands. The close proximity of the proposed borrow areas to additional urban developments adds value to the adjacent area, commercial and residential property values, public facilities and services, utilities, public transit, safe highways, streets and bridges, police and fire protection facilities and services, schools and educational services, hospitals and health care services, and the many other public facilities and services of Federal, state, and local government.

Most of the borrow areas are in relatively rural areas, far from dense residential development. However, the Willswood area is close to some residences along Modern Farms Road and River Road.

Of the three parishes in Louisiana and one county in Mississippi discussed in this report, the specified median value of homes ranged from $83,500 in St. John the Baptist Parish $110,100 in Plaquemines Parish. The 'Proposed Action' paragraph below indicates the latest and most detailed census information (2000 U.S. Census) available in regards to the value of residential property in related census tracts, although all of the sites proposed are on currently vacant property.

Discussion of Impacts

No Action

With implementation of this alternative, GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other

sources as yet to be identified. The future conditions with this alternative would likely require alternative methods for improving flood and hurricane protection using suitable borrow material from other locations. No incremental effects on population and housing, business and industry, property values, and public facilities and service relative to the proposed action are expected.

Proposed Action

Planning for the proposed action has attempted to balance the cost and need for storm damage risk reduction with consideration of property values, public facilities and services, and potential impacts to the local tax base. The borrow materials are used to enhance authorized storm surge risk reduction systems, thus adding value for various purposes ranging from industrial, commercial, residential, institutional, and public.

The proposed borrow areas are privately owned parcels that could be utilized as borrow areas with or without the Federal project. While some diminution in adjacent property values may occur, the Pre-Approved Contractor Furnished borrow areas must conform to local zoning ordinances and land use regulations, and, in so doing, not violate public and local governmental expectations of private property land use norms.

The proposed South Kenner Road borrow area in Jefferson Parish covers 240 acres within the WBV Project. It is located in census tract 275.02, group 6; the specified median value for owner-occupied housing units of $53,300. The land has been cleared for use as a proposed expansion of an adjacent landfill. The site is uninhabited, and is relatively far from development. As such, disruption due to borrow excavation should be minimal.

The proposed Willswood borrow area, also in Jefferson Parish, covers 97 acres, also within the WBV Project. The site was previously used for pasture; however, there are no longer any cattle at the site. This site is in close vicinity to residential development on either side. There is a greater chance of disruption due to excavation at this site than the other sites, since it is in closer proximity to residences. The site is located in census tract 275.01, group 3; the specified median value for owner-occupied housing units is $123,200. In addition, there are shipping facilities in the vicinity that may be affected by the excavation or resulting impacts to traffic patterns in the area. However, the degree to which traffic will be impacted will be unknown until a specific traffic plan is established for the excavation site.

The proposed Willow Bend borrow area in St. John the Baptist Parish covers 64 acres. The site is uninhabited and used for pasture and sugar cane farming. It is located in a rural area, relatively far from other development. It is located in census tract 711, group 2; the specified median value for owner-occupied housing units is $50,300. The area is relatively far from residential development and there should be minimal disruption due to borrow excavation.

The proposed Frierson borrow area in Hancock County, Missippi covers 25 acres. The site is uninhabited and in a rural area. The site was previously used as pine plantation and for cutover. It is located on census tract 304, group 3; the specified median value for owner-occupied housing units is $62,100. The area is relatively far from residential development and there should be minimal disruption due to borrow excavation.

The proposed Meyer borrow area in Plaquemines Parish covers 15 acres in Braithwaite. The site is uninhabited, and was previously used for agricultural

purposes. It is located on census tract 501, group 1; the specified median value for owner-occupied housing units is $139,000. The area is relatively far from residential development and there should be minimal disruption due to borrow excavation.

Property values for the sites themselves may tend to decrease as their potential uses for alternative purposes are diminished in the future. For adjacent properties, the market response with respect to property values is undetermined, though there would appear to be no likelihood that property value could be enhanced.

The impact for future growth opportunities for business and industry in the area is problematic. An open borrow site has fewer opportunities for future development than one that is backfilled. Also, an open borrow site does nothing to enhance the relative attractiveness of adjacent real estate as opportunities for commercial investment. However, from a market perspective, the competitive disadvantage that the borrow site, and adjacent properties, may be placed at when compared to alternative real estate investment opportunities in other markets is measured simply by the cost to backfill. From a practical standpoint, private owners of adjacent properties cannot compel owners of open borrow sites to backfill for the purpose of enhancing property values within the market area in general. As a result, an impediment, to an undefined degree, may be introduced to further prospective commercial development.

3.3.2 Health and Safety

Existing Conditions

The proposed Jefferson Parish sites and the Plaquemines Parish site lay within existing storm damage risk reduction system areas. The St. John the Baptist parish and Hancock County sites do not.

Since most of the borrow sites are in rural, minimally populated areas, the “potentially impacted area” around these sites is also minimal. However, there are likely to be more impacts in the vicinity of the Willswood area, since population around it is more dense. This is especially true of temporary air-quality disruptions during the excavation period.

Discussion of Impacts

No Action

With implementation of this alternative GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified. The future conditions with this alternative would likely require alternative methods for improving flood and hurricane protection using borrow material from other locations. Under this alternative there would be no impact to health and safety at the specified sites.

Proposed Action

With implementation of the proposed action suitable material would be excavated from the proposed borrow areas. This is the process that was historically used to create most of the storm surge reduction infrastructure for the New Orleans Metropolitan Area. Implementation of the sites would be subject to Federal, state, and local safety and health regulations.

There would be temporary, construction-related risks to health and safety, but no permanent impacts are expected. For excavation activities, the most immediate risks

are to construction workers themselves who are employed on site. The nature of construction activities suggest that there is low to zero risks to adjacent populations as there is little probability of industrial spills or severe degradation of air quality.

