Final

Volume II - Appendices A-L

Comprehensive Environmental Document
Phase I
Greater New Orleans Hurricane and Storm Damage Risk Reduction System

May 2013

US Army Corps
of Engineers®
New Orleans District

APPENDIX A
NEPA ALTERNATIVE ARRANGEMENTS AND FEDERAL REGISTER NOTICE

NEPA ALTERNATIVE ARRANGEMENTS

U.S. ARMY CORPS OF ENGINEERS

COUNCIL ON ENVIRONMENTAL QUALITY

EMERGENCY ALTERNATIVE ARRANGEMENTS

PREPARED BY:
United States Army Corps of Engineers
Mississippi Valley Division
New Orleans District
New Orleans, Louisiana

Revision Date: February 23, 2007

Council on Environmental Quality (CEQ) Request for Emergency Alternative Arrangements under the National Environmental Policy Act, 40 CFR 1506.11

Nature and Scope of the Emergency:
On August 29, 2005, Hurricane Katrina caused major damage to the Federal and non-Federal flood control and hurricane storm damage reduction systems in Southeast Louisiana. This storm was followed by Hurricane Rita on September 24, 2005 which made landfall on the Louisiana, Texas state border, causing damage to hurricane storm damage reduction systems in southern Louisiana. Since the storms, the U.S. Army Corps of Engineers (USACE) has been working with state and local officials to restore the Federal and non-Federal flood control and hurricane and storm damage reduction projects and related works in the affected area. These efforts have been conducted mainly under the authority provided by Public Law 84-99 and, more recently, under the authority of Public Law 109-148, Department of Defense, Emergency Supplemental Appropriations to Address Hurricanes in the Gulf of Mexico, and Pandemic Influenza Act, 2006 (3rd Supplemental) and Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (4th Supplemental) (project maps Appendix A). To date approximately one-third of the New Orleans population has returned to the area. Many residences and business are waiting to see positive improvements in the level of protection before returning to the area. A USACE goal of 2010 has been set for completion of much of the work that will raise the level of protection in the New Orleans area to a new standard and provide a level of security to residents and businesses that will allow and encourage them to return to the area.

Need for Emergency Actions that require Alternative Arrangements:
Alternative arrangements take the place of an Environmental Impact Statement for proposed actions with significant environmental effects that respond to the emergency. These proposed alternative arrangements will remain in effect until the analyses of the proposed actions outlined in the attached descriptions of the Individual Environmental Reports (IER) are completed.

Hurricanes Katrina and Rita weakened the existing storm damage reduction system in southern Louisiana. The USACE has made great progress to restore that system under the auspices of Task Force Guardian, whose charge was to repair and rehabilitate the existing system back to pre-Katrina conditions by June 1, 2006 for Jefferson, Orleans, St. Bernard, and Plaquemines Parishes. Work funded under the 3rd and 4th supplemental laws is considered imperative to reduce an imminent threat for several reasons. First, the existing system is still weakened from the back to back hurricanes. Second, the system does not meet an acceptable level of protection based upon new engineering criteria developed in the aftermath of the hurricanes. Third, the area has been devastated, physically and economically. Finally, many citizens of New Orleans are awaiting proposals and actions to lower the risk of floods and improve infrastructure to protect human health and safety before returning and rebuilding. To facilitate recovery, environmental issues must be addressed as quickly and as efficiently as possible.

USACE staff has preliminarily determined that significant impacts to the human environment could possibly occur if certain aspects of the proposed actions are built to meet USACE levee level of safety standards. Potential impacts would be primarily related to the loss of wetlands and impacts to a barrier island ecosystem.

Potential Impacts to the Human Environment

The raising of the levees and floodwalls under the 4th Supplemental, construction of gated closure structures, improved protection along the IHNC, and making repairs to non-Federal levees has the potential for creating significant impacts to the human environment. To illustrate why we believe the 4th Supplemental projects may have potential impacts on the human environment we did a couple of quick investigations based upon limited information. As more data becomes known, we will be able to better determine which projects may have significant impacts if constructed.

Example 1: Because the majority of the projects Congress and the Administration authorized and funded under the 4th Supplemental already exist, alternatives are limited to enlarging the levees along the protected side, flood side, or a combination of the two for most areas of the hurricane levee system. Based upon a conservative footprint of a 1,000 foot wide levee equally divided on the flood side and protected side, we have estimated that the LPV project could impact 4,393 acres of wetlands and 5,482 acres of non-wetlands. Wetland impacts could include the destruction of bottomland hardwoods, swamps, freshwater marsh, and saltwater marsh.

The majority of the non-wetland protected side area that may be impacted is mostly developed property, so any levee enlargement along the protected side would likely involve impacts to residential structures and businesses. The 1,000 foot wide levee footprint is not specific to any one region or project. In some cases the additional right of way required to accommodate a 100-year levee may be minor while in other locations it may be significantly larger. During the alternative analysis phase, design plans will be advanced to a level where the actual impacts can be determined with a level of confidence.

Example 2: Based upon a conservative footprint of a 1,000 foot wide levee equally divided on the flood side and protected side, we have estimated that the WBV project could impact upwards of 1,328 acres of wetlands and 2,230 acres of non-wetlands. Wetland impacts could include the destruction of bottomland hardwoods and swamps. Much of the non-wetland protected side area is developed property, so any levee enlargement along the protected side would likely involve impacts to residential structures and businesses.

For both examples shown, unavoidable wetland impacts would be mitigated for as discussed in the following section. No mitigation is anticipated to be needed for the impacts to any uplands areas; however large numbers of residences and businesses may be impacted by the levee work. Some of these residences and businesses were destroyed by the flooding of the city, while others were left untouched. Private landowners would be fairly compensated (Fair Market Value), if the levee is expanded on to their property. As a standard practice for this type of work the USACE would complete a full environmental investigation, Cultural Resource study, HTRW Phase 1 investigation along with any other investigation pertinent to the area. As stated previously no work would be completed prior to achieving compliance with all the environmental laws. Concurrence from the Louisiana State Historic Preservation Office would be required before any construction award is granted.

Engineer Regulation (ER) 200-2-2, Environmental Quality (33 CFR 230), Procedures for Implementing the National Environmental Policy Act (NEPA), paragraph 8, provides that district commanders may respond to emergency situations to prevent or reduce imminent risk of life, health, property, or severe economic losses in advance of compliance with the documentation and procedural requirements of NEPA. To date the New Orleans District Commander has issued three determinations of imminent threat (Appendix B). Paragraph 8 of the regulation states that NEPA documentation should be accomplished prior to initiation of emergency work if time constraints render this practicable; however, if appropriate, such documentation may be accomplished after completion of the emergency work. Paragraph 8 also states that, when possible, emergency actions considered major in scope with potentially significant environmental impacts shall be referred through the division commanders to HQUSACE for consultation with the CEQ about NEPA arrangements. Compliance with all non-NEPA Federal, state and local environmental statutes and regulations must be met prior to initiating construction activities.

3rd Supplemental Authority and Funding Provided to Address the Emergency: No 3rd Supplemental Projects are being recommended for inclusion into the emergency alternative arrangements laid out in this document. However, a discussion of the 3rd Supplemental process and projects is warranted so that everyone has an understanding of how the environmental process for the 3rd Supplemental projects was completed and why 4th Supplemental projects require emergency alternative arrangements. The 3rd Supplemental directs the Secretary of the Army, through the Chief of Engineers to restore the flood damage reduction projects, hurricane and storm damage reduction projects, and related works by providing the level of protection for which they were designed at full Federal expense. The plan to repair, restore, and rehabilitate damaged hurricane protection projects was implemented with funds appropriated by Congress for Flood Control and Coastal Emergencies related to Hurricane Katrina in the area covered by the disaster declaration made by the President under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, 88 Stat 143, as amended (42 U.S.C. sec. 121 et seq).

The majority of the work funded by the 3rd Supplemental relates to the repair, restoration, and rehabilitation at full Federal expense of the referenced Federal flood control and hurricane protection projects to the design level of protection on previously authorized Federal Hurricane Protection Projects. Those projects are: West Bank and Vicinity, New Orleans, Louisiana, Hurricane Protection Project (WBV); Lake Pontchartrain and Vicinity, Louisiana, Hurricane Protection Project (LPV); New Orleans to Venice, Louisiana Hurricane Protection Project (NOV); Larose to Golden Meadow, Louisiana, Hurricane Protection Project (LGM); and the Southeast Louisiana, Louisiana, Flood

Control Project (SELA). It is anticipated that approximately 104 construction contracts will be awarded by the USACE to complete the 3rd Supplemental mission.

NEPA and other environmental compliance has been completed for these projects as part of a variety of Environmental Impact Statements and Environmental Assessments that were written in the past when the projects were authorized and funded. No additional significant impacts are anticipated to occur as the result of the repair, restoration, and rehabilitation of these projects. It should be noted that some new environmental compliance investigations have been required due to project changes that occur as a result of alignment shifts, right of way expansions, need for additional borrow, etc.

The 3rd Supplemental arguably provided funding for the repair to design elevations of existing non-Federal levees in Jefferson, Orleans, St. Bernard, and Plaquemines Parishes. Damage Survey Reports were completed and two levees systems were selected for further investigation. The Grand Isle Back Levee, Jefferson Parish and the Plaquemines Parish East Bank Back Levee were selected based upon the level of damage, amount of funding available and local government requests for assistance. .

4th Supplemental Authority and Funding Provided to Address the Emergency:
The 4th Supplemental directs the Secretary of the Army, through the Chief of Engineers to raise levee and floodwalls heights and otherwise improve the existing 186 miles of levees and floodwalls for the LPV and WBV projects to provide a level of protection necessary for landowners to participate in the National Flood Insurance Program. Authorization and funds were also provided for the construction of pumps and closure structures at the 17th Street, Orleans, and London Avenue Canals, to improve the level protection at the Inner Harbor Navigational Canal. Funds were allocated to reduce the risks of storm surge and storm damage to the greater New Orleans metropolitan area by restoring the surrounding wetlands and for developing a comprehensive plan, at full Federal expense, to study deauthorization of deep draft navigation on the Mississippi River Gulf Outlet. Additional funds were provided to complete the storm proofing of non-Federal interior pump stations, replace or modify and incorporate certain non-Federal levees in Plaquemines Parish into the existing New Orleans to Venice hurricane protection system, and to complete repairs, modifications, and improvement to non-Federal levees and associated protection measures in Terrebonne Parish. It is anticipated that approximately 77 construction contracts will be awarded by the USACE to complete the 4th Supplemental mission. The USACE is proposing that this emergency alternative arrangement only be implemented for the LPV and WBV projects as they relate to the hurricane protection authorizations (100 – year levee and floodwall, selective armoring, IHNC closure structures, Outfall closure structures/pump stations) that were funded under the 4th Supplemental. All other projects (MRGO Deep Draft Study, Plaquemines Non-Federal Levee, Terrebonne Non-Federal Levee, Wetlands Restorations Projects, etc) would follow the normal USACE NEPA processes.

The planned work will be implemented with funds appropriated by Congress for Flood Control and Coastal Emergencies related to Hurricane Katrina in the area covered by the disaster declaration made by the President under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, 88 Stat 143, as amended (42 U.S.C. sec. 121 et seq).

Significant impacts to the human environment could occur as a result of some of these proposed actions. Direct impacts to wetlands, residences, and businesses may occur as a result. Loss of homes and businesses due to larger levee and floodwall footprints is possible. At this time no NEPA investigations or any other environmental compliance has been completed for the work funded by the 4th Supplemental.

Duration:
Emergency flood control and hurricane storm damage reduction proposed activities may be subject to alternative arrangements by deferring compliance with established NEPA documentation requirements, if it is determined that a risk to life, health, property, or severe economic loss is imminent, and that the proposed actions will have significant effects.

Imminent risk to life, health or property can be defined as subjective and statistically supported via evaluation of how quickly a threat scenario can develop; how likely that threat is to develop in a given geographical location; and how likely it is that the threat will produce catastrophic consequences to life and property. Implicit in the timing aspect could be considerations of time or season or known cyclical activities.

Historically, the normal process followed by the USACE has been to complete environmental investigations prior to a project being authorized and funded by Congress and the Administration. This process has typically required a year to complete environmental assessments and approximately four years for an Environmental Impact Statement (EIS). Prior to any feasibility studies, funding and authorization was granted under the 4th Supplemental which, has made environmental compliance a primary factor in developing project schedules for the authorized work. The USACE environmental team in New Orleans looked at the authorized work and came to the conclusion that four to six EISs would be required to adequately evaluate the projects authorized by the Administration. Aggressive schedules were developed that would allow for EISs to be completed in 14 months once sufficient design information was available to evaluate the reasonable alternatives. Issues with completing the EISs include a lack of design information due to ongoing modeling efforts required to establish a new FEMA 100-year flood elevation for landowners to participate in the National Flood Insurance Program and the authorization to construct several new major structures such as, three new closure structures in navigable waterways and three new closure structures/pump stations at outfall canals in Orleans Parish. The construction of the new projects has the potential to be controversial, require extensive environmental investigations, and could possibly require long design times. A supplemental EIS (Lake Pontchartrain and Vicinity Hurricane Protection Project) completed under expedited schedules that included the new projects discussed above, would impact the construction schedule for other segments of the project that have relatively minor issues.

If the USACE were to follow a systematic environmental approach to investigating all the work authorized under the 4th Supplemental projects, a single EIS would be completed that integrated all the impacts and evaluation together. This would tie all the 4th Supplemental projects to the completion date of the Record of Decision (ROD), as such, no work on any of the projects could start until the ROD was executed.

Because this work is deemed an emergency by the USACE and the completion of the work is critical to the future of New Orleans, an alternative arrangement process to NEPA was developed that would allow for proposed actions to be evaluated and decisions to be made on how to proceed with portions of the overall system that have independent utility for reducing the risk of flooding in particular areas prior to completing a system-wide analysis. This allows for a system wide environmental study to be completed, while still moving segments ahead to construction at a pace fitting the nature of the emergency.

Several criteria cited in the above definition are important in determining if there is an imminent threat to the New Orleans Metropolitan area. The first is “subjective” which allows a decision to be based on sound reasoning. The second and third are “statistically supported evaluation” and “how likely that threat is to develop in a given geographical location.” During the past five hurricane seasons, Southeast Louisiana has had 15 tropical storms or hurricanes pass within 300 miles of the city (three in 2002, two in 2003, three in 2004, five in 2005, and two in 2006). This represents an average of over three storms per hurricane season. The National Oceanic and Atmospheric Administration (NOAA) National Hurricane Center has reported for the past several years that we have entered a period of more active hurricane seasons. The most recent outlook (issued December 8, 2006 by the Colorado State University Hurricane Center) calls for an active 2007 season, with 14 named storms, seven hurricanes of which three may become major hurricanes. The Center further predicts that there is a 40 percent chance of a Category 3-5 hurricane making landfall in the Gulf of Mexico during the 2007 hurricane season. This is an increase from last year’s prediction of a 30 percent chance of a major hurricane making landfall in the Gulf of Mexico.

The next key phrase is “how likely the threat will produce catastrophic consequences to life and improved property”. Assessment of the state of hurricane and storm damage reduction system in the New Orleans metropolitan area following Hurricane Katrina revealed that the existing level of protection, even for areas not damaged by Hurricane Katrina, was generally less than that associated with the one percent chance of flooding for a given year (the “100-year level of protection”). The absence of such protection would normally result in the system being deemed “not certified” for purposes of the national flood insurance program. However, in the case of the New Orleans metro area following Hurricane Katrina, the Federal Emergency Management Agency (FEMA) determined that it was appropriate to consider the system as “certified” for purposes of the national flood insurance program given the commitment of the Administration and Congress to expeditiously restore the system to a level consistent with “100-year protection”.

This determination by FEMA is critical to the overall prospects for the restoration and redevelopment of the New Orleans area economy. In the absence of certified hurricane protection works, flood insurance would not be available to area residents and commercial interests at an affordable level. As a consequence, area redevelopment would be stifled.

Significant delays in completing the work required to achieve protection from the one percent chance storm event would expose the New Orleans metropolitan area to two threats. The first of these threats would be additional exposure to the one percent chance storm event. Damages to the metropolitan area from such an event, reflecting post-Katrina conditions, are estimated to be approximately $51 billion exclusive of infrastructure damages. The second threat, and arguably one of an equal or perhaps even greater level than that associated with additional exposure to the 100-year storm event, is the severe economic condition the area is in. It is critical to the redevelopment of the area that the people feel secure with the level of protection being built.

The last phrase of significance is "known cyclical activities." As every day passes as we move toward another hurricane season, the threat to life and property increases without adequate storm surge protection. In this post Katrina world, updated engineering data shows that much of the existing hurricane protection system only offers a 25 –year level of risk reduction for most of the New Orleans area. As many as 60,000 FEMA trailers are still being utilized in the metropolitan area, thus people and property are more susceptible to storm damages than they would be if living in a more permanent residence. Most of Jefferson and St. Charles Parishes and some parts of Orleans and St. Bernard Parishes have been repopulated by residents returning to the area after completing repairs to their structures.

Stakeholder Coordination

Coordination with Federal and State resource agencies is ongoing as we move forward with the implementation of this mission. Numerous meetings, phone calls, e-mails, etc. have occurred regarding the 3rd and 4th Supplemental projects with the Federal and state resource agencies. The U.S. Fish and Wildlife Service, National Marine Fisheries Service (NOAA), and the Environmental Protection Agency have reviewed the USACE proposal for Emergency Alternative Arrangements and have agreed to the concept of implementing the arrangements for the hurricane protection related to 4th Supplemental projects. Agency comments have been incorporated into this document. The USACE alternative arrangements requires that environmental compliance for all environmental laws (Threatened & Endangered Species Act, National Historic Preservation Act, Costal Zone Management Act, etc) be completed prior to the award of any construction contracts or the acquisition of property. Federal and state resource agencies regulating non-NEPA related laws were not actively involved in the review; however the agencies have been briefed on the position the USACE is taking in regards to this matter.

Project staffs are routinely engaged in a variety of public meetings, local governmental meetings, media interviews, etc., to ensure local stakeholders know what is going on regarding these projects. Stakeholder involvement during analysis of the proposed actions and reasonable alternatives is critical to good decision making.

Potential Mitigation

While every effort will be made to avoid and minimize the impacts that will result from the proposed actions, it is entirely possible that some unavoidable significant impacts will occur as a result of the USACE actions as we carry out the mission assigned to us. Impacts to freshwater and saltwater marshes, swamps, bottom land hardwoods, upland forests, residences and business are likely to occur. Mitigation for unavoidable impacts would be completed in areas close to where the impacts occurred, as is USACE policy. Mitigation plans would be developed early in the process in cooperation with Federal, state agencies, and public stakeholders.

Cumulative Impacts

The 3rd and 4th Supplementals have authorized and funded an unprecedented amount of work for the New Orleans metropolitan area. The potential cumulative impacts as well as the potential for additional Federal funding for a Category 5 hurricane protection system are one of the highest priority tasks to be evaluated during the design phase for this proposed work. Under the proposed alternative arrangement process, cumulative impacts would be evaluated by an interagency group of Federal and state agencies along with interested stakeholders. The process would be to evaluate the cumulative impacts for each proposed action as a part of the IER, with each new IER building off previous reports, adding any new information that becomes available. Ultimately, a Comprehensive Environmental Document would be written that would combine all the environmental documents into a comprehensive evaluation of the past, present, and future cumulative impacts of the proposed actions and tie together the mitigation plans developed and being implemented.