With implementation of this alternative, there would be minimal impacts to air and water quality due to construction. Heavy equipment and excavation of borrow material would cause dust particles to be suspended in the air. In addition, there might be temporary adverse impacts to water quality, but the CEMVN will take action to minimize these impacts. Changes in air and water quality would last only through the period of excavation.

If borrow sites are not fenced in, then there would be an increased hazard, especially to young children.

Increased vehicular traffic near the borrow sites during the excavation period may raise the likelihood of accidents. Routine measures related to traffic management at construction sites are expected to reduce this risk and ensure safety.

No long-term impacts to health and safety facilities are expected as a result of this alternative.

3.3.3 Employment, Income, and Local Tax Base

Existing Conditions
Except for sites used as pasture or farmland, the proposed sites are not currently used for business and industrial purposes generating employment. The project sites total almost 441 acres within close proximity to urban developments of the New Orleans Metropolitan Area.

There is a shipping facility in the vicinity of the Willswood area. The facility is accessed by using River Road, and may be affected, along with residents of the area, by additional traffic congestion due to borrow excavation activities.

Discussion of Impacts

No Action
With implementation of this alternative GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified. The future conditions with this alternative would likely require alternative methods for improving flood and hurricane protection using borrow material from other locations. The collection of alternative material may be an added cost to the project that would be reflected in the project construction cost. However, no incremental impacts on employment, income, and local tax base, relative to the proposed alternative, are expected.

Proposed Action
Some of the proposed sites were previously or are currently used as pasture or farmland. However, if borrow material is excavated from these areas with no backfill, then this land will no longer be available for other uses, including farmland.

As there are few, if any, commercial enterprises in the immediate vicinity of the proposed excavation sites, there are no anticipated disruptions to commercial activities. Willswood may represent a contrary example where commercial

establishments may be interspersed with residential properties. Therefore, minimal to no disruptions to income and public tax collections are expected. The exception to this is the possibility that tax collections based on the values of the sites themselves may decline if the values of the properties decline.

The potential for adverse impacts to businesses due to traffic congestion is greatest in Willswood. However, until a traffic plan is specifically implemented, the degree of adverse impact, if any, to proximate shipping facilities is undetermined.

To the extent that the execution of the contract to provide borrow material provides taxable income to the property owner, Federal, state, and local tax collections may increase. In a broader sense, the construction activities themselves invariably require the hiring of labor resources that result in higher incomes, personal spending, and potential governmental tax revenues.

3.3.4 Community Growth

Existing Conditions

Desirable community and regional growth is considered growth that provides a net increase in benefits to a local or regional economy, social conditions, and the human environment, including water resource development. Similar to other references to social and economic conditions, community and regional growth has been heavily dependent on the unique flood and hurricane protection systems created by borrow areas. The proposed project sites are planned to improve flood and hurricane protection.

Discussion of Impacts

No Action

With implementation of this alternative GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified. The future conditions with this alternative would likely require alternative methods for improving flood and hurricane protection using borrow material from other locations. No incremental impacts with respect to the proposed action are expected.

Proposed Action

The proposed project would advance the growth of communities within the GNOHSDRRS by making possible improvements to the hurricane and storm damage risk reduction system. Without strong storm and flood protection, a community's growth will be limited. By advancing the hurricane and storm damage risk reduction system, confidence and investment in the Greater New Orleans community will increase.

Borrow excavation will not contribute to community growth in this sense in St. John the Baptist Parish and Hancock County since these areas lay outside the GNOHSDRRS. Advancing the GNOHSDRRS will not in itself contribute to community growth in these areas.

On the other hand, St. John the Baptist Parish will likely benefit from improvements to the GNOHSDRRS because it is part of the New Orleans MSA, and a project that advances the growth of the MSA will likely have a positive effect on St. John the Baptist Parish as well.

Additionally, construction activities will advance community growth by increasing traffic to the areas around the proposed borrow sites. This increased activity will likely benefit area businesses.

However, using land for borrow purposes would make that same land unavailable for other uses. This may place the communities around the borrow sites at a competitive disadvantage for increased development and growth. Adjacent property may also be less likely to be developed if land is used for borrow purposes.

3.3.5 Community Cohesion

Existing Conditions

Community cohesion refers to the common vision and sense of belonging within a community that is created and sustained by the extensive development of individual relationships that are social, economic, cultural, and historical in nature. The degree to which these relationships are facilitated and made effective is contingent upon the spatial configuration of the community itself: the functionality of the community owes much to the physical landscape within which it is set. The viability of community cohesion is compromised to the extent to which these physical features are exposed to interference from outside sources.

Discussion of Impacts

No Action

With implementation of this alternative GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified. The future conditions with this alternative will likely require alternative methods for improving flood and hurricane protection using borrow material from other locations. No incremental impacts with respect to the proposed action are expected.

Proposed Action

The impacts of construction are typically adverse, such as noise and traffic congestion. Some effects, though, have both negative and positive impacts. Yet it is difficult to foresee any construction-related impact that enhances community cohesion; such impacts are expected to be either adverse or, at a minimum, neutral.

Impacts on community cohesion are contingent upon the degree to which project construction is expected to encroach upon the physical landscape that directly or indirectly affects the patterns of social interrelationships. In the current analysis, the proposed borrow areas are sufficiently distant from areas of development such that no spatial element of the community is impinged upon and the shared identity of the community materially threatened. This does not mean that adverse impacts, such as degraded aesthetic qualities or forgone economic opportunities, do not occur. Rather, the adverse impacts in other resource areas are not sufficiently large to affect community cohesion. The impact on community cohesion is first demonstrated by identifying a change in the pattern of social interaction, such as diminished contact due to physical separation, impediments to contact, interference in communication, dislocation, or voluntary migration. None of these conditions are present with the current alternative.