Proposed Emergency Alternative Arrangements:

It is the intent of the U.S. Army Corps of Engineers (USACE), Mississippi Valley Division, New Orleans District (CEMVN) to follow a systematic planning effort that investigates the proposed actions funded and authorized under the authority of Public Law 109-148, Department of Defense, Emergency Supplemental Appropriations to Address Hurricanes in the Gulf of Mexico, and Pandemic Influenza Act, 2006 (3rd Supplemental) and Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (4th Supplemental). These Proposed Alternative Arrangements have been coordinated with the U.S. Fish and Wildlife Service, NOAA National Marine Fisheries Service, Environmental Protection Agency, Advisory Council on Historic Preservation, and DHS/Federal Emergency Management Agency, Louisiana Department of Wildlife and Fisheries, Louisiana Department of Natural Resources, and Louisiana Department of Environmental Quality. Agencies are supportive of this process and recognize that it is critical that the repair and improvement of existing hurricane protection projects be completed in a timely manner. The alternative NEPA arrangements proposed by USACE will not result in a lesser quality or level of environmental detail than currently required by CEQ's NEPA regulations. The difference between the proposed alternative arrangements and compliance with the typical NEPA process relates to the timing of the analysis of the individual components of actions enhancing flood protection for the greater New Orleans area in the Individual Environmental Reports (IER) and the manner in which cumulative effects will be analyzed. The cumulative effects would be evaluated as a part of each IER, with each new IER building off previous reports, adding any new information that becomes available. Ultimately, the full cumulative effects analysis will be presented in a Comprehensive Environmental Document (CED).

In order to meet the needs of the people of Southern Louisiana in a timely manner that is appropriate to the level of imminent threat, CEMVN proposes to achieve compliance with the National Environmental Policy Act (NEPA) by using the following Emergency Alternative Arrangements.

1. CEMVN will place a public notice of the approved NEPA Alternative Arrangements in the Federal Register along with a description of the proposed actions that would be covered in the Individual Environmental Reports (IER) and the Comprehensive Environmental Document (CED). Additionally, CEMVN will place a copy of the public notice in local newspapers and in a newspaper with national distribution.

2. Scoping Process:
A: CEMVN will host a series of public scoping meetings in the New Orleans metropolitan area to gather public comments on the proposed actions. There will be a thirty-day comment period following the public meetings. Additional scoping meetings may be conducted in other locales in the United States if deemed necessary.

B: CEMVN will place an ad in local newspapers and in a newspaper with national distribution explaining each proposed action that will be analyzed in the IERs and asking for written comments to be mailed, faxed, or e-mailed to a point of contact at CEMVN. The information for each proposed action will also be mailed and/emailed to all interested stakeholders, including state and federal resource agencies. Comments will be compiled and e-mailed to appropriate Federal and state agencies for coordination. There will be a thirty-day comment period each time an ad is placed.

C: Web Site - CEMVN will establish and maintain a web page that provides details for each IER and any other proposed actions being investigated or projects that are being constructed in the area. The web page will contain a description of the Alternative Arrangements CEMVN is following to achieve NEPA compliance. The web site will contain updated information on each USACE proposed action that is being proposed and constructed. Information will be shared with the US Geological Survey GIS for the Gulf web site to allow for easier access by the interagency teams and interested stakeholders. The GIS for the Gulf web site is a collaborative activity between the US Geological Survey, the Department of Homeland Security, and the National Geospatial-Intelligence Agency, in response to hurricanes Katrina and Rita.

D: Interagency environmental teams will be established for each IER. Federal and state agency, local governmental, and tribal staff will play an integral part in the project planning and alternative analysis. Interagency teams would be integrated with CEMVN Project Delivery Teams to assist in the planning of each proposed actions and to describe the potential direct and indirect impacts of each proposed action that will be used in the development of any needed mitigation plans. Team members will be provided with new information concerning the proposed action as quickly as possible in order to allow for the expedient review and analysis of each proposed action. Teams would rely heavily upon hydrologic models and the best engineering judgment of CEMVN Engineering Divisions staff to develop plans and appropriate mitigation.

E: CEMVN will hold monthly meetings with agencies to keep them informed of overall developments and allow CEMVN to gain agency feedback. All proposed work would be closely coordinated with the ongoing Federal and state efforts to design a coastal restoration and protection plan.

F: CEMVN will host monthly public meetings to keep the stakeholders advised of IER developments. Public will be able to provide verbal comment during the meetings and written comments after each meeting. Meetings will be advertised at least one week prior to meeting. Meetings times and locations will be selected to accommodate public availability.

3. CEMVN will actively involve the Federal and state agencies and local governmental, tribal, and the public in mitigation planning for unavoidable impacts at the onset of the planning process. Quantitative analysis of the acreages, by habitat type that is determined to be potentially impacted directly or indirectly by each reasonable alternative will be prepared. Proposed action and mitigation plans will be based upon existing methodologies utilized for water resource planning. It is CEMVN’s intent to implement compensatory mitigation as early as possible in the process once unavoidable impacts are

determined. All mitigation activities will be consistent with standards and polices established in the Clean Water Act Section 404 and the appropriate USACE polices and regulations governing this activity.

4. Prior to any decision to proceed, CEMVN will complete an IER that documents the process followed by the USACE, the preferred and reasonable alternative identified, the alternatives analysis that has been performed, an analysis of the direct and indirect impacts of the proposed action, an initial description of the cumulative impacts of this proposal, an initial mitigation plan, and any interim decisions made by the USACE. Each IER would identify areas where data was incomplete, unavailable, and areas of potential controversy. Alternatives analysis will be based upon a geographic segment of the area that is large enough to encompass any impacts directly and indirectly attributable to the proposed action.

5. The IER's will be posted on the USACE CEMVN Alternative NEPA Arrangement web page for a 30-day public review and comment period. A notice of availability will be mailed/e-mailed out to interested parties advising them of the availability of the IER for review in addition to placing a notice in newspapers and other media and sharing the IER's during the monthly stakeholder meetings.

6. Public meetings would be held specific to each IER if requested by the stakeholders involved in the review process. An IER addendum responding to comments received during the public review and comment period would be completed and published for a 30-day public review period. Notice will be provided in newspapers and other media, posted on web site, and a notice of availability will mailed/e-mailed out to interested parties.

No sooner than 30 days after publication of the IER addendum, or an IER in the event no comments or requests for meetings are received during the public review and comment period, the District Commander will issue a decision describing how USACE will proceed.

7. At a time when sufficient information is available CEMVN will produce a draft comprehensive environmental document (CED) that will address the work completed and the work remaining to be completed. The purpose of the draft CED will be to document the work done by the USACE on a system wide scale and analyze the relationship of the proposed actions covered in the IERs with other reasonably foreseeable projects. The CED will incorporate the IERs by reference. The draft CED will include a discussion of how the individual IER's are integrated into a systematic planning effort, provide an analysis of the overall cumulative impacts, analyze a final mitigation plan, and identify any new information associated with long term operations and maintenance of the approved actions analyzed in the IERs. Draft CED will include an analysis of the any indirect impacts due to altered hydrology or induced development that resulted from the actions taken by the USACE. Additionally, the draft CED would contain updated information for any IER, or IER addendum that had incomplete or unavailable data at the time the District Commander made a decision on how to proceed.

8. The draft CED will be posted on the USACE web page for a 60-day public review period. A notice of availability will be posted on the web site, mailed/e-mailed out to interested parties advising them of the availability of the draft CED for review in addition to placing a notice in newspapers and other media. Public meetings would be held during the review period if requested by the stakeholders involved in the process.

9. Upon completion of the 60-day review period all comments will be appropriately addressed in a final CED. The final CED will be published for a 30-day public review period. Notice will be provided in newspapers and other media, posted on web site, and a notice of availability will mailed/e-mailed out to interested parties.

No sooner than 30-days after publication of the final CED, the District Commander will issue a decision describing how CEMVN will proceed. Decision will be made available to stakeholders by posting to web site, mailing/e-mailing notices of availability, ads in newspapers and news releases to other media such as radio and television stations.

The USACE will continue to obtain concurrence, permits, and any other authorizations necessary to be in compliance with all other environmental laws prior to the initiation of any proposed actions. This includes but is not limited to complying with Section 7 of the Endangered Species Act, the National Historic Preservation Act, the Clean Water Act, the Coastal Zone Management Act, and the Magnuson-Stevens Act.

Prepared by CEMVN Environmental Branch staff. POC is Gib Owen CEMVN Environmental Branch 504 862-1337 or via e-mail at
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FEDERAL REGISTER NOTICE

copy of the vessel registration or documentation, and proof of identification.

Representatives of a business owned or co-owned vessel must bring proof that the individual is an agent of the business (such as articles of incorporation), a copy of the applicable permit(s), and proof of identification.

Vessel operators must bring proof of identification.

Workshop Objectives

The Atlantic Shark Identification Workshops are designed to reduce the number of unknown and improperly identified sharks reported in the dealer reporting form and increase the accuracy of species-specific dealer-reported information. Reducing the number of unknown and improperly identified sharks will improve quota monitoring and the data used in stock assessments. These workshops will train shark dealer permit holders or their proxies to properly identify Atlantic shark carcasses.

The Protected Species Safe Handling, Release, and Identification Workshops are designed to teach longline and gillnet fishermen the required techniques for the safe handling and release of entangled and/or hooked protected species, such as sea turtles, marine mammals, and smalltooth sawfish. Identification of protected species will also be taught at these workshops in an effort to improve reporting. Additionally, individuals attending these workshops will gain a better understanding of the requirements for participating in these fisheries. The overall goal for these workshops is to provide participants the skills needed to reduce the mortality of protected species, which may prevent additional regulations on these fisheries in the future.

Authority: 16 U.S.C. 971 *et seq.* and 1801 *et seq.*

Dated: March 8, 2007.

James P. Burgess,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. E7–4560 Filed 3–12–07; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF DEFENSE

Department of the Army

Board of Visitors, United States Military Aacademy (USMA)

AGENCY: Department of the Army, DoD.

ACTION: Notice of open meeting.

SUMMARY: In accordance with Section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92–463), announcement is made of the following committee meeting:

Name of Committee: Board of Visitors, United States Military Academy.

Date: Wednesday, April 25, 2007.

Place of Meeting: The Capitol Building, Room H137, Washington, DC.

Time of Meeting: Approximately 9:30 a.m. through 3 p.m.

Board Mission: The Board, under the provisions of 10 U.S.C. 4355, and the Federal Advisory Committee Act of 1972, as amended, shall provide the President of the United States independent advice and recommendations on matters relating to the U.S. Military Academy, to include but not limited to morale and discipline, curriculum, instruction, physical equipment, and academic methods.

Board Membership: The Board is composed of 15 members, 9 of which are members of Congress and 6 persons designated by the President. The 2007 Chairman of the Board is Congressman John McHugh, New York–23rd District.

FOR FURTHER INFORMATION CONTACT: Lieutenant Colonel Shaun T. Wurzbach, United States Military Academy, West Point, NY 10996–5000, (845) 938–4200 or via e-mail: *shaun.wurzbach@usma.edu.*

SUPPLEMENTARY INFORMATION: *Proposed Agenda:* Spring Meeting of the Board of Visitors. Review of the Academic, Military and Physical Programs at the USMA. All proceedings are open to the public. Picture identification is required to enter the Capitol Building. Subcommittees shall meet prior to the Board meeting. The Board plans to inquire into curriculum and academic methods, fiscal affairs, the USMA Master Plan, Lean Six Sigma, BRAC and the relocation of the United States Military Academy Preparatory School, and Admissions. The Board shall consider a motion to expand subcommittees and shall vote to approve revised Board operating rules.

Public Inquiry at Board Meetings: Any member of the public is permitted to file a written statement with the USMA Board of Visitors. Written statements should be sent to the Designated Federal Officer (DFO) at: United States Military Academy, Office of the Secretary of the General Staff (MASG), 646 Swift Road, West Point, NY 10996–1905 or faxed to the Designated Federal Officer (DFO) at (845) 938–3214. Written statements must be received no later than five working days prior to the next meeting in order to provide time for member consideration.

By rule, no member of the public attending open meetings will be allowed to present questions from the floor or speak to any issue under consideration by the Board.

Brenda S. Bowen,

Army Federal Register Liaison Officer.

[FR Doc. 07–1162 Filed 3–12–07; 8:45 am]

BILLING CODE 3710–08–M

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

Adoption of Alternative Arrangements Under the National Environmental Policy Act for New Orleans Hurricane and Storm Damage Reduction System

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Public notice.

SUMMARY: The U.S. Army Corps of Engineers (USACE), Mississippi Valley Division, New Orleans District (CEMVN) is implementing Alternative Arrangements under the provisions of the Council on Environmental Quality Regulations for Implementing the National Environmental Policy Act (NEPA) (40 CFR 1506.11) in order to expeditiously complete environmental analysis of major portions of a new 100-year level of Hurricane and Storm Damage Reduction effort authorized and funded by the Administration and the Congress. The proposed actions are located primarily in southern Louisiana and relate to the Federal effort to rebuild the Hurricane and Storm Damage Reduction system following Hurricanes Katrina and Rita.

The USACE consultation with the Council on Environmental Quality (CEQ), as required under 40 CFR 1506.11 and the USACE Environmental Quality Procedures for Implementing the NEPA (33 CFR 230), concluded on February 23, 2007 with the CEQ approving the Alternative Arrangements. The Alternative Arrangements request was also coordinated with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Environmental Protection Agency, Advisory Council on Historic Preservation, Department of Homeland Security-Federal Emergency Management Agency, Louisiana Department of Wildlife and Fisheries, Louisiana Department of Natural Resources, Louisiana Department of Environmental Quality and the

Louisiana State Historic Preservation Officer.

During the consultation, the USACE and CEQ hosted four public meetings in New Orleans metropolitan area to assess the request and gather input on the proposed Alternative Arrangements. The input received during the course of the discussions and meetings provided strong support for Alternative Arrangements that allow for expedited decisions on actions to lower the risk of floods and that restore public confidence in the hurricane storm reduction system so that the physical and economic recovery of the area can proceed as citizens return and rebuild. It was also made clear that the Alternative Arrangements should provide the USACE a way to proceed that complements other ongoing and proposed hurricane protection and coastal restoration efforts.

These Alternative Arrangements apply to certain proposed actions included in the 100-year Hurricane and Storm Damage Reduction measures authorized under Public Law 109–234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (4th Supplemental). The Alternative Arrangements will allow decisions on smaller groups of proposed actions to move forward sooner than under the traditional NEPA process. An in-depth analysis and consideration of potential environmental impacts will be completed and negative environmental impacts will be addressed. Detailed information on the Alternative Arrangements can be downloaded from the USACE New Orleans District Web site at: *http://www.mvn.usace.army.mil/pd/Envir_Processes_NEPA/Index.htm.*

DATES: See **SUPPLEMENTARY INFORMATION** section for meeting dates.

ADDRESSES: See **SUPPLEMENTARY INFORMATION** section for meeting addresses.

FOR FURTHER INFORMATION CONTACT: Questions concerning the emergency Alternative Arrangements should be addressed to Gib Owen at U.S. Army Corps of Engineers, PM–RS, P.O. Box 60267, New Orleans, LA 70160–0267, phone (504) 862–1337, fax number (504) 862–2088 or by e-mail at *mvnenvironmental pd@mvn02.usace.army.mil.*

SUPPLEMENTARY INFORMATION:

The Emergency Alternative Arrangement Process: In order to meet the needs of the people of southern Louisiana in a timely manner that is appropriate to the level of imminent threat, CEMVN will comply with the NEPA by using the following emergency Alternative Arrangements.

1. CEMVN is placing this public notice of the NEPA Alternative Arrangements in the **Federal Register** along with a description of the proposed actions that will be analyzed in Individual Environmental Reports (IERs) and a Comprehensive Environmental Document (CED).

2. Scoping Process: a. This **Federal Register** notice is initiating the scoping process with a thirty-day public comment period for the IERs described in this notice. CEMVN will also host a series of public scoping meetings, followed by thirty-day comment periods, in the New Orleans metropolitan area to gather public comments on the proposed actions. Additional scoping meetings may be conducted in other locales in the United States if deemed necessary.

b. Concurrent with this **Federal Register** notice, CEMVN is placing public notices in broadcast media, local newspapers and a newspaper with national distribution publicizing the dates and location of the public scoping meetings, describing each proposed action that will be analyzed in the IERs, and providing thirty days for written comments to be mailed, faxed, or e-mailed to a point of contact at CEMVN. The information for each proposed action will also be mailed and e-mailed to all interested stakeholders, including state and Federal resource agencies. The Corps will make its best effort to reach the citizens of New Orleans, including, to the extent feasible, persons who have relocated to other areas. The comments received will be compiled and e-mailed to appropriate Federal and state agencies for coordination.

c. CEMVN will establish and maintain a Web page that provides details for each IER and other proposed actions being investigated or projects that are being constructed in the area by the USACE. The Web site will contain a description of the Alternative Arrangements CEMVN is following to achieve NEPA compliance. Additionally, information or links from other Federal and state agencies conducting operations in the New Orleans area will be available on this Web site. This will include, where available, links to proposed actions and ongoing environmental analyses, and references and available links to environmental analyses previously conducted in the area.

d. Interagency environmental teams are being established for each IER. Federal and state agency, local governmental and tribal staff will play an integral part in the project planning and alternative analysis. Interagency teams will be integrated with USACE Project Delivery Teams to assist in the planning of each proposed action and in the description of the potential direct and indirect impacts of each proposed action that will be used in the development of any needed mitigation plans. Team members will be provided with new information concerning the proposed action as quickly as possible in order to allow for the expedient review and analysis of each proposed action. Teams will rely heavily upon hydrologic models and the best engineering judgment of CEMVN Engineering Division staff to develop appropriate mitigation plans.

e. CEMVN will hold monthly meetings with agencies to communicate overall developments and allow for agency feedback. All proposed work would be closely coordinated with the ongoing Federal and state efforts to design a coastal restoration and protection plan.

f. CEMVN will host monthly public meetings during the preparation and completion of the IERs and CED included in these Alternative Arrangements. The monthly meetings will keep the stakeholders advised of IER and CED developments and provide the public opportunities to comment during the meetings and to submit written comments after each meeting for a 30-day period. Meetings will be advertised at least one week prior to each meeting and meeting times and locations will be selected to accommodate public availability.

3. CEMVN will actively involve the Federal and state agencies, local governments, tribes, and the public in mitigation planning for unavoidable impacts at the onset of the planning process. Quantitative analysis of the acreages, by habitat type, determined to be potentially impacted directly or indirectly by each reasonable alternative will be prepared. Proposed actions to mitigate adverse environmental effects and mitigation plans will be based upon existing methodologies utilized for water resource planning and analyzed in one or more IERs that will consider reasonable mitigation alternatives, including pooling compensatory mitigation, consistent with proposed coastal restoration initiatives. It is CEMVN's intent to implement compensatory mitigation as early as possible in the process once unavoidable impacts are determined. All mitigation activities will be consistent with standards and policies established in the Clean Water Act Section 404 and the appropriate USACE

policies and regulations governing this activity.