Construction-related impacts can be distinguished from project-related outputs, that is, the economic and social consequences that are specifically intended from the

project design and that make it worthwhile to pursue. An increase in community cohesion can be seen as a specifically intended output from the project, as represented by the hurricane and storm damage risk reduction system. This occurs since storm surge protection measures are designed to protect the community from the catastrophic effects of flooding, preserving the physical integrity of the developed landscape that promotes patterns of social interchange. The alternative presented here increases the level of community cohesion in this instance in Jefferson and Plaquemines parishes. However, since St. John the Baptist Parish and Hancock County are not part of the GNOHSDRRS for which borrow is being excavated, this project will not necessarily advance community cohesion in these areas.

While the proposed borrow areas are located on unpopulated tracts of land, there may be nearby residents or business operators who disapprove of proximate sites being used as sources of borrow materials. This would be seen as a threat to the cohesion of the local community through the adverse visual impact that would result from the activity. Within this understanding of community cohesion, however, such cohesion is linked to a direct impact on a social resource area, aesthetics, which is addressed separately and cannot be otherwise determined to materially affect the patterns of social interaction that the physical landscape and supporting human infrastructure facilitates.

Further, while the adverse impact to aesthetic values can be expected from the proposed projects, and a possible diminution in adjacent property values may occur, the proposed Pre-Approved Contractor Furnished borrow areas must nonetheless conform to local zoning ordinances and land use regulations, and, in doing so, not violate public and local governmental expectations of private property land use norms.

3.4 ENVIRONMENTAL JUSTICE

Existing Conditions

- South Kenner Road

  The proposed South Kenner Road borrow area is a 240 acre site located east of River Birch Road, south of the intersection of LA Highway 3127 and LA Highway 3141. Based on a review of satellite imagery, there appear to be no residences within one half mile of the site.

  The Census-designated Block Group within which the site is located (Census Tract 275.02, Block Group 6) includes a much larger geographic area than the site. This Block Group extends from the T&P Railroad tracks south to Highway 90, and from just west of South Kenner Avenue east to Capital Drive. Within this Block Group, there were 288 inhabitants in 2000 and an estimated 368 inhabitants in 2007. One hundred percent of the residents in 2000 were minority, and 29.78% lived below the poverty line. This is substantially higher than parish or state averages.

  The 2007 estimates produced by ESRI, Inc. do not show a significant change in income or minority distribution since the 2000 Census. Therefore, the population within this Block Group most likely remains a minority and low income population.

- Willswood

  The proposed Willswood borrow area is a 97 acre site located approximately 0.2 miles north of Willswood Lane and River Road intersection, and approximately two miles east of the proposed South Kenner Road borrow area discussed above. Based

on a review of satellite imagery, it appears the site is located in close proximity to residential areas to the east and west. Due to this proximity, the project would likely have direct and indirect impacts to the adjacent neighborhoods.

The Census-designated Block Group within which the site is located (Census Tract 275.01, Block Group 3) extends from Modern Farms Road to Avondale Garden Road, north of the railroad lines to the Mississippi River. Within this Block Group, 24.9% of the residents were minority and 2.1% were low income as of 2000. This is substantially lower than parish or state averages. Therefore, based on Census information, this area was not a low income, minority community in 2000.

According to estimates produced by ESRI, 38.4% of residents were minority, and 8.9% of all households were low income in 2007. While these estimates mark an increase in the low income and/or minority populations since 2000, these figures are still lower than parish or state averages. Therefore, it is unlikely that the residential area impacted by the project (Block Group 275.013) is presently a low income, minority community.

- Meyer
  The proposed Meyer borrow area is located approximately 0.16 miles southeast of Highway 39 and Belair Pump Road intersection. Based on a review of satellite imagery, it appears the site is located in a predominantly rural and sparsely populated area.

  The Census-designated Block Group within which the site is located (Census Tract 501, Block Group 1) extends over a much larger geographic area than the proposed borrow site, and includes such communities as Braithwaite, Scarsdale, Stella, Greenwood, Bertrandville, Woodlawn and Wills Point, in addition to the immediate community of Carlisle. Within this Block Group, 25.3% of the residents were minority and 11.5% lived below the poverty line in 2000. This is lower than parish or state averages. Therefore, based on Census information, this area was not a low income, minority community in 2000.

  According to estimates produced by ESRI, 19.7% of residents were minority, and 16.6% of all households were low income in 2007. These estimates are comparable to the 2000 figures. Therefore, it is probable that the area is currently not a low income or minority area.

- Willow Bend
  The proposed Willow Bend borrow area is located approximately 0.3 miles south of Great River Road and 3.65 miles southeast of the Veterans Memorial Bridge. Based on a review of satellite imagery, it appears the site is located in a predominantly rural and sparsely populated area, with no human habitation abutting and/or near the site. The closest neighborhood is on West 4th Street, about 0.5 mile from northwest corner of the proposed site.

  The Census-designated Block Group within which the site is located (Census Tract 711, Block Group 2) extends over a much larger geographic area than the proposed borrow area, from the Mississippi River to the north, south to Highway 3127, east to East 3rd Street, and west to West 4th Street. Within this Block Group, 93.6% of the residents were minority and 34.7% lived below the poverty line in 2000. This is substantially higher than parish or state averages. Therefore, based on Census information, this area was a low income, minority community in 2000.

According to estimates produced by ESRI, 95.7% of residents were minority, and 30.5% of all households were low income in 2007. This is comparable to 2000 figures, therefore it is likely Block Group 711.02 continues to be a low income and minority area.

- Frierson
  The proposed Frierson borrow area is 25 acres located approximately 0.4 miles southwest of the Dillard Road and White Road intersection. Based on a review of satellite imagery, there appears to be no residences within one half mile of the site.

  The Census-designated Block Group within which the site is located (Block Group 3 of Census Tract 304), includes a much larger geographic area than the site, from Highway 90 and Highway 106 to the north, west to Lakeshore Road, east to Pearl River, and south to the Gulf of Mexico. Within this block group, 4.5% of the population was minority and 18.8% of the population was living below the poverty line as of 2000 (Census SF1 and SF3 files). The percentage of the population that is a minority is comparable to the county average and is significantly less than the state average. The percentage of the population that is low income is comparable or slightly higher than county or state averages. Therefore, based on Census information, this area was not a low income or minority community in 2000.

  According to 2007 estimates produced by ESRI, minority and/or low income populations increased slightly within the immediate study area since 2000. With this increase, the Block Group can be defined as a non-minority, low income area.

Discussion of Impacts
The proposed borrow areas were evaluated for potential disproportionately high, environmental impacts on minority and/or low-income populations. As the project planning process advances, environmental justice impacts will be analyzed further when additional project planning data become available. Aerial photos were utilized to confirm the presence of habitation in the various project areas, and are routinely utilized in environmental justice analysis.

No Action
Under the No Action alternative, GNOHSDRRS projects would be built to authorized levels using potential Government and/or Pre-Approved Contractor Furnished borrow areas described in IER # 18, IER # 19, IER # 22, IER # 23, or other sources as yet to be identified. No disproportionate impacts borne by any minority and/or low income population would be made by not using the five proposed borrow areas.

Proposed Action
The proposed action would benefit residents of the New Orleans Metropolitan Area equally by providing the material necessary to construct the GNOHSDRRS. The Willowbend and Frierson borrow areas are outside the GNOHSDRRS, therefore, residents living near these areas would not benefit from storm protection. Further, Pre-Approved Contractor Furnished borrow material would only be acquired from willing sellers. Those who do not wish to have borrow material removed from their properties do not have to enroll in the program, however, their neighbors' potential decision to have borrow material removed from their land could effect adjacent property values.

- South Kenner Road
  This area is rural in nature, characterized by general absence of human habitation at or near the site. Therefore, disproportionate direct impacts to the existing minority and/or low income population are not anticipated from utilizing this site as a borrow area. Due to the general absence of human habitation adjacent to this site, use of the site is not anticipated to exert disproportionate indirect impacts to this community.

- Willswood
  As described previously, residential population exists to the west and east of the proposed borrow area. However, the population data presented previously shows that this area does not contain any minority and/or low income communities. Therefore, use of this borrow site is not anticipated to exert direct or indirect disproportionate adverse impacts on these communities.

- Meyers
  This area is rural and very sparsely populated. As described previously, residential population exists to the west and east of the proposed borrow area. However, the population data presented previously shows that this area does not contain any minority and/or low income communities. Therefore, use of this borrow site is not anticipated to exert direct or indirect disproportionate adverse impacts on these communities.

- Willow Bend
  Because this area is rural and very sparsely populated and due to the general absence of human habitation near this site, disproportionate direct or indirect impacts to the existing minority and/or low income population are not anticipated from utilizing this site as a borrow area. Due to the general absence of human habitation adjacent to this site, use of the site is not anticipated to exert disproportionate direct or indirect impacts to this community.

- Frierson
  This area is rural, very sparsely populated, with general absence of human habitation near the site. Therefore, disproportionate direct and indirect impacts to the existing low income community are not anticipated from utilizing this site as a borrow area. Due to the general absence of human habitation adjacent to this site, use of the site is not anticipated to exert disproportionate indirect impacts to the low income community.

  Details on cumulative, environmental justice impacts from the South Kenner Road, Willow Bend, Willswood, Meyer, and Frierson proposed borrow areas will be analyzed when further project planning data become available at conclusion of small group neighborhood focus meetings and will be included in the CED.

3.5 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

USACE is obligated under Engineer Regulation 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 the proposed action. ER 1165-2-132 identifies the CEMVN HTRW policy to avoid the use of project funds for HTRW removal and remediation activities. Costs for necessary special handling or remediation of wastes (e.g., Resource Conservation and Recovery Act [RCRA] regulated), pollutants and other contaminants, which are not regulated under the Comprehensive Environmental

Response, Compensation, and Liability Act (CERCLA), will be treated as project costs if the requirement is the result of a validly promulgated Federal, state or local regulation.

An ASTM E 1527-05 Phase I ESA was completed for each proposed borrow area. The Phase I ESA documented the Recognized Environmental Conditions (REC) for the proposed project areas. If a REC cannot be avoided, due to the necessity of construction requirements, the CEMVN may further investigate the REC to confirm presence or absence of contaminants, actions to avoid possible contaminants. Federal, state, or local coordination may be required. Because the CEMVN plans to avoid RECs the probability of encountering HTRW in the project area is low.

A copy of the Phase I ESA referenced below will be maintained on file at the CEMVN office, and is incorporated herein by reference. Copies of these reports are available by requesting them from the CEMVN, or accessing them at www.nolaenvironemtal.gov.

HTRW Land Use Histories and Phase I HTRW ESAs have been completed for the proposed borrow areas:

- The Phase I ESA for South Kenner Road was completed on 09 August 2007. No RECs were identified
- The Phase I ESA for Willswood was completed on July 2007. No RECs were identified.
- The Phase I ESA for Meyer was completed on 01 June 2007. No RECs were identified.
- The Phase I ESA for Willow Bend was dated January 2008. No RECs were identified.
- The Phase I ESA for Frierson was dated March 2008. No RECs were identified.

4. CUMULATIVE IMPACTS

NEPA requires a Federal agency to consider not only the direct and indirect impacts of a proposed action, but also the cumulative impacts of the action. Cumulative impact is defined as the "the impact on the environment which results from the incremental impact of the action when added to other past, present, and 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.