4. Prior to any decision to proceed with proposed actions, CEMVN will complete an IER that documents the decision-making process followed by the USACE, the preferred and all other reasonable alternatives, the alternatives analyses that were performed, the direct and indirect impacts of the proposed action, an initial description of the cumulative impacts of the proposal, an initial mitigation plan, and any interim decisions made by the USACE. Each IER will identify areas where data was incomplete, unavailable, and areas of potential controversy. Alternatives analysis will be based upon a geographic segment of the area that is large enough to encompass any impacts directly and indirectly attributable to the proposed action.

5. The IERs will be posted on the USACE CEMVN Alternative NEPA Arrangement Web page for a 30-day public review and comment period. A notice of availability will be mailed/e-mailed to interested parties advising them of the availability of the IER for review in addition to placing a notice in newspapers and other media selected to reach residents of New Orleans including those who have relocated to other areas. The IERs will also be made available during the monthly public meetings.

6. Public meetings to discuss a specific IER will be held if requested by the stakeholders involved in the review process. Upon completion of the comment period, and after any meetings, an IER addendum responding to comments received will be completed and published for a 30-day public review period. Notice will be provided in newspapers and other media, posted on the Web site, and a notice of availability mailed/e-mailed to interested parties.

No sooner than 30 days after publication of the IER addendum, or an IER in the event no comments or requests for meetings are received during the public review and comment period, the District Commander will issue a decision describing how USACE will proceed.

7. At a time when sufficient information is available from IERs analyzing proposed actions in the New Orleans area, CEMVN will produce a draft Comprehensive Environmental Document (CED). The CED will incorporate the IERs by reference and address the work completed and the work remaining to be completed on a systemwide scale and a final mitigation plan. Updated information for any IER, or IER addendum, that had incomplete or unavailable data at the time the District Commander made a decision on how to proceed will be provided and the CED will identify any new information associated with long term operations and maintenance of the approved actions analyzed in the IERs. The CED will include a discussion of how the individual IERs are integrated into a systematic planning effort. A cumulative effects analysis will analyze any indirect impacts due to altered hydrology or induced development that resulted from the actions taken by the USACE and the relationship of the proposed actions covered in the IERs with other proposed and reasonably foreseeable proposals for hurricane protection measures located within the Lake Pontchartrain and West Bank Hurricane Project areas and proposed and reasonably foreseeable proposals for hurricane protection and coastal restoration measures identified in the Louisiana Coastal Protection and Restoration Study and the Coastal Protection and Restoration Authority of Louisiana's Master Plan. An external engineering peer review of the proposed levees and floodwalls work analyzed in the IERs will be made available as soon as practicable and no later than publication of the draft CED.

8. The draft CED will be posted on the USACE web page for a 60-day public review period. A notice of availability will be posted on the Web site and mailed/e-mailed to interested parties advising them of the availability of the draft CED for review in addition to placing a notice in newspapers and other media. Public meetings would be held during the review period if requested by the stakeholders involved in the process.

9. Upon completion of the 60-day review period, all comments will be appropriately addressed in a final CED. The final CED will be published for a 30-day public review period. Notice will be provided in newspapers and other media, posted on the Web site, and a notice of availability will be mailed/e-mailed out to interested parties.

No sooner than 30 days after publication of the final CED, the District Commander will issue a decision describing how CEMVN will proceed. This decision will be made available to stakeholders by posting it to a Web site, mailing/e-mailing notices of availability, public notices in newspapers and news releases to other media such as radio and television stations.

Description of Proposed Actions: CEMVN will analyze the proposed hurricane and storm damage reduction actions for the sub-basins within the Lake Pontchartrain and Vicinity (LPV) and West Bank and Vicinity (WBV) Hurricane Protection Project areas in a series of IERs. Each IER will identify the proposed actions and will investigate alternatives, direct, indirect, cumulative impacts, and mitigation for impacts to the human environment. Exact alignments and work to be completed will be determined as a part of the NEPA process. IERs will also be prepared for proposed borrow material and mitigation plans. Further information on the IER's can be downloaded from the USACE New Orleans District Web site at: *http://www.mvn.usace.army.mil/pd/Envir_Processes_NEPA/Index.htm.*

IER 1: LPV, LaBranche Wetlands Levee, St. Charles Parish, LA—Proposed action: Rebuilding of 8.7 miles of earthen levees, replacement of 6,400 linear feet of floodwalls, and fronting protection to five existing drainage structures.

IER 2: LPV, West Return Floodwall Jefferson—St. Charles Parish, LA—Proposed action: Replacement of 17,900 linear feet of floodwalls.

IER 3: LPV, Lakefront Levee Jefferson Parish, LA—Proposed action: Rebuilding of 9.5 miles of earthen levees, upgrading foreshore protection, replacement of two floodgates, and fronting protection to four pump stations.

IER 4: LPV, New Orleans Lakefront Levee, West of Inner Harbor Navigational Canal, Orleans Parish, LA—Proposed action: Rebuilding of 4.4 miles of earthen levee, replacement of 7,600 feet of floodwalls, 16 vehicle access gates, and one sector gate.

IER 5: LPV, Outfall Canal Closure Structures, 17th Street Canal, Orleans Avenue Canal and London Avenue Canal, Orleans Parish, LA—Proposed action: Construction of pump stations and closure structures on the three outfall canals.

IER 6: LPV, Citrus Lakefront Levee, Orleans Parish, LA—Proposed action: Rebuilding of 4.1 miles of earthen levees, replacement of 10,662 linear feet of floodwalls, and four floodgates.

IER 7: LPV, New Orleans East Levee, Maxent Canal to Michoud Slip, Orleans Parish, LA—Proposed action: Rebuilding of 19.1 miles of earthen levee and replacement of three floodgates.

IER 8: LPV, Bayou Bienvenue and Bayou Dupre Control Structures, St. Bernard Parish, LA—Proposed action: Replacement of 1,000 linear feet of floodwalls and two navigable floodgates.

IER 9: LPV, Caernarvon Floodwall, St. Bernard Parish, LA—Proposed action: Replacement of two floodgates, replacement of 1,500 feet of floodwall, and possible realignment of levee.

IER 10: LPV, Chalmette Loop Levee, St. Bernard Parish, LA—Proposed action: Rebuilding of 22 miles of earthen levees and the replacement of 1,500 linear feet of floodwalls.

IER 11: LPV, Inner Harbor Navigation Canal Navigable Floodgates, Orleans and St. Bernard Parishes, LA—Proposed action: Construction of gated navigable closure structures to protect the Inner Harbor Navigation Canal.

IER 12: WBV, Harvey and Algiers Canal Levee and Floodwalls, Jefferson, Orleans, and Plaquemines Parishes, LA—Proposed action: Rebuilding of 31 miles of earthen levees, replacement of 18,800 linear feet of floodwalls, modifications to 18 existing gates, and fronting protection modifications to nine pump stations.

IER 13: WBV, Hero Canal Levee and Eastern Terminus, Plaquemines Parish, LA—Proposed action: Rebuilding of 22,000 linear feet of earthen levees and construction of 1,500 linear feet of floodwalls.

IER 14: WBV, Harvey to Westwego Levee, Jefferson Parish, LA—Proposed action: Rebuilding of 12 miles of earthen levee, construction of 7,013 linear feet of floodwalls, and modifications to three pump stations.

IER 15: WBV, Lake Cataouatche Levee, Jefferson Parish, LA—Proposed action: Rebuilding of 8 miles of earthen levee and fronting protection at one pump station.

IER 16: WBV, Western Terminus Levee, Jefferson Parish, LA—Proposed action: Construction of western terminus earthen levee section.

IER 17: WBV, Company Canal Floodwall, Jefferson Parish, LA—Proposed action: Replacement of 13,442 linear feet of floodwalls and fronting protection for two pump stations.

IER 18: Borrow, Government Furnished, Multiple sites—Proposed action: Analyze information supplied from a variety of governmental sources to determine appropriate Government Furnished borrow locations. Sources could be from sites throughout southeast Louisiana.

IER 19: Borrow, Pre-Approved Contractor Furnished, Multiple sites—Proposed action: Analyze information supplied from a variety of non-governmental sources to determine appropriate Pre-Approved Contractor Furnished borrow locations. Sources could be from sites throughout the southern United States.

IER 20: LPV, Mitigation Pool—Proposed action: Analyze alternatives to determine appropriate mitigation is implemented for unavoidable impacts to the human environment.

IER 21: WBV, Mitigation Pool—Proposed action: Analyze alternatives to determine appropriate mitigation is implemented for unavoidable impacts to the human environment.

Scoping Meeting Schedule

All nine of the meetings start at 7 p.m. and are scheduled to conclude at 9 p.m. Dates and locations of the meetings are as follows:

March 27, 2007—Lake Cataouatche Sub-Basin: Lake Cataouatche/Jefferson Parish Dougie V's Restaurant—Banquet Hall, 13899 River Road, Luling, LA

March 28, 2007—Harvey-Westwego Sub-Basin: Westwego City Council Chamber, 419 Avenue A, Westwego, LA

March 29, 2007—St. Charles Parish Sub-Basin: American Legion Hall, Post 366, 12188 River Road, St. Rose, LA

April 3, 2007—Gretna-Algiers Sub-Basin: Our Lady of Holy Cross College, 4123 Woodland Drive, New Orleans, LA

April 4, 2007—Chalmette Loop Sub-Basin: 8201 West Judge Perez Road, Chalmette, LA

April 5, 2007—Jefferson East Bank Sub-Basin: Jefferson Parish Regional Library, 4747 W. Napoleon Avenue, Metairie, LA

April 10, 2007—Belle Chasse Sub-Basin: Belle Chasse Auditorium, 8398 Highway 23, Belle Chasse, LA

April 11, 2007—New Orleans East Sub-Basin: Avalon Hotel & Conference Center, 830 Conti Street, New Orleans, LA

April 12, 2007—Orleans East Bank Sub-Basin: National WWII Museum, 945 Magazine Street, New Orleans, LA

Coordination: The USACE will continue to obtain concurrence, permits, and any other authorizations necessary to be in compliance with all other environmental laws prior to the initiation of any proposed actions. This includes, but is not limited to, complying with section 7 of the Endangered Species Act, the National Historic Preservation Act, the Clean Water Act, the Coastal Zone Management Act, and the Magnuson-Stevens Act.

Dated: March 2, 2007.

Richard P. Wagenaar,

Colonel, U.S. Army, District Commander.

[FR Doc. E7–4515 Filed 3–12–07; 8:45 am]

BILLING CODE 3710–84–P

DEPARTMENT OF EDUCATION

Privacy Act of 1974; System of Records—Study of Former Vocational Rehabilitation Consumers' Post-Program Experiences

AGENCY: Office of Special Education and Rehabilitative Services, Department of Education.

ACTION: Notice of a new system of records.

SUMMARY: In accordance with the Privacy Act of 1974, as amended (Privacy Act), 5 United States Code (U.S.C.) 552a, the Office of Special Education and Rehabilitative Services, U.S. Department of Education (Department) publishes this notice of a new system of records entitled ''Study of Former Vocational Rehabilitation Consumers' Post-Program Experiences'' (18–16–03).

The system of records will be maintained for program research and evaluation purposes. The system will contain information on a sample of former vocational rehabilitation (VR) consumers whose cases were closed in fiscal year (FY) 2006. The system will include demographic information, including financial information and responses to a survey about post-VR experiences, particularly related to employment outcomes and post-closure services.

DATES: The Department seeks comments on the new system of records described in this notice, in accordance with the requirements of the Privacy Act. We must receive your comments on or before April 12, 2007.

The Department filed a report describing the new system of records covered by this notice with the Chair of the Senate Committee on Homeland Security and Governmental Affairs, the Chair of the House Committee on Oversight and Government Reform, and the Acting Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB) on March 8, 2007. This system of records will become effective at the later date of—(1) the expiration of the 40-day period for OMB review on April 17, 2007 or (2) April 12, 2007, unless the system of records needs to be changed as a result of public comment or OMB review.

ADDRESSES: Address all comments about this new system of records to Joe Pepin, Rehabilitation Services Administration, Office of Special Education and Rehabilitative Services, U.S. Department of Education, 400 Maryland Avenue, SW., room 5052, Potomac Center Plaza, Washington, DC 20202–2800. If you

APPENDIX B
LIST OF ABBREVIATIONS, ACRONYMS, AND GLOSSARY OF COMMON TERMS

ABBREVIATIONS AND ACRONYMS

LIST OF ABBREVIATIONS, ACRONYMS, AND GLOSSARY OF COMMON TERMS

$\mu g/m^3$	Micrograms per cubic meter of air
AAHUs	Average Annual Habitat Units
AEP	Alternatives Evaluation Process
APE	Area of Potential Effect
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
ATV	All-terrain vehicle
BEA	Bureau of Economic Analysis
BFI	Browning-Ferris Industries, Inc. a subsidiary of Allied Waste Industries, Inc.
BLH	Bottomland Hardwoods
BMP	Best management practice
BOC	BOC Gases
BOD	Biological oxygen demand
BOEMRE	Bureau of Ocean Energy Management, Regulation and Enforcement
BP	Before present
BP p.l.c.	British Petroleum Private Limited Company
ca.	circa
CAA	Clean Air Act of 1970
CAR	Coordination Act Reports
CBVC	Coconut Beach Volleyball Complex
CED	Comprehensive Environmental Document
CEMVN	US Army Corps of Engineers, Mississippi Valley Division New Orleans District
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFC	Chlorofluorocarbon
CFDC	Caernarvon Freshwater Diversion Canal
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH_4	methane
CIAP	Coastal Impact Assistance Program
CMI	Congestion Management Index
CO	Carbon monoxide
COC	Constituents of Concern
CO_2	Carbon Dioxide
CPRA	Coastal Protection and Restoration Authority
CSX	CSX Corporation
cy	cubic yards
CWA	Clean Water Act
CWPPRA	Coastal Wetlands Planning, Protection, and Restoration Act
dB	Decibel

dBA	A-weighted decibel
DCRT	Louisiana Department of Culture, Recreation, and Tourism
DDT	dichlorodiphenyltrichloroethane
DFIRM	Digital Flood Insurance Rate Map
DMAT	Mobile Disaster Medical Assistance Team
DNL	Day-night average sound level
DO	Dissolved oxygen
DoD	United States Department of Defense
E	Endangered (when used in tables)
EA	Environmental Assessment
EBI	Elevating Boats, LLC
EC	Engineering Circular
EDC	Environmental design commitment
EFH	Essential Fish Habitat
EIFS	Economic Impact Forecast System
EIS	Environmental Impact Statement
EO	Executive Order
EOC	Emergency operation centers
ER	Engineering Regulation
ERDC	Engineering Research Development Center
ESA	Endangered Species Act of 1973
Phase I ESA	Phase I Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
ft	feet
ft/s	feet per second
FWCAR	Fish and Wildlife Coordination Act Report
FWOP	Future without Project
FWP	Fish and Wildlife Propagation
FY	Fiscal Year
GHG	Greenhouse Gas
GIWW	Gulf Intracoastal Waterway
GMFMC	Gulf of Mexico Fisheries Management Council
GNOCDC	Greater New Orleans Community Data Center
GPS	Global Positioning Systems
GSMFC	Gulf States Marine Fisheries Commission
GSRC	Gulf South Research Corporation
HFC	Hydrochlorofluorocarbons
HNC	Houma Navigation Canal
HSDRRS	Greater New Orleans Hurricane and Storm Damage Risk Reduction System
HSI	Habitat Suitability Index
HTRW	Hazardous, toxic and radioactive waste

HU	Habitat Unit
HUD	U.S. Department of Housing and Urban Development
I	Interstate
ICS	Interim Closure Structure
IER	Individual Environmental Report
IEPR	Independent External Peer Review
IHNC	Inner Harbor Navigation Canal
IPET	Interagency Performance Evaluation Taskforce
JLNHPP	Jean Lafitte National Historical Park and Preserve
JPFD	Jefferson Parish Fire Department
JPM-OS	Joint Probability Method with Optimal Sampling
JPPSS	Jefferson Parish Public School System
LA	Louisiana Highway
LACPR	Louisiana Coastal Protection and Restoration
LCPRB	Louisiana Coastal Protection and Restoration Board
LADOTD	Louisiana Department of Transportation and Development
LCA	Louisiana Coastal Area Program
LCWCRTF	Louisiana Coastal Wetlands Conservation and Restoration Task Force
LDEQ	Louisiana Department of Environmental Quality
LDHH	Louisiana Department of Health and Hospitals
LDNR	Louisiana Department of Natural Resources
LDWF	Louisiana Department of Wildlife and Fisheries
Lf	Linear Feet
LNHP	Louisiana Natural Heritage Program
LOS	Level-of-service
LPBF	Lake Pontchartrain Basin Foundation
LPV	Lake Pontchartrain and Vicinity Project
LRA	Louisiana Recovery Authority
LSU	Louisiana State University
LUST	Leaking Underground Storage Tank
mg/l	Milligrams per liter
mg/m^3	Milligrams per cubic meter of air
Map Mod	Flood Map Modernization
MMS	Minerals Management Service, now known as Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE)
MMPA	Marine Mammal Protection Act of 1972
MOA	Memorandum of Agreement
mph	miles per hour
MRGO	Mississippi River Gulf Outlet
MRL	Mississippi River Levee
MRT	Mississippi River and Tributaries
MS	Mississippi highway
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAD	North American Datum
NAVD 88	North American Vertical Datum 88

NEPA	National Environmental Policy Act of 1969
NFIP	National Flood Insurance Program
NGO	non-governmental organization
NGVD	National Geodetic Vertical Datum
NH_3	Ammonia
NHPA	National Historic Preservation Act of 1966
NLAA	Not likely to adversely affect
NLSER	NFIP Levee System Evaluation Report
NMFS	NOAA National Marine Fisheries Service
NO_2	Nitrogen dioxide
NO_X	Nitrous Oxides
NOAA	National Oceanographic and Atmospheric Administration
NOPD	New Orleans Police Department
NOV	New Orleans to Venice Federal Levee Project
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSRR	Norfolk Southern Railroad
NTU	Nephelometric turbidity units
NWR	National Wildlife Refuge
O_3	Ozone
OCPR	Office of Coastal Protection and Restoration
OCS	Outer Continental Shelf
OMRR&R	Operational, Maintenance, Repair, Replacement and Rehabilitation
OSHA	Occupational Safety and Health Administration
P	Primary
PA	Programmatic Agreement
PAH	Polycyclic Aromatic Hydrocarbons
Pb	Lead
PCA	Project Cooperation Agreement
PCASG	Primary Care Access and Stabilization Grant
PCR	Primary Contact Recreation
PCB	Polychlorinated Biphenyls
PDT	Project delivery team
P L	Public Law
PM-2.5	Particulate matter less than 2.5 microns in size
PM-10	Particulate matter less than 10 microns in size
PPA	Project Partnering Agreements
ppb	Parts per billion
ppm	Parts per million
PPSB	Plaquemines Parish School Board
ppt	Parts per thousand
P&S	Plans and Specifications
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition

RECAP	Risk Evaluation Corrective Action Programs
RIP	Rehabilitation and Inspection Program
RPC	Regional Planning Commission
ROD	Record of Decision
ROI	Region of Influence
ROW	Right of Way
RTV	Rational Threshold Value
S	Secondary
SAV	Submerged aquatic vegetation
SCR	Secondary Contact Recreation
SELA	Southeast Louisiana Urban Flood Control Project
SHPO	State Historic Preservation Officer
SI	Suitability Index
SIR	Supplemental Information Report
SO_2	Sulfur oxide
SOC	Sites of Concern
SOD	Sediment oxygen demand
SPH	Standard Project Hurricane
SWBNO	Sewage and Water Board of New Orleans
SWPPP	Storm Water Pollution Prevention Plan
T	Threatened
TDS	Total Dissolved Solids
THPO	Tribal Historic Preservation Office
TPH	Total Petroleum Hydrocarbons
TRB	Transportation Research Board
TSP	tentatively selected plan
U.S.	United States
US	U.S. Highway
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCB	U.S. Census Bureau
USCG	United States Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile organic compounds
WBV	West Bank and Vicinity
WCC	West Closure Complex
WGS	World Geodetic System
WMA	Wildlife Management Area
WRDA	Water Resources Development Act
WVA	Wetland Value Assessment

GLOSSARY OF COMMON TERMS

GLOSSARY OF COMMON TERMS

Alternative Arrangements or Alternative NEPA Arrangements – arrangements made by the U.S. Army Corps of Engineers , Mississippi Valley Division, New Orleans District (CEMVN) as a way to accelerate construction of the hurricane and storm damage reduction projects (HSDRRS), while still maintaining the spirit and intent of the National Environmental Policy Act of 1969 (NEPA) process. The President's Council on Environmental Quality (CEQ), other Federal and state agencies, the public, and non-governmental organizations concurred with the CEMVN's determination and use of the Alternative Arrangements.