As indicated previously, in addition to this IER, the CEMVN is preparing a draft CED that will describe the work completed and the work remaining to be constructed. The purpose of the draft CED will be to document the work completed by the USACE on a system-wide scale. The draft CED will describe the integration of individual IERs into a systematic planning effort. Additionally, the draft CED will contain updated information for any IER that had incomplete or unavailable data at the time it was posted for public review. Overall cumulative impacts and future operations and maintenance requirements will also be included. The discussion provided below describes an overview of other actions, projects, and occurrences that may contribute to the cumulative impacts previously discussed.

Borrow material has been obtained in the past by the CEMVN for GNOHSDRRS and other projects in southeastern Louisiana. The CEMVN has been working at an accelerated schedule to rehabilitate the GNOHSDRRS system after Hurricanes Katrina and Rita, and has a goal of building the system to authorized levels by June 2011. Over 100,000,000 cubic yards of borrow material is estimated to be needed to complete authorized levels of protection. Borrow material will also be needed to perform levee lifts and maintenance for at least 50 years after construction is completed. The CEMVN is in the process of implementing construction projects to raise the hurricane protection levees associated with the Federal LPV, WBV, and New Orleans to Venice (NOV) Hurricane Protection projects to authorized elevations. This includes modifications to flood protection projects not covered by this IER. Levee improvements throughout the LPV and WBV projects would require substantial amounts of borrow material, and some of the borrow areas needed have been identified in this document to provide adequate material in proximity to proposed flood protection projects. In addition to modifying and raising existing structures, three new outfall canal closure structures are proposed at the 17th Street, Orleans Avenue, and London Avenue Outfall Canals in the Orleans East Bank Basin, and a new closure structure is proposed for within the Inner Harbor Navigation Canal area. All of these flood protection projects are currently in the planning and design stages, and impacts from these component projects will be addressed in separate IERs.

Other projects of the CEMVN, such as Morganza to the Gulf, Donaldsonville to the Gulf, Larose to Golden Meadows, Grand Isle non-Federal levees, Plaquemines West Bank non-Federal levees, maintenance of the Mississippi River levees and other ongoing civil works investigations will require suitable borrow material. State and local levee and floodwall construction efforts will require borrow material as well. The Mississippi River and Tributaries Projects will utilize borrow material for levee repairs, replacements, lifts, and berms. Government Furnished borrow areas are also being investigated and utilized to supply large quantities of material for levee and floodwall projects.

The construction of the proposed borrow areas would have short-term cumulative effects on transportation. It is anticipated that over 100,000,000 cubic yards of material would be needed to raise levee elevations regionally to meet the needs of the GNOHSDRRS. The total number of truck trips required or haul routes for the movement of this quantity of material is currently unknown, but cumulative short-term impacts to transportation are expected to occur. Additional information related to transportation impacts is being collected and will be discussed in the CED.

Details on cumulative environmental justice impacts will be analyzed at the conclusion of environmental justice small-group meetings and will be included in the CED.

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 GNOHSDRRS construction, would contribute cumulatively to land alteration and loss in southeastern Louisiana/southwestern Mississippi (Proposed Action). 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 made 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. It is anticipated that through the efforts taken to avoid and minimize effects on the project area and the mandatory implementation of a mitigation plan that functionally compensates unavoidable remaining impacts, the proposed borrow areas would not result in substantial direct, secondary or cumulative adverse impact on the environment. The mitigation plan is discussed in section 7.

5. SELECTION RATIONALE

The proposed action consists of excavating the proposed Pre-Approved Contractor Furnished borrow areas in the New Orleans Metropolitan Area that would have no impact on cultural resources and T&E species. This report investigated the potential impacts of this action on jurisdictional wetlands, BLH, upland resources, fisheries, wildlife, recreational resources, aesthetics, noise, air quality, prime and unique farmland, water quality, transportation, socioeconomics, and environmental justice. There is an identified need for over 100,000,000 cubic yards of borrow material to complete the GNOHSDRRS, and the proposed action meets approximately 7 percent of this demand. Because of this need, the CEMVN will need to investigate acquiring all potentially viable areas for the next few years. Government Furnished borrow is an option that was explored in IER # 18 and IER # 22, and more potential areas may be discussed in future IERs. Other Pre-Approved Contractor Furnished borrow areas were investigated in IER # 19 and IER # 23, and more potential sites may be discussed in future IERs. Supply Contract borrow options may also be discussed in future IERs. All of this borrow material would be used to complete the GNOHSDRRS, which would lower the risk of harm to citizens and damage to infrastructure during a storm event.

6. COORDINATION AND CONSULTATION

6.1 PUBLIC INVOLVEMENT

Extensive public involvement has been sought in preparing this IER. The GNOHSDRRS projects, including the proposed borrow areas analyzed in this IER, were publicly disclosed and described in the Federal Register on 13 March 2007, and on the website www.nolaenvironmental.gov. Scoping for GNOHSDRRS projects were initiated on 12 March 2007, through placing advertisements and public notices in *USA Today* and *The New Orleans Times-Picayune*. Nine public scoping meetings were held throughout the New Orleans Metropolitan Area to explain the scope and process of the Alternative Arrangements for implementing NEPA between 27 March and 12 April 2007, after which a 30-day scoping period was open for public comment submission. Additionally, the CEMVN is hosting monthly public meetings to keep the stakeholders advised of project status. Public input will be provided in appendix B.

Public meetings related to borrow started in July 2007, and will be continuing until the borrow quantities needed are fulfilled. The Willswood borrow area was discussed briefly at the following public meetings: February 12, 2008, April 24, 2008, and May 22, 2008.

6.2 AGENCY COORDINATION

Preparation of this IER has been coordinated with appropriate Congressional, Federal, state, and local interests, as well as environmental groups and other interested parties. An interagency environmental team was established for this project in which Federal and state agency staff played an integral part in the project planning and alternative analysis phases of the project. Members of this team are listed in appendix C, and correspondence

between governmental agencies and the CEMVN will be found in appendix D. This interagency environmental team was integrated with the CEMVN PDT to assist in the planning of this project and to complete a mitigation determination of the potential direct and indirect impacts of the proposed action. Monthly meetings with resource agencies were also held concerning this and other proposed IER projects. The following agencies, as well as other interested parties, are receiving copies of this draft IER:

U.S. Department of the Interior, Fish and Wildlife Service
U.S. Department of the Interior, National Park Service
U.S. Environmental Protection Agency, Region VI
U.S. Department of Commerce, National Marine Fisheries Service
U.S. Natural Resources Conservation Service
Louisiana Advisory Council on Historic Preservation
Governor's Executive Assistant for Coastal Activities
Louisiana Department of Wildlife and Fisheries
Louisiana Department of Natural Resources, Coastal Management Division
Louisiana Department of Natural Resources, Coastal Restoration Division
Louisiana Department of Environmental Quality
Louisiana State Historic Preservation Officer
Mississippi Department of Marine Resources (MDMR)
Mississippi Department of Archives and History

LDNR and MDMR reviewed the proposed action for consistency with the Louisiana and Mississippi Coastal Resource Program. All proposed borrow activities discussed in this document were found by LDNR and MDMR to be consistent with their Programs (table 5).

Table 5: LDNR and MDMR Coastal Zone Consistency Determination Concurrence

Proposed Borrow Area	LDNR LCRP Consistency Permit Number
South Kenner Road	P20071264
Willswood	P20071574
Meyer	P20080039
Willow Bend	P20080242
Frierson	DMR-080030

The CEMVN received a draft Coordination Act Report (CAR) from the USFWS on 3 June 2008 (appendix D). Recommendations of the USFWS, in accordance with the Fish and Wildlife Coordination Act, include:

Recommendation 1: “The protocol to identify and prioritize borrow sources provided in our August 7, 2006, Planning-aid letter… should be utilized as a guide for contractors locating future borrow-sites.”

CEMVN Response 1: Concur.

Recommendation 2: “Any proposed change in borrow site features, locations or plans shall be coordinated in advance with [the USFWS], NMFS, LDWF, and LDNR.”

CEMVN Response 2: The CEMVN will coordinate with these agencies.

Recommendation 3: "If a proposed borrow site is changed significantly or excavation is not implemented within one year, we recommend that [the CEMVN] notify the contractor to reinitiate coordination with… this office to ensure that the proposed project would not adversely affect any federally listed threatened or endangered species or their habitat."

CEMVN Response 3: Concur.

7. MITIGATION

Mitigation for unavoidable impacts to the human and natural environment described in this and other IERs will be addressed in separate mitigation IERs. The CEMVN has partnered with Federal and state resource agencies to form an interagency mitigation team that is working to assess and verify these impacts, and to look for potential mitigation sites in the appropriate hydrologic basin. This effort is occurring concurrently with the IER planning process in an effort to complete mitigation work and construct mitigation projects expeditiously. As with the planning process of all other IERs, the public will have the opportunity to give input about the proposed work. These mitigation IERs will, as described in section 1 of this IER, be available for a 30-day public review and comment period.

All potential areas described in this IER were assessed by the USFWS and the CEMVN under NEPA, the Fish and Wildlife Coordination Act, and under Section 906 (b) WRDA 1986 requirements. It has been determined that the proposed borrow areas do not contain any jurisdictional wetlands or non-wet bottomland hardwoods; therefore, no mitigation is necessary.

Table 6 shows the cumulative impacts of all IERs which have been completed as of the date of publication. Further information on mitigation efforts will be available in forthcoming IERs.

Table 6. GNOHSDRRS Impacts and Compensatory Mitigation to be Completed

IER	Parish		Non-wet BLH (acres)	Non-wet BLH AAHUs	BLH (acres)	BLH AAHUs	Swamp (Acres)	Swamp AAHUs	Marsh (Acres)	Marsh AAHUs	EFH (Acres)
1 LPV, La Branch Wetlands Levee	St. Charles	Protected Side	-	-	-	-	137.05	73.99	-	-	-
		Flood Side	-	-	11.33	8.09	143.57	110.97	-	-	-
2 LPV, West Return Floodwall	St. Charles, Jefferson	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	33.40	9.00	-	-	-
3 LPV, Lakefront Levee	Jefferson	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	26
15 WBV, Lake Cataouatche Levee	Jefferson	Protected Side	-	-	23.50	6.13	-	-	-	-	-
		Flood Side	-	-	3.60	1.35	-	-	-	-	-
18 GFBM	Jefferson, Plaquemines, St. Charles	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
18 GFBM	Orleans	Protected Side	226.00	68.79	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
18 GFBM	St. Bernard	Protected Side	74.30	43.59	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
19 CFBM	Hancock County, MS; Iberville; Orleans; Plaquemines; St. Bernard	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
19 CFBM	Jefferson	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
22 GFBM	Jefferson	Protected Side	157.76	89.64	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
22 GFBM	Plaquemines	Protected Side	86.93	28.90	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
23 CFBM	Hancock County, MS; Plaquemines; St. Bernard; St. Charles	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
26 CFBM	Hancock County, MS; Plaquemines; St. Bernard; St. Charles	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
Totals		Protected Side	544.99	230.92	23.50	6.13	137.50	73.99	-	-	-
		Flood Side	-	-	14.93	9.44	176.97	119.97	-	-	26
		Both	544.99	230.92	38.43	15.57	314.02	193.96	-	-	26

- Not applicable to the IER or number impacted is 0
GFBM: Government Furnished Borrow Material
CFBM: Contractor Furnished Borrow Material

8. COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Construction of the proposed action would not commence until the proposed action achieves environmental compliance with all applicable laws and regulations, as described below.