100-year level of risk reduction – the level of risk reduction offered by the HSDRRS decreases the hazard of a storm surge that has a 1 percent chance of being equaled or exceeded in any given year. The levees, floodwalls, and all structures in the HSDRRS are being raised to this level.

Affected Environment – the area impacted by the proposed alternatives. It includes the area of ecological, cultural, social, aesthetic, and economic resources affected by the alternatives.

Armoring – material used to protect earthen levee slopes (e.g., grass, rip-rap, concrete slabs).

Bottomland Hardwood (BLH) Forest – a habitat type often classified as a wetland (although not necessarily a jurisdictional wetland type under Section 404 of the Clean Water Act) comprising woody vegetation adapted to periodic flooding and located on river floodplains of the Southeastern U.S.

Borrow – soil material comprised mostly of clay needed for building earthen levees, excavated and moved from one location to another.

Borrow IER – an Individual Environmental Report (IER) in which the Proposed Action is to provide the clay fill used for building the earthen levees in components of the HSDRRS.

Breakwater – an offshore barrier that protects a harbor or shore from the full energy of waves

Coastal Protection and Restoration Authority (CPRA) – In December 2005, the Louisiana legislature, through Act 8 of the First Extraordinary Session of 2005, established the CPRA as the single state entity with authority to articulate a clear statement of priorities and to focus development and implementation efforts to achieve comprehensive coastal protection for Louisiana.

Council on Environmental Quality or CEQ – a division of the Executive Office of the President that coordinates Federal environmental efforts in the U.S. and which assists in developing environmental policies and initiatives and NEPA oversight.

Comprehensive Environmental Document or CED – the document written by the CEMVN to partially satisfy the Alternative NEPA Arrangements which describes the integration of all IERs into a systematic planning effort. The document provided a description of the cumulative impacts of all projects proposed in the Greater New Orleans Metropolitan Area, a mitigation process and the CEMVN mitigation measures, future operations and maintenance requirements, coordination and consultation activities, and compliance with all applicable environmental laws. Additionally, supplements to the CED will likely be produced in the future as construction is completed and mitigation and monitoring efforts continue, other phases of the CED will be presented to the public.

Cumulative Impacts – as defined by CEQ, "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. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 Code of Federal Regulations §1508.7)".

Cumulative Impact Analysis – investigation conducted after the analysis of a proposed action that examines the cause-and-effect relationships between multiple actions and the affected resources and habitats.

Decision Record – a fully informed determination made by the CEMVN District Commander that construction of the Proposed Action described by a particular IER is justified, in compliance with environmental regulations, and is in the public interest for that portion of the HSDRRS.

Engineered Interim Structures or Engineered Construction Closures – structures used to provide the 100-year level of hurricane and storm damage risk reduction through the construction phase until a project component's construction is complete.

Environmental Impact Statement or EIS – a NEPA document completed to evaluate an agency action that may significantly affect the quality of the human and natural environment.

Floodwall – a man-made, structurally reinforced concrete wall built on top a levee, or in place of a levee, and designed and constructed to hold back flood waters.

Floodgate – a man-made structure on land that provides access through levees or floodwalls and can include different types of gates, such as swing gate, miter gate, slide gate, horizontal slide gates, overhead slide gate, and fold-up gate.

Foreshore Protection – the use of armoring at the flood side toe of the levee to protect from erosion associated with wave action.

Fronting Protection – structures that generally protect pump stations from wave and tidal energy, which can include floodwalls, breakwaters, and closure gates.

Greater New Orleans Hurricane and Storm Damage Risk Reduction System or HSDRRS – broadly defined as the $14 billion civil works project consisting of a 350-mile system of levees, floodwalls, gates, and pumps which provides 100-year storm level of risk reduction to southeastern Louisiana. However, the scope of effort for the CED is the HSDRRS portion of the Lake Pontchartrain and Vicinity (LPV) and the West Bank and Vicinity (WBV) Hurricane Protection Projects, which includes approximately 217 miles of new 100-year level of flood risk reduction work within the Greater New Orleans Metropolitan Area performed by the CEMVN and analyzed under the Alternative NEPA Arrangements since March of 2007.

HSDRRS 2011 – all of the HSDRRS construction work, including any interim measures, used to bring the HSDRRS to the 2011 design elevation to provide the 100-year level of risk reduction.

HSDRRS 2057 – the additional HSDRRS earthen levee lifts required, but not authorized or funded, to provide 100-year level risk reduction elevations for the 50-year lifespan of the HSDRRS (through the year 2057) and analyzed as proposed construction which has not occurred in the CED.

Impacts – any adverse or beneficial consequences to the human environment caused by the implementation of a proposed action(s), including any irreversible and irretrievable commitments of resources should the proposed action be implemented. Impacts can be considered to be directly caused by the proposed action or indirectly caused by the action, and long-term or permanent, as well as short-term or temporary.

Individual Environmental Report or IER – the document used to satisfy the Alternative NEPA Arrangements for a particular Proposed Action in a specific HSDRRS sub-basin(s) within the Greater New Orleans Metropolitan Area.

IER Supplemental – an additional document to an original risk reduction, borrow, or mitigation IER prepared to incorporate a change to the original Proposed Action. This may be due to design, construction, or other constraints.

Joint Probability Method with Optimal Sampling Process or JPM-OS – a probabilistic modeling method that takes into account the uncertainties in the various input parameters. The process enables the end-user to take this spatial variability into account in the hydraulic design process of flood risk reduction systems.

Lake Pontchartrain and Vicinity or LPV – component projects of the HSDRRS which are geographically located on the east bank side of the Mississippi River, consisting of five sub-basins.

Levee – an earthen embankment whose primary purpose is to furnish flood risk reduction from high water.

Mississippi River and Tributaries Project or MRT – Mississippi River and Tributaries Project, originated in 1928 after the great flood of 1927, which provided for flood control and construction of levees in Louisiana and other states along the Mississippi River.

Mitigation – As defined by CEQ, it includes five parts: 1) avoidance of an impact by changing or not implementing the proposed action, 2) minimization of the impact by limiting the proposed action, 3) rectifying the impact by repairing, rehabilitating, or restoring the affected environment, 4) reducing or eliminating the impact over time by preservation and maintenance, and 5) compensation for an impact by replacing or providing substitute resources or environments.

Mitigation IER – an IER which describes, documents, and prescribes the compensatory mitigation necessary to reduce an adverse impact for the construction of a HSDRRS Proposed Action on wetlands and non-jurisdictional bottom land hardwoods (BLH).

National Environmental Policy Act of 1969 or NEPA – a U.S. law that established a National policy promoting the enhancement of the environment and public review of major Federal actions, and which also established the CEQ.

National Flood Insurance Program or NFIP – Managed by the Federal Emergency Management Agency (FEMA), the three components of the NFIP are flood insurance, floodplain management, and flood hazard mapping.

No Action Alternative – CEQ's requirement to consider the environmental consequences of not undertaking the proposed action.

Operation, Maintenance, Repair, Replacement, and Rehabilitation or OMRR&R Manuals – specific directions and instructions provided from the USACE to the non-Federal sponsors, who will operate, maintain, repair, replace, and rehabilitate the entire system, upon the USACE completion.

Proposed Action – the preferred alternative that meets the purpose and need of a project.

Pump Station – a building and machinery for raising, compressing, or transferring water as part of a forced drainage system.

Risk Reduction IER – an IER in which the Proposed Action would construct a portion of the HSDRRS component reaches to provide 100-year level of risk reduction and, therefore, reduces risk from this occurrence to the general population of southeastern Louisiana. Also known as the HSDRRS 2011.

Sector gate – similar to a floodgate, but is much larger, it reduces the risk of flooding to a particular area within the overall flood risk reduction system.

Scour protection – the use of armoring to protect earthen levees from erosion.

Structural Superiority – enhanced design elevation which incorporates 2 feet to the future design conditions for those HSDRRS structures that would be very difficult to rebuild, if damaged, because of a disruption in services. Examples are major highway and railroad gates that require detours, pumping station fronting protection that requires reductions to pumping capacity, sector gated structures, etc.

Sub-basin – nine specific geographic areas within the HSDRRS protected by a specific component or components of the system.

Supplemental Appropriations Acts – in response to the widespread destruction caused by Hurricane Katrina, Congress authorized emergency supplemental appropriations bills (Public Law 109-61, 109-62, 109-148, 109-234, 110-28, and 110-252) which provided funds for emergency response and recovery needs. The CEMVN generally describes work for hurricane and storm damage reduction by supplemental number (3^{rd} Supplemental, 4^{th} Supplemental, etc.).

Surge barrier – similar to a floodwall, but built on a larger scale and within a waterway to provide a first level of reduction in wave attenuation.

U.S. Army Corps of Engineers or USACE – Federal agency tasked to investigate, develop, and maintain the Nation's water and related environmental resources.

USACE, Mississippi Valley Division, New Orleans District or CEMVN – the USACE District tasked with developing the HSDRRS and other Federal hurricane storm damage projects within South Louisiana.

West Bank and Vicinity or WBV – component projects of the HSDRRS which are geographically located on the west bank side of the Mississippi River, consisting of four sub-basins.

Wetlands – an ecosystem that depends on constant or recurrent, shallow flooding or saturation at or near the surface. The USACE regulates activities in wetlands under the Clean Water Act, Section 401(33 United States Code [U.S.C.] 1341) or 404 (33 U.S.C 1344), and the Rivers and Harbors Act, Section 10 (33 U.S.C 403).

APPENDIX C
CED PUBLIC COMMENT AND RESPONSE SUMMARY

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#	Location			Comment	Reviewer	Preparer's Response
	Page	Line	Section			
1	ES-5			The discussion of the National Flood Insurance Program (NFIP) could be clarified by explaining whether the NFIP certification is not typically afforded to a project incorporating interim protection measures or whether FEMA maintains some concerns about the integrity of the interim closure structures that were in place as of June 2011. According to the Corps, those interim measures were providing the same level of flood protection as expected by the completed project. In other words, could those communities served by the 80% of the HSDRRS work completed in June 2011 be eligible for NFIP now? Without further explanation, this discussion could be interpreted several ways.	U.S. Environmental Protection Agency (EPA)	NFIP certification is provided by the Federal Emergency Management Agency (FEMA) and at the cutoff time for project inclusion into the draft CED, FEMA had not completed NFIP certification. However, the complete process for future NFIP certification by FEMA is described in the draft CED and future supplements will provide a description of the NFIP certification outcome.
2	ES-36			The discussion of the Louisiana Coastal Area (LCA) Ecosystem Restoration Plan here and elsewhere in the draft CED should inform the reader that the State of Louisiana has terminated the cost-share agreements for a number of authorized LCA projects.	EPA	Concur; the change was made as recommended.
3	ES-45 and ES-46			Suggest changing the orientation of the basins by 180°.	Louisiana Coastal Protection and Restoration Authority (CPRA)	Concur; orientation of the text was changed by 180 degrees.

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#	Location			Comment	Reviewer	Preparer's Response
	Page	Line	Section			
4	ES-48	1st Paragraph		This paragraph references an Appendix S which should contain the current guidelines for assessing impacts to open water habitats and submerged aquatic vegetation during the implementation of the proposed projects. We were unable to locate Appendix S, nor the subject guidelines, in the CED; we recommend that this appendix be included. This same comment applies to the last paragraph on page 2-30.	U.S. Fish and Wildlife Service (USFWS)	Concur; appendix S was inadvertently left out of the draft CED and has been included in the final CED.
5	ES-56			The value for wetland impact appears to be incorrect and should be revised to include 1,483 acres of wetlands and 3,644.81 acres of non-jurisdictional bottomland hardwood habitat to coincide with the rest of the document. Other pages where impact acreage discrepancies occur are 9-5, and Volume 3, Appendix N, Table 1.	USFWS	Concur.
6	ES-56	Paragraph 2		According to this section of the CED, 1,637 acres of wetlands and 3,565 acres of non-jurisdictional bottomland hardwoods were directly impacted by HSDRRS construction. These numbers do not match the figures provided in Table 4-6 of the CED or Table 1 in Appendix N. Given the importance of the quantification of impacts to wetlands, essential fish habitat (EFH), and bottomland hardwoods, NMFS recommends all sections of the CED be revised to consistently and accurately provide the most up-to-date numbers possible.	National Marine Fisheries Service (NMFS)	Concur; this total refers to the estimated cumulative impacts on wetlands through the planning period for the HSDRRS (2057). The CED is up to date based on the cutoff date for information to be included, which is November 15, 2010 for all Individual Environmental Reports (IER) and July 2011 for project construction. The mitigation Programmatic IERs (PIERs) will have the most up to date wetland impact and mitigation information, and will also be included in the future supplement(s) to the CED.

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#	Location: Page	Location: Line	Location: Section	Comment	Reviewer	Preparer's Response
7	ES-57			The last paragraph explains the difference between the number of environmentally cleared borrow sites and those that were utilized for HSDRRS construction as of July 2011. It would be instructive to add a discussion as to whether it is now expected that most of those sites will ultimately be required for completion of the HSDRRS project and, if not, whether they will be eligible for use on future coastal restoration and protection projects. The return on the public's investment in this endeavor may well be better than presented in this short summary.	EPA	Do not concur. The Executive Summary provides a brief description of the area and number of cleared borrow sites and their use for HSDRRS construction as of July 2011. However, section 2.3 provides all of the requested details associated with the future use of cleared borrow sites.
8	Chapter 1			"It's proposed to supplement the CED as construction activities beyond July 2011 are completed." Will the CED be supplemented ad infinitum in a piecemeal fashion? Will there be a supplement in 2057?	CPRA	No; it is anticipated that after the completion of all HSDRRS construction a final supplement to the CED will be prepared and will fully estimate all direct, indirect, and cumulative impacts of the HSDRRS including predicted 2057 construction impacts.
9	Chapter 1			The CED is written as a snapshot in time (2010) rather than an evaluation/analysis of the cumulative impacts from constructing/upgrading the Hurricane and Storm Damage Risk Reduction System.	CPRA	Do not concur. The draft CED is written as a description of the past, present, and reasonably foreseeable impacts of the HSDRRS as of November 2010. The draft CED fully evaluates known future HSDRRS construction efforts, and the cumulative impacts of the HSDRRS and other projects proposed in southeast Louisiana.

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#	Location			Comment	Reviewer	Preparer's Response
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10	1-1			*The HSDRRS effectively achieved the 100-year level of hurricane and storm damage risk reduction by June 2011.* If this is the case, why is the cut off for projects included for analysis in the CED November 2010? The IERs have been supplemented multiple times for each project within LPV and WBV and design changes have increased or decreased the overall project impacts disclosed in the original IERs. Why is this not documented within the CED?	CPRA	When the preparation of the draft CED began it was not anticipated that the HSDRRS construction activities would extend substantially beyond 2010. However, unforeseen circumstances have caused construction activities to likely extend into late 2014 or early 2015. Due to the scale of the draft CED and the uniqueness of the document format and projects it describes, a cutoff date had to be picked in order to complete a draft version for public review in a timely manner. Section 2 describes the IERs evaluated and not evaluated in the CED. Tables 2-2 and 2-5 summarize the LPV and WBV HSDRRS components by IER number.
11	1-2	2nd paragraph, 4th sentence		Change "HSDRSS" to HSDRRS	CPRA	Concur
12	1-23		Table 1-3	The row in the table pertaining to IER 12 could use some editing. First, the word "hydrological" in the second column should be replaced with "ecological". Second, column three should references sections 5.3.2.2 and should correct the net one to 5.3.6.1.	EPA	Concur

#	Location			Comment	Reviewer	Preparer's Response
	Page	Line	Section			
13	1-26			We agree that conservation easements be included in the mitigation for enclosing wetlands that the Corps acknowledge are under development pressure. The building of the HSDRRS should not be a stimulus for development of wetlands behind a hurricane protection levee. Wetlands do not need flood protection and impoundment may accelerate the loss of these enclosed wetlands.	Louisiana Audubon Council (LAC)	Only when the U.S. Army Corps of Engineers (USACE) concludes that development will be an unavoidable direct impact of a USACE project, will the USACE implement appropriate mitigation measures, which measures could include conservation easements. The USACE specifically studied the potential for induced development attributable to the planned construction of the West Bank and Vicinity (WBV) Project in conjunction with its environmental impacts analyses and found that such development was not probable (see St. Charles Parish Development Projection Study, appendix E to Draft IER #16). Within the HSDRRS, the USACE considers potential development in wetlands areas to be merely speculative. Although the USACE maintains regulatory authority over the discharge of dredge or fill material in wetlands pursuant to its Clean Water Act Section 404 permitting authority (including determining mitigation required for individual permits), the primary responsibility for determining zoning and land use matters rests with the state and local governments. Those entities may choose to allow development in a wetlands area, and if so, they would be responsible for defining the appropriate mitigation measures.
14	Chapter 2			This chapter includes a discussion of IERs not included or analyzed. If the cut-off date for inclusion was November 2010, why are the incomplete projects included and discussed?	CPRA	The IER and IER Supplements that are not included or analyzed in the draft CED are only listed on page 2-3 for reference purposes. These documents are not included because they were prepared after November 2010.
15	2-29 to 2-30			The reader is left with the impression that IERs 36 and 37 are only for the borrow sites rather than mitigation.	CPRA	Do not concur. It is stated on page 2-30 that "IERs #36 and #37 are being prepared to describe mitigation for HSDRRS impacts on wetlands and non-jurisdictional BLH." This section also describes how borrow sites avoided impacts to jurisdictional wetlands and have fully mitigated for impacts to non-jurisdictional bottomland hardwoods (BLH).