Environmental compliance for the proposed action will be achieved upon coordination of this IER with appropriate agencies, organizations, and individuals for their review and comments; USFWS and National Marine Fisheries Service confirmation that the proposed action would not adversely affect any T&E species or completion of Endangered Species Act Section 7 consultation (table 3); Louisiana Department of Natural Resources concurrence with the determination that the proposed action is consistent, to the maximum extent practicable, with the LCRP (table 5); Mississippi Department of Marine Resources has no objection; coordination with the SHPO (table 4); receipt and acceptance or resolution of all Fish and Wildlife Coordination Act recommendations; and receipt and acceptance or resolution of all Louisiana Department of Environmental Quality comments on the air quality impact analysis documented in the IER. USFWS has determined that no T&E species, or their habitat, would be adversely affected by the proposed action. SHPO has determined that cultural resources would not be adversely impacted by the proposed action.

9. CONCLUSIONS

9.1 INTERIM DECISION

The proposed action consists of excavating five borrow areas located in non-jurisdictional wetland areas that would have no significant effect on cultural resources or threatened and endangered species. This office has assessed the environmental impacts of the proposed action upon jurisdictional wetlands, non-wetland/upland resources, fisheries, wildlife, recreational resources, aesthetics, noise, air quality, prime and unique farmland, water quality, environmental and socioeconomic resources. The interim decision is to potentially use the five sites discussed in this document as a borrow source.

9.2 PREPARED BY

IER # 26 was prepared by the following individuals. The address of the preparers is: U.S. Army Corps of Engineers, New Orleans District; Planning, Programs, and Project Management Division, CEMVN-PM; P.O. Box 60267; New Orleans, Louisiana 70160-0267.

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Christopher Brown, Ph.D.	Botanist	HTRW
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Ed Lyon, Ph.D.	Archaeologist	Environmental Justice
Valerie McCormack, Ph.D.	Archaeologist	Cultural Resources
Hope Pollmann	Outdoor Recreation	Recreational Resources

	Planner	
Richard Radford	Landscape Architect	Aesthetic (Visual) Resources
Laura Singer	Regional Economist	Socioeconomic Resources
Danielle Tommaso	Environmental Resources Specialist	Document preparation
Ph.D.: Doctor of Philosophy		

In addition to the above list of preparers, the Borrow PDT consists of the following individuals:

Team Member	Title	CEMVN Office
Soheila Nazarian Holley, P.E.	Senior Project Manager	Protection & Restoration Office
Tutashinda Salaam	Project Manager	Protection & Restoration Office
Teresa King	Project Manager	Protection & Restoration Office
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Louis Britsch, P.G.	Supervisory Geologist	Geotechnical Branch
Amy Goodlett	Technician	Protection & Restoration Office
Michael Grzegorzewski	Project Engineer	Hurricane Protection Office
Brett Herr	Chief, Regional Projects Branch	Protection & Restoration Office
Janet Keller	Realty Specialist	Real Estate Division
Maurya Kilroy	Assistant District Council	Office of Council
John B. Petitbon, E.I.T.	Civil/Cost Engineer	Cost Engineering Branch
Danny Thurmond	Engineer	Levees Branch
Kim Tullier	Geotechnical Engineer	Geotechnical Branch
Thomas Waguespack	Civil Engineering Senior Technician	Geotechnical Branch
E.I.T.: Engineer in Training P.E.: Professional Engineer P.G.: Professional Geologist		

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APPENDIX A: LIST OF ACRONYMS AND DEFINITIONS OF COMMON TERMS

APE: Areas of potential effect
ASTM: American Society of Testing and Materials
BLH: Bottomland Hardwood Forest
BMPs: Best Management Practices
CAR: Coordination Act Report
CED: Comprehensive Environmental Document
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CEQ: Council on Environmental Quality
Clay Classifications
- CH: Fat clay
- CL: lean clay
- ML: Silt

CO: Carbon monoxide
EA: Environmental Assessment
EIS: Environmental Impact Statement
ESA: Environmental Site Assessment
FONSI: Finding of No Significant Impact
GNOHSDRRS: Greater New Orleans Hurricane and Storm Damage Reduction System (aka, Hurricane Protection System)
HPS: See GNOHSDRRS
HTRW: Hazardous, Toxic, and Radioactive Waste
IER: Individual Environmental Report
IPET: Interagency Performance Evaluation Team
LCRP: Louisiana Coastal Resource Program
LDEQ: Louisiana Department of Environmental Quality
LDNR: Louisiana Department of Natural Resources
LOS: Level of service (a metric describing traffic volume relative to capacity)
LPV: Lake Pontchartrain and Vicinity Hurricane Protection Project
MRC: Mississippi River Commission
NAAQS: National Ambient Air Quality Standards
NEPA: National Environmental Policy Act
NO_x: Nitrogen oxides
NOV: New Orleans to Venice Hurricane Protection Project
NPDES: National Pollutant Discharge Elimination System
O_3: ozone
PDT: Project Delivery Team
PI: Plasticity index
PL: Public Law
PM: Particulate matter
RCRA: Resource Conservation and Recovery Act
REC: Recognized environmental condidtion
ROD: Record of Decision
Section 404 (of the Clean Water Act): The Section 404 program for the evaluation of permits for the discharge of dredged or fill material was originally enacted as part of the Federal Water Pollution Amendments of 1972. The Secretary of Army acting through the Chief of Engineers may issue permits, after notice and opportunity for public hearings for the discharge of dredged or fill material into the navigable waters at specified disposal sites.
SHPO: State Historic Preservation Officer
SIR: Supplemental Information Report

SPH: Standard Project Hurricane
SO_x: Sulfur oxides
T&E: Threatened or Endangered Species
UNOP: Unified New Orleans Plan
USACE: U.S. Army Corps of Engineers
    CEMVN: Mississippi Valley Division, New Orleans District
    CEMVK: Mississippi Valley Division, Vicksburg District
USDA: U.S. Department of Agriculture
    NRCS: Natural Resources Conservation Service
USEPA: U.S. Environmental Protection Service
USFWS: U.S. Fish and Wildlife Service
VOC: Volatile organic compound
WBV: West Bank and Vicinity Hurricane Protection Project
WRDA: Water Resources Development Acts

APPENDIX B: PUBLIC COMMENT AND RESPONSES SUMMARY

Public comments received during the public review and comment period will be released with the Final IER.

APPENDIX C: MEMBERS OF INTERAGENCY ENVIRONMENTAL TEAM

Kyle Balkum	Louisiana Dept. of Wildlife and Fisheries
Agaha Brass	Louisiana Department of Natural Resources
Catherine Breaux	U.S. Fish and Wildlife Service
David Castellanos	U.S. Fish and Wildlife Service
Frank Cole	Louisiana Department of Natural Resources
John Ettinger	U.S. Environmental Protection Agency
David Felder	U.S. Fish and Wildlife Service
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Richard Hartman	NOAA National Marine Fisheries Service
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Brian Lezina	Louisiana Dept. of Wildlife and Fisheries
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Manuel Ruiz	Louisiana Dept. of Wildlife and Fisheries
Angela Trahan	U.S. Fish and Wildlife Service
David Walther	U.S. Fish and Wildlife Service
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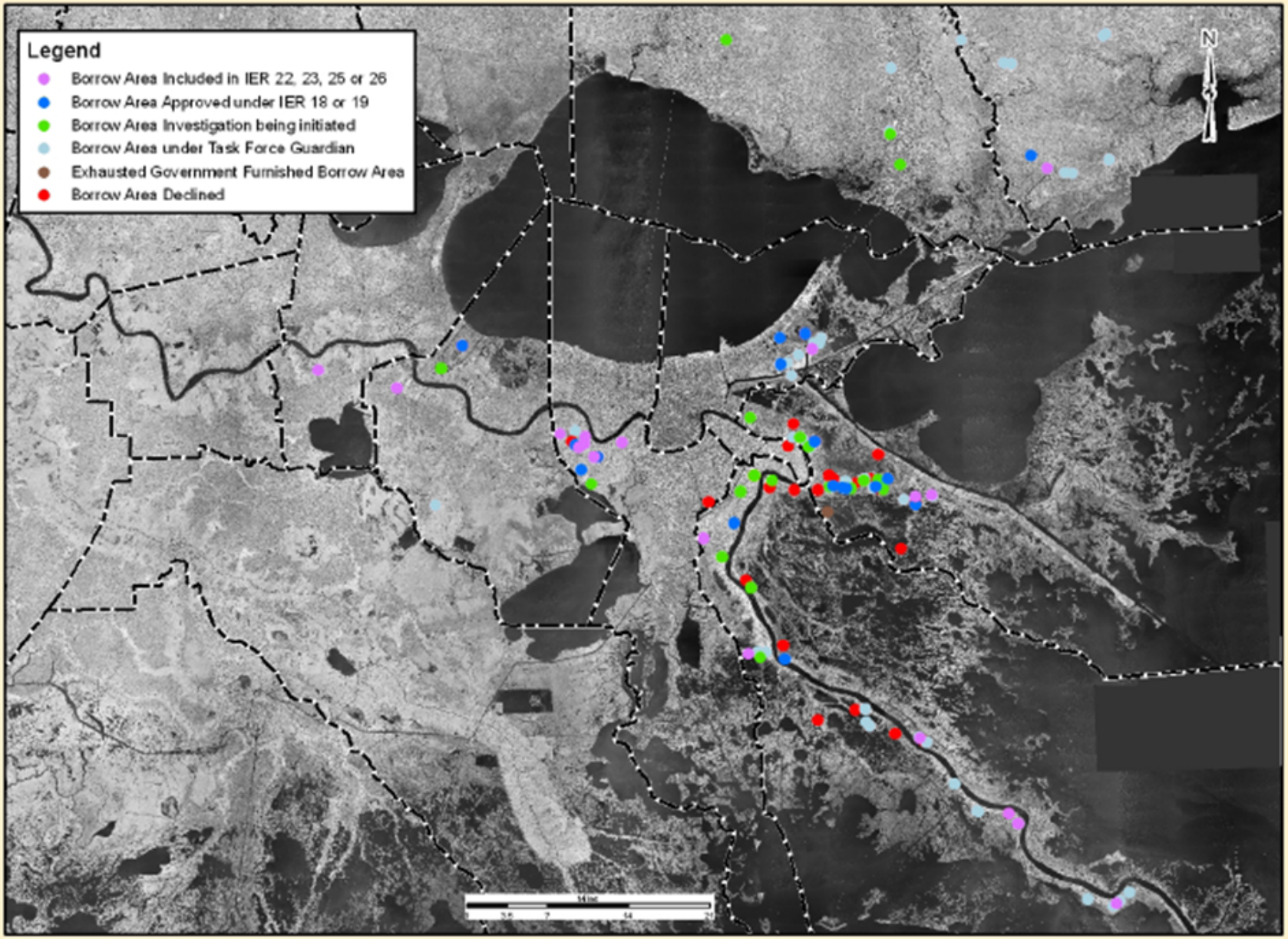
APPENDIX D: INTERAGENCY CORRESPONDENCE

Agency correspondence received during the public review and comment period will be released with the Final IER.

APPENDIX E: CEMVN BORROW AREA INDEX MAP

The most up to date version of this and other borrow maps can be found at www.nolaenvironmental.gov.

Borrow Areas



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