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#	Location: Page	Location: Line	Location: Section	Comment	Reviewer	Preparer's Response
16	2-30			HSDRRS Mitigation Components, last paragraph - This paragraph mentions guidelines that will be used in assessing impacts to open water habitats and submerged aquatic vegetation during the implementation of the proposed mitigation projects. It is our understanding that those guidelines have not been officially accepted by the involved natural resource agencies, and many variable-specific and site-specific assumptions related to these habitats are currently under development by our office. We recommend that this paragraph be removed, with the exception of the first sentence, and that the following statement be added: "Those guidelines are nearing completion, but are undergoing further refinement. We anticipate their completion prior to the release of any supplemental CEOs, and a full description will be included as appropriate in forthcoming NEPA documents."	USFWS	The subject paragraph was not removed since it remains relevant and summarizes the guidelines in appendix S. However, this paragraph was revised to include the statement, "Those guidelines are undergoing further refinement. The USACE anticipates completion of the guidelines prior to the release of any supplement(s) to the CED, and the final version of these guidelines will be included, as appropriate, in forthcoming NEPA documents." Also note that the introduction section and the title of appendix S have been revised to help clarify the draft status of these guidelines.
17	2-30			Leaves the reader with the impression that mitigation projects are still in development when this is not the case. The TSPs have been selected for LPV and WBV.	CPRA	Do not concur. The tentatively selected mitigation plans have not been selected as of November 2010, the cut-off for inclusion in the draft CED. Further, until the NEPA process has concluded with a signed decision record, those plans are only tentative. The PIERs and tiered IERs (TIERS) describing the mitigation components for LPV and WBV must be prepared and decision records signed before NEPA compliance is complete and a decision made on HSDRRS wetland mitigation.
18	3-21		Figure 3-7	The boundaries of the HSDRRS project areas on the larger map (not the inset) would be helpful.	CPRA	Concur. Boundaries of the HSDRRS were added to the figure as requested.

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#	Location			Comment	Reviewer	Preparer's Response
	Page	Line	Section			
19	Chapter 4			Much of the information included in this chapter is pulled directly from the IERs for the individual projects. Rather than pull large blocks of text from those IERs, summarize the information within tables and direct readers to NOLA Environmental for the IER documents.	CPRA	Do not concur. The draft CED was prepared to be a stand-alone report that fully described the HSDRRS. Supplement(s) to the CED will further document the entire project and impacts. Because of the size of the HSDRRS and the scale of its impacts, the USACE summarized information and incorporated information from the IERs by reference to the greatest extent practicable.
20	Chapter 4			It should be clear to readers that the IERS completed by November 2010 were for all of the risk reduction projects. The IERs not completed were for supplemental IERs for the risk reduction projects as well as borrow and both LPV and WBV mitigation.	CPRA	The details concerning the IERs and IER Supplementals included in the evaluation of impacts in the CED are described in section 2, and the Lake Pontchartrain and Vicinity (LPV) and WBV HSDRRS components are summarized by IER in tables 2-2 and 2-5, respectively.
21	Chapter 4			Development (residential and commercial) continues within the HSDRRS system and is not necessarily tied to post-Katrina redevelopment. In the CED, it is stated that development is not a cumulative effect of HSDRRS. If not for the protection the levees, floodwalls, and floodgates and other features provide from storm events, would development be occurring inside the system?	CPRA	Redevelopment takes into account all private projects that were proposed in southeast Louisiana by November 2010. It is unknown whether residential and commercial development would have occurred in absence of the HSDDRS. The 100-year level of risk reduction improves confidence of residents and businesses, but current and future development and redevelopment due to the HSDRRS cannot be quantified.
22	Chapter 4			No discussion of cumulative effects of HSDRRS on induced development reducing wetlands inside and/or outside of the system is included within the CED. No discussion of forced drainage requirements to keep system de-watered or altering tidal connections.	CPRA	Do not concur. There is no indication that HSDRRS improvements would lead to induced development reducing wetlands inside the system. It is highly unlikely that any induced development would occur outside the system due to the HSDRRS improvements. Further, the 933 standard permits issued by the New Orleans District (CEMVN) from 2007 to 2011 were analyzed for wetland impacts and mitigation, and were described on page 4-55. Also, see response to comment 13.

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#	Location			Comment	Reviewer	Preparer's Response
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23	Chapter 4		Sect 4.2.3.1	Certain wetland and land loss references appear outdated. Please provide more recent sources for example Dahl 1991, Boesch 1994, USGS 2003. Are more recent and accurate sources available to address current rates of wetland loss?	(National Park Service) NPS	Concur; Couvillion et al. 2011 included as a land area change reference in the final CED.
24	4-2	4th paragraph		Is the discussion of proposed levee lifts limited to those projects for which IERs were completed by November 2010?	CPRA	Yes, the discussion of future levee lifts is limited to the proposed actions described by IERs completed by November 2010. Future supplement(s) to the CED will include information on additional levee lifts, as necessary.
25	4-2			On what date does the Alternative arrangement for the emergency building of HSDRRS sunset? When does the emergency terminate? When do the normal NEPA procedures takeover?	LAC	The Emergency Alternative Arrangements are only implemented for the LPV and WBV hurricane and storm damage risk reduction authorizations of Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (4th Supplemental), as supplemented. This includes the 4th Supplemental authorizations of LPV and/or WBV 100-year level of risk reduction features for levees and floodwalls, selective armoring, IHNC closure structures, and the outfall canal closure structures and pump stations. The Emergency Alternative Arrangements will only remain in effect until the final CED completes the analyses of the actions outlined in the descriptions of IERs contained within the Emergency Alternative Arrangements. See the Emergency Alternative Arrangements at nolaenvironmental.com for more information.
26	4-3 to 4-5		Table 4-1	For the purpose of discussion of analyzed impacts, it would be helpful for the reader if the date of completion were included for each IER.	CPRA	Concur. The dates that the Decision Record was signed for each of the IERs and IER Supplementals will be included in section 2.

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#	Location: Page	Location: Line	Location: Section	Comment	Reviewer	Preparer's Response
27	4-7 (sic) 4-71			New Orleans East Sub-basin, fourth paragraph - We recommend removing/revising the last sentence which states that "A probable positive impact...resulted from the concentration of numerous prey items at the cofferdam and the attraction of larger fish and predators to the area." This concentration may be a temporary benefit to predatory organisms or activities (e.g., recreational fishing) but it could also prove to be a negative impact to prey species.	USFWS	Text changed to: "A probable positive impact on recreational fishing, depending on water quality, resulted from the concentration of numerous prey items at the cofferdam and the attraction of larger fish and predators to the area. However, additional predator species concentrating in the area could have an adverse impact on prey species."
28	4-17			Induced development as a result of HSDRRS would potentially remove prime farmland soils as fill is brought in. How is induced development as a result of HSDRRS a minor impact? The TSP for the WBV mitigation removes prime farmland soils to create marsh and swamp. Although not analyzed in this CED (but will be in a future supplemental CED), USACE's actions impact soils.	CPRA	The majority of prime farmland soils occur at the borrow sites because the soils that are most appropriate for levee construction are often clay soils that are classified as prime farmland soils. Based on the analysis of proposed projects, only small losses of prime farmlands are anticipated due to future development within the area bounded by the HSDRRS. It is clearly described that the HSDRRS directly and cumulatively impacted soils and is described as a major impact of the HSDRRS. Also see the response to comment 13.
29	4-18		Water Quality	USACE levee construction responsibilities date from the nineteenth century. Hydro-modification has been in place for over 100 years in the New Orleans region.	CPRA	Concur. On page 4-18 the CED states "In the 20th century, the region faced a number of other water quality concerns that demanded attention, such as hydro-modification (i.e., alteration of natural drainage features by human activity, such as the construction of levees)…"
30	4-21			Discussion of impacts to the 404(c) area. Water quality: The IERs are supposed to be incorporated by reference. Rather than include the detailed discussion on individual IERs, summarize and incorporate by reference.	CPRA	Do not concur. The CED was prepared as a stand-alone document that would not require the reader to have stacks of IERs in hand in order to gain an understanding of the affected environment and impacts from the entire HSDRRS.

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#	Location			Comment	Reviewer	Preparer's Response
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31	4-33	2nd paragraph	Seabrook	Since data collection will continue into 2013, will there be further analysis in future supplemental CEDs?	CPRA	Yes, additional analysis will be described in future supplement(s) to the CED.
32	4-40			Suggest using the Water Quality summary instead of the pages of detailed, in-depth information from the IERs.	CPRA	See response to comment number 30.
33	4-41			Suggest removal of "In the last 100 years, a large portion of historical BLH habitat has been logged and converted into agricultural and urban lands (Dahl et al. 1991). Approximately 200 years ago, 30 million acres of BLH covered the southeastern U.S., but it is estimated that loss rates were as high as 431,000 acres per year from 1965 to 1975. As a result, very little original BLH habitat exists in the southeastern U.S. (USEPA 2009a). These sentences appear to have been randomly tossed into a discussion of BLH within the HSDRRS system.	CPRA	Do not concur. NEPA documents such as the CED need to be written for both subject matter experts and laypeople. As such, these three sentences provide some historical setting for the high rate of loss of BLH regionally and its importance as a sensitive habitat type. This setting for the affected environment provides context for the reader that is not familiar with BLH.
34	4-48			Consider spelling out entire name of WVA with the first use.	NPS	Concur; the first occurrence is on page 2-30.
35	4-49			Consider spelling out name for AAHU with the first use. We found this section vague which made it difficult to understand direct wetland impacts to the preserve.	NPS	Concur; the first occurrence is in section 2, but the abbreviation is not described.
36	4-49		Tables 4-6 and 9-1	These sections of the draft CED state that the HSDRRS resulted in direct impacts to approximately 1,483 acres of wetlands. These numbers need to be reconciled.	EPA	Concur.

#	Location			Comment	Reviewer	Preparer's Response
	Page	Line	Section			
37	4-49	Paragraph 1		This paragraph provides a good summary of how impacts to open water habitats, with and without submerged aquatic vegetation (SAV) would be evaluated and what impacts would be compensated. However, no section of the document, including Table 4-6 or the U. S. Fish and Wildlife's draft Coordination Act Report, quantifies impacts to open water habitats but does not specifically identify if any included SAV. If HSDRRS implementation did not impact open water having SAV, such should be stated in this section of the CED. Alternatively, Appendix N should be revised to quantify impacts to open water with, and without, SAV. In addition, this paragraph (and paragraph 1, page 5-4) references an Appendix S as having open water impact assessment guidelines. There is no Appendix S in the CED.	NMFS	No impacts on SAV occurred during construction activities completed by July 2011. Flotation channels dredged in Lake Pontchartrain were located in areas that would avoid SAV (IERs #2 and #3). Some future construction activities involving foreshore protection (as described by IERs #6 and #7) could potentially impact SAV, and those potential future impacts are described in the CED. Open water impacts were not quantified for the actions included in the draft CED unless those impacts involved Essential Fish Habitat (EFH) and SAV. Appendix S was inadvertently left out of the draft CED but is included in the final CED.
38	4-50 to 4-52		Table 4-6	The table reflects the wetland impacts documented in the Fish and Wildlife Coordination Act Report, not the actual impacts for which mitigation was developed. The calculated impacts to be mitigated should be included in the CED, not out-of-date estimates.	CPRA	Do not concur. The wetland impacts are based on Wetland Value Assessment (WVA) models prepared by USFWS and CEMVN, and described in each Coordination Act Report (CAR). The most up-to-date CARs, as of November 15, 2010, were utilized to estimate impacts on wetlands. All mitigation for jurisdictional wetlands and non-jursidictional BLH are derived from the results of the final CARs.

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39	4-50 to 4-52		Table 4-6	This table quantifies impacts of each IER to wetlands and non-jurisdictional bottomland hardwoods. There is no quantification of wetland impacts by habitat type in the CED, other than in the draft CAR. Given mitigation for impacts will be in-kind (e.g. brackish marsh mitigation for brackish marsh impacts), future CEDs should provide a quantification of impacts by habitat type. NMFS acknowledges, as is stated in the CED, we are allowing fresh and intermediate marsh impacts to be combined to allow one project to compensate for both habitat types.	NMFS	Impacts on wetlands and non-jurisdictional BLH were quantified in the CARs. The CARs are inconsistent in classifying impacts by wetland habitat type. However, the mitigation PIERs and TIERs will have details of impacts and proposed mitigation by wetland habitat type. Further, the additional mitigation information will be described in future supplement(s) to the CED.
40	4-51		Table 4-6	Wetlands and Non-Jurisdictional BLH Impacts - Impacts for IER 13 are incorrectly listed. Approximately 58 acres (38.86 AAHUs) of wetlands were impacted, and 13 acres (7.80 AAHUs) of non-jurisdictional BLH were impacted.	USFWS	Concur; an error was made in including tidal BLH impacts (19 acres) as non-jurisdictional BLH.

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41	4-52	Paragraph 1		This paragraph discusses indirect wetland impacts which could result from HSDRRS construction. Specifically, it indicates some features were modeled and found to increase inundation depth, frequency and duration on adjacent or enclosed wetlands. Such impacts were not evaluated using the Wetland Value Assessment methodology, although such an evaluation is possible. A supplemental CED should discuss potential wetland impacts which could result from modeled hydrologic impacts and quantify compensatory mitigation needs to offset such impacts.	NMFS	Do not concur. The WVA methodology can quantify indirect impacts on wetlands from HSDRRS and to the extent that impacts were more than simply negligible, those impacts were quantified in the WVAs. The WVA methodology was used during the evaluation of impacts from each of these HSDRRS features, and the impacts were described in the final CARs. Impacts on wetlands will also be discussed in the mitigation PIERs and TIERs. The majority of the HSDRRS was constructed in the same alignment as LPV and WBV Hurricane Protection System. The only new HSDRRS features with the potential to alter hydrology on the protected side were described by IERs #11 and #16. Indirect impacts on wetlands as described in IERs #11 and #16 were determined to be negligible. It is not anticipated that the HSDRRS would have any hydrologic impacts on wetlands located on the protected side of structures because gated openings were constructed or maintained to ensure a continuous hydrologic connections. Water Control Plans for all gated structures describing the operations of gates will be provided in future supplement(s) to the CED.

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42	4-52			It is stated that 5,128 acres of wetlands and BLH habitats were lost by the construction of the HSDRRS. The mitigation of those wetland losses will have a basic cost. How much has the Corps estimated for mitigation of impacts? Is this money set aside to be available when the Corps purchases mitigation lands to compensate for wetlands impacts? What is the timeframe to institute the mitigation features? We support the USFWS's recommendation that money for purchase of mitigation should be allocated as <u>first cost</u> of the project. There have been many occasions where the money for a public works project "ran out" and the low priority mitigation requirements were forgotten. The Audubon Council is also concerned about lack of availability of funds to carry out the mitigation program for HSDRRS. We request that the Final CED answer the questions above and assure the public that the mitigation program will be carried out to its conclusion.	LAC	The impacts documented in the IERs were based on a worst case scenario footprint as these documents were being completed concurrent with the HSDRRS design. Current impact estimates based off of the 95 to 100% design plans have now cut these impacts almost in half. As the actual impacts from construction of the HSDRRS are refined those impact estimates will be released in subsequent mitigation IERs and future phases of the CED. The USACE has budgeted $250 million to complete mitigation for HSDRRS impacts, which will be sufficient to fully cover mitigation costs. The details of these projects will be addressed in forthcoming mitigation IERs.

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43	4-54			"To minimize the impacts on 2,485 acres of wetlands located north of US 90, the combined cross section at the perimeter of the project was sized to equal the combined cross-section of the openings through US 90 prior to HSDRRS construction. The approximately 265 acres of wetlands located south of US 90 will continue to have hydrologic connections, but with a reduced cross-sectional area (IER #16)." (p. 5-23). "As noted in IER #16, the USFWS recommends that the previous induced development study examine potential development over the period of analysis (i.e., 50 years) to be consistent with the planning process. Information about potential development of the area in question derived from this analysis was used to determine wetlands and non-jurisdictional BLH mitigation requirements. The St. Charles Parish Development Study demonstrates the likely development that will occur within the study area, and the period of analysis for the induced development is appropriate. However, the USACE does not mitigate for indirect impacts such as induced development, where local and state entities regulate zoning and land use are able to assign mitigation requirements directly to the developer. The USFWS recommendation was not adopted as a mitigation measure." "Changes in floodgate operations or more frequent closures due to increased storm frequencies at any gated structure in the HSDRRS could be required in the future due to sea-level rise or changes in climate patterns. These changes cannot be predicted at this time, and may never be severe enough to force an operational change. However, any increase in the duration of HSDRRS floodgate closures would increase in depth and duration of flooding of the marsh, adversely impacting plant health and causing wetland loss." We agree that increased duration of flooding caused by the closure of the sector gates will adversely affect the wetlands. Computer modeling of the future RSLR is within the realm of predictability. The estimates of RSLR for southeastern Louisiana have been estimated by climate scientists and the range of rise can be plotted for future years. These predictions should be modeled and included in the Final CED. The increased inundation of wetlands and the adverse impacts must be included in the Final CED as indirect impacts of the project.	LAC	Do not concur. All HSDRRS structures were designed with the consideration of relative sea level rise through the year 2057. Gated structures will be closed only in response to real threats from severe storm events as described by their Water Control Plans, and will not be closed as a result of higher water levels solely due to eustacy. As a result, the duration of closures are directly related to storm frequency and intensity, which is very difficult to predict. As of November 2010, there were neither predicted schedules for gate closures nor Water Control Plans that would provide guidance as to the thresholds for closure. The WBV-74 (Highway 90) (IER #16) Standing Instructions specify that gates be closed 2 days before a tropical storm arrival, which based on historical data will result in a closure of the gates with water level at +2 feet or less. Future mean sea level rise may cause future stages to be higher when the gates are closed, and could result in a longer duration of inundation (as sector gates are not supposed to be opened until the stage decreases to +2 feet); however, the sluice gates could also be opened earlier if the flood side stage is lower. Also, see responses to comments number 13 and number 41.

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44	4-55 to 4-56			This section identifies wetlands restoration projects which could benefit the HSDRRS area, including Bonnet Carré diversion, Violet Canal freshwater diversion, and Caernarvon Outfall Management projects. Wording should be added to those projects giving the current status of project implementation and their likelihood of implementation.	NMFS	Additional text was added providing the current status of these projects. However, it is not possible to determine the likelihood of their implementation since so many variables that are not in the control of the USACE determine implementation likelihood.
45	4-55 to 4-56			Summarize within a table, if possible.	CPRA	Do not concur. There is a substantial amount of detail concerning restoration and flood risk reduction projects on these two pages that would be lost in tabular format.
46	4-56		NOV	Are the impact numbers accurate? A different alternative was selected as the preferred after the public release of the Draft EIS for NOV. Recommend the impact numbers be double-checked.	CPRA	Yes, the estimates of impacts on wetlands and waters of the U.S. are accurate and are derived from table 6-1 of the Final Supplemental Environmental Impact Statement (EIS) for the New Orleans to Venice Federal Hurricane Protection Levee project.
47	4-57		Transportation	Consider a table.	CPRA	See response to comment number 45.
48	4-63		Fisheries	Is it relevant to discuss the history of fishing from prehistory to the mention of the gas engine?	CPRA	Commercial and recreational fishing are, and historically have been, important resources for coastal Louisiana. As a comprehensive document, two paragraphs describing the setting for fisheries and its importance to the community and the economy is reasonable.
49	4-64	Paragraph 2		This paragraph provides a listing of estuarine finfish species likely to be in the project area, including Atlantic menhaden. Gulf menhaden is the appropriate species to be listed here, not Atlantic menhaden.	NMFS	Concur. Change made as recommended.
50	4-64			Why are 2005 data used for shrimp and crab landings? More recent data should be used. Annual data 1998-2000 is over a decade out of date.	CPRA	Landings data have been updated. However, utilizing more recent commercial fisheries landing data does not alter the impacts analysis of the HSDRRS on fisheries nor alter any recommended mitigation measures.

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51	4-66			Update Table 4-9.	CPRA	Do not concur. See response to comment number 50.
52	4-68 to 4-78			Much of this information can be easily summarized within a table.	CPRA	Do not concur. A substantial amount of detail concerning impacts on fisheries by sub-basin would be lost in a tabular format.
53	4-72	Paragraph 1		The last sentence indicates the reduction of salinities caused by closure of the Mississippi River-Gulf Outlet would have a long term beneficial impact on fisheries in the Lake Pontchartrain basin. We recommend this statement be deleted or clarification be provided indicating the closure of the Mississippi River-Gulf Outlet would likely benefit only those fishery species which utilize fresh to low salinity wetlands as nursery and foraging habitats.	NMFS	Concur. Change made as recommended.
54	4-74			Specific Impacts of the HSDRRS, Gretna-Algiers Sub-basin - To prevent any further impacts that could result from operation of the pump station, (i.e., scouring, banks erosion, etc.) due to its discharge of 20,000 cubic foot per second (cfs), foreshore protection would be constructed within the channel adjacent to the western Gulf Intracoastal Waterway (GIWW) shoreline. We recommend revising the last sentence to state that "rock foreshore protection," rather than "rock placement" on the shoreline could improve edge habitat.	USFWS	Concur. Change made as recommended.

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55	4-77		4.2.5.2.2	HSDRRS 2057 Impacts - In regards to the "Improved Protection on the Inner Harbor Navigation" Canal project, the Corps has previously disclosed that the impact of sea level rise in conjunction with marsh loss on the operational scenario of the water control structures is unknown and could result in increased frequency and duration of closures. This could translate into impacts to aquatic resources and fisheries by disrupting migration patterns and ingress and egress into interior marshes. Because these impacts could result in a change in frequency and/or duration of gate closure the Corps intends to incorporate adaptive management to address such changes. As it relates to cumulative impacts to fisheries and wetland habitats the uncertainty of future operational scenarios should be addressed.	USFWS	Concur. Change made as recommended.
56	4-79			"It is anticipated that a report will be prepared detailing the final results of the DO and salinity data collection efforts in 2013. Those data and interpretation of changes in DO and salinity will be used by CEMVN to evaluate alternatives for providing rectification or mitigation." Will these alternatives be evaluated in a supplemental CED?	CPRA	Yes; any alternatives recommended or evaluated will be described in supplement(s) to the CED.
57	4-82			"Long-term effects of flood risk reduction infrastructure would slow the erosion of valuable fish habitat by reducing the potential of more fragmentation due to high energy storm surge."	CPRA	Thank you for your comment. Structures such as the Borgne Barrier and the levees surround Bayou Sauvage National Wildlife Refuge would reduce marsh fragmentation from storm surge on the protected side of the barrier and levee.

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58	4-84		Wildlife	Why isn't the section on wildlife tailored to the WMA within the HSDRRS system?	CPRA	Wildlife use numerous habitats within and in the vicinity of the HSDRRS. Limiting this resource discussion to just the Wildlife Management Area would leave out the potential impacts on wildlife and their habitats at other locations.
59	4-91	1st paragraph	New Orleans East Sub-basin	"The new floodwall (IER Supplemental #6) eliminated the existing terrestrial wildlife access to Lake Pontchartrain along the reaches, which potentially impacted species such as nutria (Myocastor coypus), red fox (Vulpes vulpes), raccoon, Virginia opossum, and nine-banded armadillo." Nutria and nine-banded armadillo are invasive species. Would access to the lake promote the destructive activities of these species?	CPRA	The new floodwall eliminated access to the lake for these two species. The elimination of access would not promote destructive activities by the eliminated species.
60	4-104 to 4-105		Tables 4-12 and 4-13	These tables list federally managed fishery species in the vicinity of the HSDRRS project area, including Gulf stone crab and gray snapper. Those two species should be deleted from these tables and any discussion pertaining to essential fish habitat.	NMFS	Concur. Change made as recommended.
61	4-114	Paragraph 2		This paragraph indicates construction activities associated with IER 10 resulted in a loss of 42 acres of open water categorized as EFH. Table 1 in Appendix N quantifies the impacts to open water for IER 10 as 50 acres. The correct acreage of impacts to all categories of EFH should be determined and all appropriate sections of the CED should be revised to consistently cite the same numbers.	NMFS	Concur; Appendix N is incorrect. A loss of 42 acres of open water categorized as Essential Fish Habitat (EFH) is the correct impact estimate.

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62	Chapter 5			Mitigation for the HSDRRS wetland impacts is not discussed within the CED and, instead, it's stated that programmatic IERs will be prepared. Will a supplemental CED be prepared to discuss the cumulative effects of HSDRRS on wetlands?	CPRA	The draft CED discusses cumulative impacts on wetlands from IERs completed by November 2010 and from projects constructed by July 2011. The supplement(s) to the CED will further describe these cumulative impacts from additional completed projects.
63	Chapter 5			What was the methodology for calculation of wetland mitigation for contractor-furnished borrow areas? Were borrow impacts tracked to determine overall impacts and were credits purchased from an approved bank at the time of impact or were all wetland impacts mitigated through an approved bank at one time? Were wetland impacts on contractor furnished borrow areas calculated using WVA or MCM?	CPRA	There were no impacts on wetlands at borrow sites because all wetlands were delineated and avoided during borrow material removal. Credits from mitigation banks were purchased to offset impacts on non-jurisdictional BLH at borrow sites. WVAs were used for quantification of all impacts.
64	Chapter 5			WVA is not an appropriate evaluation tool to assess the impacts of HSDRRS construction to wetland habitats.	CPRA	Do not concur. USACE Planning Guidelines for civil works projects require the use USACE-certified models when analyzing habitat impacts and mitigation of these impacts. The WVA methodology is the only model certified for use in evaluating HSDRRS impacts and mitigation. Additionally, WVA models were approved for use for quantifying impacts on wetland habitats by other resource agencies (e.g., USFWS).

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65	Chapter 5			Mitigation is being developed in coordination with the natural resource agencies and will be addressed in a separate IER. It has been our understanding sufficient funds have been set aside to fund mitigation to offset impacts to wetlands and associated EFH. NMFS is concerned there may be a funding shortfall to accomplish the necessary mitigation given increasing delays to construct and/or acquire mitigation while cost of constructing flood protection measures increase. NMFS recommends supplemental CEDs address the subject of mitigation commitments made to date and discuss the adequacy of the funds set aside to purchase or construct mitigation, as well as maintain the mitigation project(s) until initial success criteria are reached and the project(s) are turned over to the non-federal sponsor.	NMFS	Please refer to the response to comment #42 as regards anticipated mitigation costs and funding. The final supplement(s) to the CED would not be issued until after the mitigation IERs are completed. The supplement(s) to the CED will update implementation of the HSDRRS mitigation program. HSDRRS compensatory mitigation will be addressed in mitigation IERs or in supplement(s) to the IERs. The compensatory mitigation requirement would not be satisfied until the success criteria for the mitigation projects are adequately met.
66	Chapter 5		Sect 5.2.2.2	The use of AAHU's is not acceptable by the NPS to determine compensation. Please refer to the Procedural Manual #77-1 for NPS compensation policies. This remains true for all following compensation discussion. Methodology indicates that there will be two Programmatic Mitigation IERs that will be prepared.	NPS	USACE Planning Guidelines for civil works projects require the use of USACE-certified models when analyzing habitat impacts and mitigation of these impacts. The WVA methodology is the only model certified for use in evaluating HSDRRS impacts and mitigation, and WVA models generate results expressed in AAHUs. CEMVN is fully aware of NPS Procedural Manual #77-1, which requires that wetland impacts on NPS lands be mitigated at a minimum 1:1 ratio (e.g. minimum 1 acre of mitigation for each acre impacted). The analyses thus far indicate that use of WVA models to determine the mitigation required generally would result in mitigation that exceeds the NPS 1:1 ratio requirement.
67	Chapter 5		Sect 5.3.1.5	Wetlands. This section discusses acreage to be mitigated, but does not offer plan details. We look forward to mitigation plan preparation.	NPS	Thank you for your comment. Programmatic mitigation IERs will be prepared and will be distributed for public review and comment.

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68	5-4		Sect 5.2.2	"Any fill or excavation in open water habitat that is designated by oyster seed grounds by LDWF." Is this applicable to HSDRRS?	CPRA	Yes; compensatory mitigation planning for wetlands must take this into consideration.
69	5-4 to 5-6		Sect 5.2.2.1 and 5.2.2.2	Sections read as if mitigation is still in the development process when that's not the case. The TSPs have been selected for LPV and WBV.	CPRA	The CED was prepared with a cutoff date of November 2010 for IERs and July 2011 for construction projects. At the time of these evaluations the TSPs had not been selected for wetland mitigation. Further, all plans remain tentative until the environmental compliance (PIERs and TIERs) for the mitigation is completed.
70	5-6			"Anticipated date for completion of programmatic mitigation IERs (IERs #36 and #37) is October 2012." Should "2012" be 2013?	CPRA	Concur; change made to "December 2013" as recommended.

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71	5-6			*All compensatory mitigation activities will be consistent with standards and policies established in the CWA Section 404 regulatory program and the appropriate USACE policies and regulations governing compensatory mitigation*. The USACE New Orleans District's HSDRRS mitigation is inconsistent with the CWA Section 404 regulatory program as well as USACE policies and regulations. Throughout the mitigation project selection process, District personnel consistently put more emphasis on mitigating in-kind than being consistent with a watershed approach. The actions taken appear to be contrary to USACE's implementation guidance for WRDA '07 – "*the mitigation planning process includes…compensating for lost non-negligible resources through in-kind mitigation to the extent incrementally justified employing a watershed approach in mitigation planning; and, identifying the features of the mitigation plan and how it will be implemented in the project decision document*."	CPRA	Do not concur. The proposed mitigation for impacts on wetlands and non-jurisdictional BLH is consistent with the Clean Water Act Section 404 regulatory program and USACE policies and regulations governing compensatory mitigation. The mitigation planning has utilized a watershed approach. Two mitigation PIERs are being prepared to describe the details of the mitigation planning process and the proposed compensatory mitigation sites for LPV and WBV.
72	5-6	Second-to-last paragraph		This paragraph states that the anticipated date for completion of the programmatic mitigation IERs (IER #36 and 37) is October 2012. We recommend that this be updated to reflect the current anticipated schedule.	USFWS	Concur. Date was changed to December 2013.

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73	5-7		Figure 5-1	Figure 5-7 is titled HSDRRS Wetland Compensatory Mitigation Sites Being Evaluated. USACE selected the TSPs for the mitigation sites in 2011. It is misleading to imply the project sites on the figure are currently under evaluation for use as mitigation when the decision to utilize specific sites has been made.	CPRA	Do not concur. See response to comment number 69.
74	5-9			FWS Coordination. Please advise us if there was NPS consultation.	NPS	Coordination was conducted with the NPS for all impacts and required mitigation at Jean Lafitte National Historical Park and Preserve (JLNHPP).
75	5-10 to 5-18			Detail mitigation measures and BMPs discussed within the IERs to be implemented during construction. The text does not clarify if these measures and BMPs were in fact implemented during construction activities nor does the text state if additional wetland impacts occurred. Rather than copy/paste this text directly from the IERs, the CED should discuss the cumulative effects of HSDRRS construction activities on wetlands.	CPRA	These detailed mitigation measures and best management practices (BMPs) were included in the IERs and provided to the design team and implemented on a case-by-case basis. Where any design changes deviated from the original IERs, IER Supplementals and Addendums were prepared to address these changes. Cumulative impacts on wetlands from the HSDRRS are described in section 4.2.3.2.
76	5-14			Mitigation - According to the CED, to avoid the movement of sediments into Lake Pontchartrain the Service recommended that the coffer dam be used only during a slack tide. We recommend that the word "used" be replaced with "constructed" to accurately reflect our comment.	USFWS	Concur; change made as recommended.

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77	5-16			The description under the first paragraph of Section 5.3.1.3.7 seems to refer to the West Closure Complex, though it is not named. This narrative assumes that the structure was not constructed as of the cutoff date for this draft CED. However because this is such a large and significant feature of the overall project, there would be less opportunity for confusion if these few sentences were updated.	EPA	Do not concur. The cutoff date for the CED was established to ensure consistency in the assessment of impacts for all projects and resources. Additional details concerning the modifications to design and construction of the West Closure Complex, including mitigation measures implemented will be addressed in the supplement(s) to the CED.
78	5-21		Sect 5.3.1.5.6, bullet three	Edit to read: "… should be constructed within a 100 ft. wide corridor from the GIWW into the 404(c) area, impacting as little of the wetland habitat as feasible.	EPA	Concur; change made as recommended.
79	5-45			"Work that was originally proposed for foreshore protection as described in IERs #6 and #7 was not needed to meet the current 100 year level of risk reduction and therefore was performed." Add not before "performed" if this was the case.	CPRA	Concur; change made as recommended.
80	5-45 to 5-46		Monitoring	Isn't monitoring underway for the Bayou Aux Carpes 404(c) area?	CPRA	Yes, monitoring is currently underway. However, information in the CED is restricted to the cutoff date of November 2010 and July 2011 for construction activities. The status of monitoring activities for the Bayou Aux Carpes 404(c) area will be reported in the future supplement(s) to the CED.
81	5-48		Last sentence	Note that, as it currently looks, the long-term monitoring plan may well be developed after the augmentation features are constructed, but that sequencing was not stipulated.	EPA	Do not concur. Please see the last two sentences of the first paragraph on page 5-49 of the draft CED. They state that: "Long-term monitoring would be performed in conjunction with augmentation adaptive management. Since the water quality and hydrologic modeling were delayed, the development and implementation of the long-term monitoring began prior to the construction of any augmentation feature."

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82	5-49			Specific Monitoring Measures, Gretna-Algiers Sub-basin - The National Park Service has indicated that amphibian surveys will not be conducted within the Bayou aux Carpes area. This section should be revised accordingly.	USFWS	Concur; change made as recommended.

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83	6-8			"USFWS Recommendation 24: Acquisition, habitat development, and maintenance and management of mitigation lands should be allocated as first-cost expenses of the project, and the local project-sponsor should be responsible for operational costs. If the local project-sponsor is unable to fulfill the financial mitigation requirements for operation, then the CEMVN shall provide the necessary funding to ensure that mitigation obligations are met on behalf of the public interest". CEMVN Response 24: Construction of the project features is cost-shared between the Federal Government and non-Federal sponsor. However, costs for operation, maintenance, repair, replacement, and rehabilitation will be the responsibility of the non-federal sponsor.	LAC	In the case of USACE-constructed mitigation projects, mitigation actions will include construction activities, with the non-Federal sponsor responsible for operation and maintenance of functional portions of work as they are completed. On a cost shared basis, USACE will monitor completed mitigation to determine whether additional construction, invasive/nuisance plant species control, and/or plantings are necessary to achieve mitigation success. USACE will undertake additional actions necessary to achieve mitigation success in accordance with cost sharing applicable to the specific mitigation project and subject to the availability of funds. Once USACE determines that the mitigation has achieved initial success criteria, monitoring will be performed by the non-Federal sponsor as part of its operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) obligations. If, after meeting initial success criteria, the mitigation fails to meet its intermediate and/or long-term ecological success criteria, USACE will consult with other agencies and the non-Federal sponsor to determine whether operational changes would be sufficient to achieve ecological success criteria. If, instead, structural changes are deemed necessary to achieve ecological success, USACE will implement appropriate adaptive management measures in accordance with the contingency plan and subject to cost sharing requirements, availability of funding, and current budgetary and other guidance. The LPV HSDRRS and WBV HSDRRS Project Partnership Agreements between the CPRA of Louisiana (the non-Federal sponsor) and the Federal Government provide the required financial assurance for the anticipated mitigation projects. In the event that the non-Federal sponsor fails to perform, the CEMVN has the right to complete, operate, maintain, repair, rehabilitate or replace any project feature, including mitigation features, but such action would not relieve CPRA of its responsibility to meet its obligations and would not preclude the U.S. from pursuing any remedy at law or equity to ensure CPRA's performance.

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84	6-15			CEMVN Response 15, last paragraph - The Service requests that all natural resource agencies involved in mitigation be coordinated with to determine what certain mitigation activities will be necessary to meet the projects initial success criteria.	USFWS	Concur; change made as recommended.
85	7-2		Table 7-1	Add Clean Water Act Section 404(c) as a relevant law and regulation providing guidance in the development of the HSDRRS.	EPA	Concur; change made as recommended.
86	8-11		8.7	Other Non-Federal Sponsor Responsibilities - This section should indicate that the local sponsors will be aware of the need to coordinate changes with the natural resource agencies to ensure such changes do not result in additional unmitigated impacts or result in possible impacts to any threatened or endangered species.	USFWS	Concur; addition made as recommended.
87	9-3		Table 9-1	What is the basis of the finding of that wetland impacts from the HSDRRS were "moderate" when reviewed at the sub-basin level? Certainly, the cumulative direct loss of either 1,637 or 1,483 acres of wetlands could be considered significant or major (see below comment regarding discrepancy in direct wetland impacts). Is there a technical basis to support the finding of moderate wetland impacts in each sub-basin?	EPA	Do not concur. The classification for the magnitude of impacts is provided on page 4-1 of the draft CED. All impacts on wetlands and non-jurisdictional BLH are being fully mitigated through the restoration of wetlands and BLH in the same basin where impacts occurred. Therefore, impacts on wetlands and non-jurisdictional BLH were readily detectable, long-term, localized, and measurable (i.e., moderate). Because all impacts on wetlands and non-jurisdictional BLH will be fully mitigated, the impacts will not be long-term nor will they have substantial consequences on a regional scale (i.e., major).

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88	9-5			Fisheries - The second paragraph states, "the installation of rock shoreline, fronting protection, and breakwaters would provide more productive habitat for fisheries by improving edge habitat along shorelines." Natural shorelines provide the most suitable habitat for fisheries; this statement should be revised to acknowledge that while productive and possibly diverse, rock shorelines may not provide a more productive habitat for fisheries.	USFWS	The sentence was re-written for clarification. The following change was made: "The installation of rock shoreline, fronting protection, and breakwater would provide more productive habitat for fisheries by improving edge habitat along shorelines that previously were comprised of the unvegetated toe of a levee or floodwall."
89	9-5		Wetlands	Add mention of the impacts to the Bayou aux Carpes Clean Water Act Section 404(c) wetlands.	EPA	Concur; change made as recommended.
90	Appendix G			This presentation of monitoring data collected is not instructive without further explanation, including the purpose for the data collection, the implications of the data collected, and possibly maps of where the data was collected.	EPA	Appendix G is referenced throughout Volume I of the draft CED (e.g., table 1-3, pages 4-33, 4-72, 4-79, 4-112, and 5-45) and its purpose is to provide support to the information concerning proposed and ongoing monitoring efforts. Future monitoring reports and supplement(s) to the CED will provide additional information on the purpose, location, methods, and results of monitoring activities.

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91	General Comment			I believe that it is impossible to keep New Orleans from being destroyed by inundation therefore it is counterproductive to do anything other than relocate the people to higher ground. The money spent on temporary measures such as levees, floodwalls, gates, and pump stations would be better spent building a new city north of Lake Pontchartrain. That could be done in phases if the area to be protected were much smaller, limited to the financial district, the port, and the tourist quarter. However, I know that only the final catastrophe will get people to admit that such a strategy would have been the wise, prudent approach.	Michael Tritico, RESTORE	Thank you for your comment.

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92	General Comment			It concerns me that I could not find, among all the places where sea level rise is finally being talked about, any documentation of the actual projection which is being utilized, nor the source of that number, whatever it might be. What I have observed through the years is a reluctance, not just on the part of the Corps of Engineers, but also among all coastal restoration planners, to pick a number that fits with "doable" engineering projects instead of using a number that is more likely, or, as I would myself choose, the "worst case" number that would make the planning most robust. Since the projections for sea level rise keep shifting that "worst case" number upward, what I would have chosen as a limit a few years ago would now seem to be in the "more likely" range. The trend toward acceleration in the rate and the expected degree of rise in sea level should guide you toward the more prudent choice of a number that, although disturbing, will likely be the wiser choice.	Michael Tritico, RESTORE	The effects of relative sea level rise on HSDRRS designs are discussed in the section 2.8.2 in the 1% HSDRRS Design Report. Any hard structure (e.g., floodwall) is designed and built in light of future hydraulic boundary conditions. The implications of sea level rise for engineering and design is described in 2011 Engineer Circular titled "Sea-Level Change Considerations For Civil Works Programs". The Engineer Circular (EC 1165-2-212) is available online here: planning.usace.army.mil/toolbox/library/ECs/EC11652212Nov2011.pdf The new USACE EC states that three different sea level rise rates must be considered in planning and design. When USACE designed HSDRRS, before publication of the new EC, a relative sea level rise value of 1.0 foot was used which amplifies future 1% surge values by 1.5 to 2.0 feet. A relative sea level rise rate of 1.0 foot was chosen based on historic sea level rise rates at gages near the HSDRRS system. The effect of three different sea level rise rates on the level of risk reduction for the HSDRRS will be addressed in an upcoming report titled "Hurricane and Storm Damage Risk Reduction System Design Elevation Report."

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93	General Comment			I am not an engineer and so I do not know the seriousness of a couple of things I have picked out as an example of what would appear to be situations akin to what happened in Braithwaite during Hurricane Isaac. As I perceived that situation, there was something of a "funneling" effect. A lot of sea water moved into a smaller and smaller place and had no escape router so it flooded the community. That funnel effect looks likely for the area of St. Claude/Jourdan/Japonica streets at the head of the Inner Harbor Navigation Canal, where, on Map 6 I see no preventive measure. Similarly, although there is a Sector Gate near the mouth of Bayou St. John near Killdeer Street, it looks to me like there is also the likelihood that, during a storm surge situation, lake water velocities would be amplified at that location, just as they are in a hydraulic jack. Having such apparently vulnerable elements in a plan would seem to undermine its overall reliability, just as the failure of a few short stretches of levee during Katrina led to massive flooding.	Michael Tritico, RESTORE	The geometry described along Lake Pontchartrain is much too localized to cause the "funneling effect". The levee alignments along Lake Pontchartrain form a pocket at the mouth of Bayou St. John. This pocket is approximately 0.9 miles wide and 0.3 miles deep. The size of this pocket is much too small to amplify surge values. When strong north winds push surge to the south shore, surge piles up against the lakefront levees and into the pocket. Velocities are actually very low near the levee because the water has nowhere to go except up. A 1% surge is approximately 9.0 feet NAVD88 at the exterior of the pocket, and is approximately 9.1 feet NAVD88 at the lakefront levee. This is a 0.1 foot amplification due to the levee alignment and slightly longer fetch length. Bayou St. John is protected at this point at its confluence with the lake by a gated structure sufficient to provide the 100-year level of risk reduction. The HSDRRS was designed to account for potential amplification of storm surge where area geography would make that a concern. The Borgne surge barrier is an example of a structure constructed in response to a substantial "funneling effect". There is a large constrained area formed at the intersection of the GIWW levee, the IHNC surge barrier, and the St Bernard Floodwall, which has been characterized by some as "the funnel". In that area, the constrained alignment is nearly 8 miles wide and 5 miles deep. On the exterior of the Borgne surge barrier, there is a relatively high 1% surge, when compared to other areas of the system. At the eastern end of Lake Borgne, the 1% surge is approximately 15.2 feet NAVD88, while at the Borgne surge barrier the 1% surge is approximately 17.7 feet NAVD88. The effect is more significant because the constrained alignment is relatively large, but the Borgne surge barrier has been designed and constructed to reduce the risk of overtopping by a 100-year level (1%) storm surge. The area of St. Claude/Jourdan/Japonica streets at the Inner Harbor Navigation Canal (IHNC) is the location of the IHNC Lock that allows vessels to move from the higher water levels of the Mississippi River to the lower water levels of Lake Pontchartrain. During storm events the entire IHNC is closed from storm surge by the combination of gates at the Borgne barrier and Seabrook gated complex. The two structures provide the entire IHNC with the 100-year level of risk reduction.

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94	General Comment			My primary concern is the ongoing false hope caused by a system that cannot really protect people completely and indefinitely. That false hope is certain to lead to more drowning.	Michael Tritico, RESTORE	Thank you for your comment.
95	General Comment			I also have concerns hope about the ecological impacts. Keeping a major human presence in the area not fit for human inhabitation is not good for the people nor is it good stewardship of our natural resources. The longer people stay where they do not belong, the more telling will be the adverse impacts upon the coastal and oceanic ecosystems and the harder it will be to restore the proper dynamic equilibrium to those systems once people are removed.	Michael Tritico, RESTORE	Thank you for your comment.
96	General Comment			The extensive discussions in Chapter 4 show that the Corps does understand the many adverse impacts of its former and future work on ecosystems. The fact that public pressure has led to the "Emergency" declaration way of getting around the legal framework meant to diminish those impacts is no surprise to me. However, as I have said in the past, more than once, I would hope that someday the Corps might gather the courage to tell Congress things that are hard to hear such as: the cost of permanently ruining a coastal ecosystem is not offset by the half-century benefits to a regional economy.	Michael Tritico, RESTORE	The USACE complied with all laws and regulations in its design and implementation of the HSDRRS, including the National Environmental Policy Act (NEPA), through its compliance with the Emergency Alternative Arrangements.

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97	General Comment			The token "wildlife crossings" shown in the maps seem hardly sufficient since they are far apart. That is the kind of "mitigation" that seems so transparent and such an afterthought that is almost heartbreaking to think of what will really be happening to the wild lives	Michael Tritico, RESTORE	The wildlife crossings were designed through coordination with state and Federal resource agencies.
98	General Comment			The alternative arrangements pursuant to 40 CFR 1506.11 have resulted in further delays to assessment of impacts and to mitigation of the loss of ecosystem functions.	Scott Eustis, Gulf Restoration Network	Do not concur. The Emergency Alternative Arrangements were implemented to expedite design and construction of the HSDRRS. No delays to either the assessment of impacts or to mitigation have occurred due to the Alternative Arrangements.
99	General Comment			There remains a major question of when the emergency circumstances come to an end.	Scott Eustis, Gulf Restoration Network	The alternative NEPA arrangements only apply to the HSDRRS features, and only apply to the USACE's NEPA-compliance evaluation of these features. See response to comment number 25.
100	General Comment			The CED document is incomplete, especially pertaining to indirect impacts of the HSDRRS system upon wetlands and federal projects, including newly impounded wetland forests in Lake Catahouachie sub-basin, as well as federal lands and federal restoration projects enclosed by the system in New Orleans East and Chalmette Loop sub-basins.	Scott Eustis, Gulf Restoration Network	Do not concur. All mitigation and design measures implemented during construction to avoid indirect impacts on wetlands were described in the CED. Additionally, please see the response to comment number 41.
101	General Comment			Because of the impact assessment remains incomplete, mitigation plans lag behind. Construction of wetland features is a critical component of flood risk reduction in the New Orleans District, and their funding must be assured.	Scott Eustis, Gulf Restoration Network	The USACE is committed to mitigating all HSDDRS impacts on wetlands and non-jurisdictional BLH. As was described in the draft CED, two mitigation PIERs will be released for public review describing the proposed mitigation for these impacts on wetlands. Sufficient funds have been budgeted and set aside to complete mitigation for HSDRRS impacts.

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102	General Comment			Given the failure of this process to take a hard look at the impacts and evaluate alternatives for risk reduction that synthesize natural and built risk reduction features, we protest the use of such alternative arrangements in the future.	Scott Eustis, Gulf Restoration Network	Thank you for your comment.
103	General Comment			What are the anticipated completion dates of the mitigation IERs, IER 36, and IER 37?	Jason Smith, Jefferson Parish Department of Environmental Affairs	It is currently anticipated that the PIERs will be completed by December 2013.
104	General Comment			Please take any necessary steps to obtain and/or update all necessary approvals and environmental permits regarding this proposed project.	Louisiana Department of Environmental Quality (LDEQ)	The cutoff date for information to be included in the CED is November 15, 2010 for completed IERs and July 2011 for completed construction. All approvals and environmental permits associated with these projects have been included in the draft CED. Future supplement(s) to the CED will include any necessary approvals and environmental permits acquired after these cutoff dates.
105	General Comment			If your project results in a discharge to waters of the state, submittal of a Louisiana Pollutant Discharge Elimination System (LPDES) application may be necessary.	LDEQ	An LPDES stormwater general permit for construction activity was applied for prior to all construction.
106	General Comment			If the project results in a discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify its LPDES permit before accepting the additional wastewater.	LDEQ	The HSDRRS projects would not result in a discharge to an existing wastewater treatment system.

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107	General Comment			All precautions should be observed to control nonpoint source pollution from construction activities. LDEQ has storm water general permits for construction areas equal to or greater than one acre. It is recommended that you contact the LDEQ Water Permits Division at (225) 219-9371 to determine if your proposed project requires a permit.	LDEQ	See response to comment number 105.
108	General Comment			If your project will include a sanitary wastewater treatment facility, a Sewage Sludge and Biosolids Use or Disposal Permit application or Notice of Intent must be submitted no later than January 1, 2013. Additional information may be obtained on the LDEQ website at http://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx <http://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx> or by contacting the LDEQ Water Permits Division at (225) 219- 9371.	LDEQ	The HSDRRS projects would not include sanitary wastewater treatment facilities.
109	General Comment			If any of the proposed work is located in wetlands or other areas subject to the jurisdiction of the U.S. Army Corps of Engineers, you should contact the Corps directly regarding permitting issues. If a Corps permit is required, part of the application process may involve a water quality certification from LDEQ.	LDEQ	Concur. All wetland impacts have been evaluated by USACE and water quality certifications have been obtained from LDEQ.
110	General Comment			All precautions should be observed to protect the groundwater of the region.	LDEQ	No effects on groundwater would occur from the HSDRRS construction.

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111	General Comment			Please be advised that water softeners generate wastewaters that may require special limitations depending on local water quality considerations. Therefore if your water system improvements include water softeners, you are advised to contact the LDEQ Water Permits to determine if special water quality-based limitations will be necessary.	LDEQ	No water system improvements, including water softeners, are included in the HSDRRS projects.
112	General Comment			Any renovation or remodeling must comply with LAC 33:III.Chapter 28, Lead-Based Paint Activities; LAC 33:III.Chapter 27, Asbestos-Containing Materials in Schools and State Buildings (includes all training and accreditation); and LAC 33:III.5151, Emission Standard for Asbestos for any renovations or demolitions.	LDEQ	No such renovations or remodeling are included in the HSDRRS projects.
113	General Comment			If any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents are encountered during the project, notification to LDEQ's Single-Point-of-Contact (SPOC) at (225) 219-3640 is required. Additionally, precautions should be taken to protect workers from these hazardous constituents.	LDEQ	If any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents are encountered, the contractor(s) will provide appropriate notification to the LDEQ and other agencies, as required. Construction contractors would be required to implement all applicable necessary best management practices to protect the environment and a Health and Safety Plan to protect the health and safety of employees. Additionally, CEMVN would have construction site inspectors at construction locations at all times to ensure compliance with all applicable rules, regulations, and contract specifications.

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114	General Comment			The USFWS submitted recommendations in Nov. 26, 2007 for minimizing adverse impacts on the natural environment from the entire HSDRRS project. A few of the significant recommendations follow with the Corps concurrence: "Recommendation 11: In general, larger and more numerous openings in a risk reduction levee better maintain estuarine-dependent fishery migration. Therefore, as many openings as practicable, in number, size, and diversity of locations should be incorporated into project levees." CEMVN Response 11: Concur." "Recommendation 13: Flood protection water control structures should remain completely open except during storm events. Management of those structures should be developed in coordination with the USFWS, NMFS, LDWF, and LDNR." CEMVN Response 13: Concur." "Recommendation 15: The number and siting of openings in flood protection levees should be optimized to minimize the migratory distance from the opening to enclosed wetland habitats.\ CEMVN Response 15: Concur." (from DCED p. 6-6). We request that the Final CED include tables listing the number of acres enclosed by the HSDRRS project for each IER segment, the status of those wetlands, and how the Corps plans to maintain the productivity of those wetlands over the life of the project. Any deterioration of the wetlands over the life of the project must be included as indirect impacts and stated as such in the Final CED.	LAC	Do not concur. Where wetlands were enclosed by HSDRRS features, they were quantified and described in the draft CED (e.g., Caernarvon floodwalls – page 4-34). Descriptions of how additional wetland enclosure avoidance during design were also provided (e.g., Lake Cataouatche levee - page 5-23). Further, nearly all wetlands within the HSDRRS were previously enclosed within the (pre-Hurricane Katrina) Hurricane Protection System and water control structures were either maintained or replaced to provide a similar hydroperiod (e.g., Bayou Sauvage National Wildlife Refuge). Additionally, see the response to comment number 41.

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115	General Comment			According to the Federal Register (USACE, 2007), the external engineering peer review was supposed to be made available to the public no later than the publication of the draft CED. According to the Draft CED, "The estimated completion date of Independent External Peer Review (IEPR) for all HSDRRS features, products, and activities is 2014." (p. ES-54-55). This process includes the completion of individual reviews, completion of summary reports, approval of peer review package, and posting for public release by Mississippi Valley Division. Based on this time schedule, the IEPR will come more than a year after the CED is completed. The intention of the External Peer Review was to provide the public with some certainty that the levees and structures were being built to avoid engineering. What happens if the project is built and later there are changes recommended by the outside expert? The IEPRs should be completed in a timely manner and the reports should have a positive impact on future projects.	LAC	Recommendations made by the IEPR will be considered by the USACE, and changes or remediation made to designs and constructed structures, as appropriate.

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116	General Comment			Several areas (IER-16, Lake Cataouatche) and (IER-10, Chalmette Loop) include significant wetlands on the protected side of the HSDRRS project. According to the DCED, these wetlands will remain in contact with the tidal influences and will only be closed off "during storms and high tides." The question is what happens during the 57 year life of the project when RSLR forces increased frequency of closure of gates and culverts to avoid inundation during periods of high water?	LAC	Structural operations as described by Water Control Plans were not defined by the cutoff date for the draft CED. Water Control Plans will define gate operations and these will be described in future supplement(s) to the CED. Continued sea level change and local subsidence will affect water levels in the protected side and flood side of the system. The magnitude of the change will also depend on factors such as vegetation changes in the marsh area, urbanization, and drainage system changes. As additional projects and sea level change affect the project area hydrology, the operation of the structures, as documented in the Water Control plans, may need to be revisited. Water Control Plans will be critical references in the levee system evaluation report prepared by USACE for levee accreditation. The Water Control Plans must be reviewed and updated periodically to ensure they are current and complete when levee accreditation is renewed. See response to comment number 43 for information on the standing instructions for IER-16.

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117	General Comment			This issue is especially significant for the Chalmette Levee, IER-10. What is the "trigger" used to close the structures? How many days per year will the interior wetlands be isolated from the GOM influence because of RSL rise? The closure should be addressed for each IER segment which has interior wetlands based on Corps' computer modeling. EPA (2013) expressed concern that the Central Wetlands, which are enclosed by the Chalmette Loop, are controlled by Bayou Bienvenue and Bayou Dupre sector gates. These sector gates would remain open "except during storms and high tides." (p. 5-43). EPA states that, "water elevation, which currently constitutes a high tide would be met with increasing frequency due to relative sea level rise." This is a similar situation to Morganza to the Gulf project. The Corps should include in the Final CED the criteria used to close the gates, and the future frequency of closure based on projected RSL rise for the life of the project.	LAC	Concur; Water Control Plans for gated structures are not available to be included in this version of the CED. See response to comment number 116 for information on Water Control Plans. Future supplement(s) to the CED will describe the proposed operations for the Bayou Bienvenue and Bayou Dupre sector gates.
118	General Comment			Violet Canal: Fresh water discharge through the Violet Diversion will be adversely impacted by increased closure frequency of the sector gates. How will the project affect proposed coastal restoration efforts? This should be included in the Final CED.	LAC	Design and operation of a future Mississippi River diversion at the Violet Canal will consider potential changes needed in the operations of the Bayou Dupre sector gate. Additionally, the design of a Mississippi River diversion at the Violet Canal could require further modifications to the Violet Canal and the sector gate and additional NEPA compliance.

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119	General Comment			It is stated that 5,128 acres of wetlands and BLH habitats (DCED p. 4-52) were lost by the construction of the HSDRRS. The mitigation of those wetlands losses will have a basic cost. How much has the Corps estimated for mitigation of impacts? Is this money set aside - to be available when the Corps purchases mitigation lands to compensate for wetlands impacts? What is the timeframe to institute the mitigation features? We support the USFWS's recommendation that money for purchase of mitigation should be allocated as first cost of the project. There have been many occasions where the money for a public works project "ran out" and the low priority mitigation requirements were forgotten.	LAC	Thank you for your comment. The details associated with the mitigation alternative development and selection will be provided in the mitigation PIERs. USACE has allocated sufficient funding for the appropriate mitigation of wetlands and non-jurisdictional BLH impacted by the HSDRRS. The non-Federal sponsor is responsible for the operation and maintenance of the constructed mitigation projects.

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120	General Comment			Morganza to the Gulf: The impacts to enclosed wetlands over the life of the project area are not included in the draft CED. For example, in the Morganza to Gulf PEIS it was recognized that relative sea level rise (RSLR) would change the future closure of openings to interior wetlands: "Under future conditions, closure frequency could increase if the closure trigger is not adjusted to account for sea level rise. For example, under existing conditions, HNC floodgate closure (based on a 2.5-ft closure stage only, not the salinity triggers) would occur approximately 1.5 days per year. If the trigger remained the same through 2085, low RSLR would require closure 5 days per year by 2035 and 168 days per year by 2085 (refer to RSLR rates in table 3-1). Intermediate RSLR would require closure for 15 days per year by 2035 and 354 days per year by 2085. High RSLR would require closure for 24 days per year in 2035 and 365 days per year in 2085. To prevent frequent structure closings, operation plans will need to be re-evaluated periodically and closure trigger elevations may need to be increased if significant sea level rise occurs." USACE (2013b, p. 81 in LAC, 2013).	LAC	The Morganza to the Gulf EIS was not complete prior to the November 2010 cut-off for inclusion in the CED. Furthermore, because it is not a HSDRRS project, evaluation of impacts of that project are more appropriately contained in the NEPA evaluations related to that project. See response to comments number 43 and number 116 for details of the Water Control Plans describing operations for the gated structures within the HSDRRS.

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121	General Comment			We attended most of the early public meetings on the HSDRRS project. Of continued concern to us, has been the reluctance by the NOD to provide technical information on issues raised at public meetings. In most cases when we asked for technical data (that the Corps used to support its statement at the meeting), we were told that a FOIA request was required to receive the information. This is contrary to the position that CEQ and the Corps took, in support of a free flow of information between the agencies and the public. We attended these meetings in 2006 with the USACE, EPA, CEQ and NGOs to develop the Alternative Arrangements. We have found a continued reluctance on the part of the NOD to provide information requested. In some cases, information requested under FOIA was provided only after a 90 day period. This is an unacceptable policy. In fact, the omission of critical information in IER-18, 19 stimulated a letter requesting a meeting with CEQ and NOD to discuss the deficiencies (LAC, 2007). It was the LAC that brought to the attention of the Corps that the Bayou aux Carpes 404(c) area was being designated as a borrow "staging" area. The Corps' maps continued to show that designation at subsequent public meetings for several weeks.	LAC	Public comment and involvement in the HSDRRS planning process is encouraged. The USACE endeavors to timely respond to all requests for information. These requests should be processed through the Freedom of Information Act process to meet USACE guidelines and regulations, and the USACE does recognize it requires additional effort from the public and additional time to honor those requests.

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122	General Comment			Kesel 1987, is also an outdated reference for sediment load reductions in the Mississippi River. We offer Mead Allison's as an appropriate reference. For example: Allison, M.A., Demas, C.R., Ebersole, B.A., Kleiss, B.A., Little C.D., Meselhe, E.A., Powell, N.J., Pratt, T.C., and Vosburg, B.M., 2012. A water and sediment budget for the lower Mississippi-Atchafalaya River in flood years 2008-2010: implications for sediment discharge to the oceans and coastal restoration in Louisiana. *Journal of Hydrology* 432/3:84-97. Ehab Mesehle also may have some appropriate publications on sediment budgets.	NPS	Concur. Reference modified as suggested.
123	General Comment			A Wetland Statement of Findings, per PM 77-1, will be required for compensation activities on National Park Service federal lands.	NPS	Concur
124	General Comment			A concern for this Mississippi Gulf Coast is that the La State Master Plan of protecting Lake Pontchartrain will flood South Mississippi more now than in the past.	Mike Smith, City of Waveland	Thank you for your comment. The State of Louisiana would be the appropriate party to study potential results of project proposed under the State's Coastal Master Plan.
125	General Comment			Status of MRL height in St. Bernard and East Plaquemines. Particular at Caernarvon Junction of HSDRRS and MRL.	Ray Garofalo, State Rep 103	The WBV project ties into the west bank Mississippi River Levee (MRL) at river miles 70 and 118.5 and the MRL elevations were raised from river miles 70 to 85.5 to meet the 1-percent HSDRRS requirements (IER #33). The LPV project ties into the MRL at the Caernarvon floodwall (river mile 81.5) and extends up river to river mile 87. No changes in MRL heights have occurred in that reach of the MRL on the east bank of the MRL within the HSDRRS area. The height of this levee meets the requirements for levee certification.

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126	General Comment			Seek clarification of vegetation policy	Roy Arrigo,17th St. Canal Coalition	The USACE's vegetation management policy for levees is found in Engineering Technical Letter (ETL) 1110-2-571 *Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures* date 10 April 2009.
127	General Comment			Does any Corps policy require local sponsors to increase existing real estate interest in order to attain minimum toe plus 15 feet inspection zones?	Roy Arrigo,17th St. Canal Coalition	In accordance with USACE guidance (ETL 1110-2-571), the vegetation-free zone (VFZ) is a minimum of 15 feet from a levee. For an existing project, if the existing real estate interest is less than 15 feet, then the vegetation free zone shall be the maximum attainable within the existing real estate interest.
128	General Comment			Did the Corps request Louisiana to increase levee inspection zones from toe plus 6 feet real estate interest to toe plus 15 feet real estate interest statewide?	Roy Arrigo,17th St. Canal Coalition	The USACE is aware of a Louisiana statute that authorized levee districts to remove obstructions from within 6 feet of a levee. That law was amended in 2011 to authorize removals within 15 feet of a levee. However, the USACE did not request this change to the state law.
129	General Comment			In cases where the existing real estate interest was levee toe plus 6 feet, does this circumstance threaten the certification of those levees?	Roy Arrigo,17th St. Canal Coalition	In addition to the VFZ that is described in response to comment number 127, the ETL identifies a "Vegetation Management Zone" (VMZ) which extends beyond the VFZ. The ETL provides for evaluation and the potential removal of vegetation from within the VMZ as needed to address concerns about impacts to a project. The USACE communicates risk associated with the VFZ and the VMZ to local sponsors, parish officials and the public through various means, including the Continuing Eligibility Inspection Reports. Such risks may also be noted in reports that evaluate a levee system for accreditation in the NFIP. The USACE was asked to prepare the 2013 Levee System Evaluation Report (LSER) for the evaluation of the HSDRRS, including the outfall canals. In that report, the USACE considered the trees that had been removed in the 2007 to 2009 timeframe and it identified only one tree, near the intersection of Veterans Highway and 17th Street Canal that would require removal. A plan has been developed for the removal. As of April 2013, the HSDRRS is accredited in FEMA's NFIP.

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130	General Comment			Did the Corps notify Louisiana that 6 foot inspection zones were a threat to levee certification statewide?	Roy Arrigo,17th St. Canal Coalition	The USACE was aware of the state law that authorized removals within 6 feet of a levee, but the USACE did not notify the State that it would threaten levee certification statewide. As noted in response to comment number 127, the ETL acknowledges that the width of the VFZ for an existing project may be less than 15 ft, depending on the extent of the real estate interests. As noted in response to comment number 129, the HSDRRS is accredited in FEMA's NFIP.
131	General Comment			Have Louisiana levees with toe plus 6 foot inspection zones actually met certification?	Roy Arrigo,17th St. Canal Coalition	A levee in Louisiana may qualify for certification, even if the width of the existing real estate interest is less than 15 feet. As noted in response to comment number 129, the HSDRRS has been accredited in FEMA's NFIP.

Comment - Response Matrix on the Draft Hurricane and Storm Damage Risk Reduction System (HSDRRS) Comprehensive Environmental Document (CED) Phase I

#	Location			Comment	Reviewer	Preparer's Response
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132	General Comment			In cases where levees with toe plus 6 foot inspection zones have been certified, provided that these inspection zones are maintained as they were when certified, can this levee certification be rescinded for reasons of inadequate inspection zones sizes?	Roy Arrigo,17th St. Canal Coalition	The current LSER that will be provided to FEMA for the HSDRRS' accreditation in the NFIP was based on the existing condition of the entire HSDRRS with respect to the local sponsor's and CEMVN's ability to operate, maintain, inspect, and flood fight the levee system, irrespective of any perceived "toe plus 6-foot" inspection zone. As long as the current condition of the levee system (i.e., with respect to encroachments, vegetation, etc.) is maintained in its current state, it is unlikely that existing item(s) around the levee system would result in the USACE recommending de-accreditation in the NFIP, as long as those item(s) do not cause inability to operate, maintain, inspect, or flood fight the levee or that the item(s) will not threaten the integrity of the levee system. Performance of the levee system during future high water events will be evaluated. If any existing item(s) indicate concern for levee performance or inability to operate, maintain, inspect, or flood fight the levee for future events during those evaluations, that risk will be communicated to the local sponsor and FEMA and could impact accreditation in the NFIP. The USACE was authorized to fund the LSER for HSDRRS accreditation in the NFIP based on recent construction and improvements to the system. That report will expire no later than 10 years from the date signed. Future evaluations of the HSDRRS for accreditation in the NFIP will be the responsibility of the local sponsor, who will have the ability to select a private engineering firm to conduct that evaluation since they will fund the effort. Therefore, the USACE cannot comment on the future evaluations done by a private engineering firm with respect to existing encroachments, vegetation, etc., and whether or not those items would have to be removed to result in continued accreditation in the NFIP.
133	General Comment			My question is on the Corps' policy. Does Corps policy call on the local sponsor, the state in this case, to increase their real estate interest in order to attain the 15-foot vegetative free zone described by the policies?	Roy Arrigo,17th St. Canal Coalition	As noted in response to comment number 127, if the width of the real estate interests for an existing project is less than 15 feet, then the vegetation free zone shall be the maximum attainable within the existing real estate interest.

Comment - Response Matrix on the Draft Hurricane and Storm Damage Risk Reduction System (HSDRRS) Comprehensive Environmental Document (CED) Phase I						
#	Location			Comment	Reviewer	Preparer's Response
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134	General Comment			You mentioned that 1,637 acres of wetlands were impacted by some of your levee projects, maybe other projects as well. I'm wondering if there are any counter-actions going on to address that loss of wetland?	Bethany Garfield (Public Meeting Summary)	All jurisdictional wetlands and non-jurisdictional BLH impacted by the HSDRRS will be mitigated. Please see the response for comment number 42.
135	General Comment			What does the Corps have planned for the MS Gulf Coast region because we are already receiving the thanks from all the hurricanes? One of the evacuation route out on Highway 603 floods with a tropical storm now, which has never, ever happened in the past. That highway has been raised four or five feet over the years but it was four lanes in the beginning so what is the Corp's plan in the MS region or we just going to be left with all this water?	David Garcia, Mayor, City of Waveland, Mississippi	See response to comment numbers 139 through 142 for information about future modeling. The HSDRRS project is limited to the Greater New Orleans area, primarily located south of Lake Pontchartrain. The USACE Mobile District provides assistance in evaluating potential flood risk reduction measures in the Mississippi Gulf Coast. As summarized in the Preface of the CED, models do not indicate that any increased flooding has occurred along the Mississippi Gulf Coast as a result of HSDRRS construction.

Comment - Response Matrix on the Draft Hurricane and Storm Damage Risk Reduction System (HSDRRS) Comprehensive Environmental Document (CED) Phase I

#	Location			Comment	Reviewer	Preparer's Response
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136	General Comment			What is being done to protect all the parishes that boarder on Lake Pontchartrain on the north and western shore? Is anything going to be done to help these people? We had a little storm called Isaac come in and flooded some 60 miles away from the Gulf of Mexico with a storm surge that traveled up in there and flooded areas that had never been flooded before. I think it's about time for the Corps, if they have any input or whatever, to try and find out what project would best serve all of the people in the Lake Pontchartrain Basin. We have spent tons of money on Jefferson, Orleans, Plaquemines, but nothing has been done for the people on the on the north and western shores of Lake Pontchartrain and it's about time for someone to come up with the plan that something can be done and will be done. So far, it looks like this is not going to happen. I also have some kind of funny question. Is the Corps of Engineers having basically the same kind of problem that the federal government has; the Corps with Lake Pontchartrain, the federal government with illegal immigrants? The federal government says we will let them come across the border and we will handle them after they get here, well don't look at the water that way. Let's handle the water before it gets into Lake Pontchartrain because now we have the proof that what we have at the present time as far as protection does not protect everybody.	Rudy Newbeck (Public Meeting Summary)	The HSDRRS is limited to the Greater New Orleans area, primarily located south of Lake Pontchartrain. No USACE hurricane and storm risk reduction projects are proposed on the north shore of Lake Pontchartrain at this time. However, the Southeastern Louisiana Flood Control Project has proposed drainage projects for the north shore. Additionally, the USACE is studying potential risk reduction projects for West Shore-Lake Pontchartrain in St. Charles, St. James, and St. John the Baptist Parishes in the West Shore Lake Pontchartrain Hurricane and Flood Damage Risk Reduction Feasibility Study.

Comment - Response Matrix on the Draft Hurricane and Storm Damage Risk Reduction System (HSDRRS) Comprehensive Environmental Document (CED) Phase I

#	Location			Comment	Reviewer	Preparer's Response
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137	General Comment			Where the HSDRRS meets the Mississippi River Levee in Caernarvon, there is a drop off to the Mississippi River Levee and we've been told in other public meetings that the Mississippi River Levee on the West Bank is a foot higher than the levee on the East Bank. We are concerned that if we have a strong storm surge that comes up the river, we are going to be flooding on the East Bank even though we have the nice 31-32 foot wall now, we will flood from the Mississippi River. I have many constituents in that area who are concerned about this issue so we would like to have some input from the Corps of the possibility of that occurring number one, and number two, to find out if there are any plans to address this in the future.	Ray Garofalo (Public Meeting Summary)	Levee heights throughout the HSDRRS vary according to modeled storm surge. No two locations along the HSDRRS corridor would experience wave run-up from storm surge in the same way. Therefore, the differences in levee height between the East and West banks of the MRL tie-in is due to the modeled 100-year storm surge that would be experienced independently at those two locations. Also see response to comment number 125.

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#	Location			Comment	Reviewer	Preparer's Response
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138	General Comment			I have a question about Seabrook or the Industrial Canal and the gate that was placed there. I guess it's a multi-question regarding who determines when that gate is closed, when it's opened? My concern is that, because I'm a boater, and being a boater I've learned quite a lot about the waterways within Lake Pontchartrain and the Rigolets and Chef Pass and the lake is majorly filled by ingress of water of the Rigolets, Chef Pass and the Seabrook or the Industrial Canal, which is water coming up from the Gulf up the Mississippi River to Lake Borgne and into the Lake. By putting a gate between Seabrook and the MRGO, you have blocked off one of three ingresses of water into Lake Pontchartrain, which leaves water coming through Chef Pass and the Rigolets in the Lake, as well as all the rivers that dump into the lake. One of my concerns is that by controlling the gate at Seabrook, you are controlling and not allowing further water to get into the lake from that point. Once a storm has passed and the gates are still locked, you have not allowed water to egress out of the Lake as you've taken out one of three pathways for the water to leave the lake, which means water is being retained more in the lake, duration wise. I guess my concern is what time do you close the gate, whose closing the gate and when does it reopen to figure out that time?	Margaret Longstreet (Public Meeting Summary)	Currently gates close in response to storm threats. After the threat of storm surge has completely passed, gates are re-opened. Water Control Plans for the gates will be prepared that further defines how all gates operated in response to storm events, as well as gate operations in response to maintenance procedures. Water Control Plans for gated structures will be described in future supplement(s) to the CED.

Comment - Response Matrix on the Draft Hurricane and Storm Damage Risk Reduction System (HSDRRS) Comprehensive Environmental Document (CED) Phase I						
#	Location			Comment	Reviewer	Preparer's Response
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139	General Comment			"The flood impact of the levees and structures built on the east side of the Mississippi since 1965 to areas outside of the flood protection system as part of the HSDRRS has not been fully evaluated."	Dennis Strecker	The draft CED incorporates information from IERs completed through November 15, 2010 and provides a cumulative impact assessment of the initial construction components for 217 miles of the HSDRRS implemented before July 2011. The preface of the CED (P-1 to P-4) provides a summary of the hydrologic analysis that is currently available regarding impact of pre- and post100-year HSDRRS, specifically for Hurricane Isaac's impact outside the system. In the future, when all information is available, supplement(s) to the CED will be released that will describe the cumulative impacts for all the HSDRRS construction, including a hydrologic assessment, transportation analysis, mitigation and monitoring as well as an Independent External Peer Review of specific features. Only after all supplements to the CED have been released for public review, comments received and considered will the CEMVN District Commander approve the proposed recommended action and sign a Decision Record for the Final CED.
140	General Comment			"… until a storm such as Hurricane Betsy with and without the HSDRRS and compared for accuracy with known storm surge water levels from Betsy, there is no certainty of the impact of the HSDRRS has on areas outside the system."	Dennis Strecker	A "Cumulative storm surge comparison of the Historical Lake Pontchartrain and Vicinity and West Bank and Vicinity and the 2012 100-year Hurricane and Storm Damage Risk Reduction System hydrologic modeling assessment" is in progress to evaluate impacts outside the system. This hydrologic assessment proposes to develop 1965, 2005, and 2012 versions of the SL16 mesh, representing the levee system in the years 1965, 2005, and 2012, and run simulations with ADCIRC+SWAN, of the following storms: Betsy, Camille, Juan, Katrina, Rita, Gustav, Ike, and Isaac with the best available data. Once complete, a hydrologic report would be released by November 2013 that would describe and evaluate the historical as well as the present cumulative storm surge impact of the completed HSDRRS and the surrounding area. This report and its findings would be incorporated into future supplement(s) to the CED.

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#	Location			Comment	Reviewer	Preparer's Response
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141	General Comment			"The Corps must revise all of their models and studies to include 100% of the HSDRRS before any CED of the system can be considered a valid and accurate representation of the environmental impact it has on the greater New Orleans area."	Thomas Thompson	A "Cumulative storm surge comparison of the Historical Lake Pontchartrain and Vicinity and West Bank and Vicinity and the 2012 100-year Hurricane and Storm Damage Risk Reduction System hydrologic modeling assessment" is in progress to evaluate impacts outside the system. This hydrologic assessment proposes to develop 1965, 2005, and 2012 versions of the SL16 mesh, representing the levee system in the years 1965, 2005, and 2012, and run simulations with ADCIRC+SWAN, of the following storms: Betsy, Camille, Juan, Katrina, Rita, Gustav, Ike, and Isaac with the best available data. Once complete, a hydrologic report would be released by November 2013 that would describe and evaluate the historical as well as the present cumulative storm surge impact of the completed HSDRRS and the surrounding area. This report and its findings would be incorporated into future supplement(s) to the CED.
142	General Comment			"The CED must not be approved until the full impact of the HSDRRS on the Lake Pontchartrain basin is known."	Thomas Thompson	The draft CED Phase I incorporates information from IERs completed through November 15, 2010 and provides a cumulative impact assessment of the initial construction components for 217 miles of the HSDRRS implemented before July 2011. The preface of the CED (P-1 to P-4) provides a summary of the hydrologic analysis that is currently available regarding impact of pre- and post100-year HSDRRS, specifically for Hurricane Isaac's impact outside the system. In the future, when all information is available, supplement(s) to the CED will be released that will describe the cumulative impacts for all the HSDRRS construction, including a hydrologic assessment, transportation analysis, mitigation and monitoring as well as an Independent External Peer Review of specific features. Only after all supplements to the CED have been released for public review, comments received and considered will the CEMVN Commander sign a CED decision record signaling completion of the cumulative impact analysis for the HSDRRS.

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#	Location			Comment	Reviewer	Preparer's Response
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143	CED Volume II			Appendix D Site Location Maps - Several borrow sites, listed below; appear to have boundaries that do not reflect those shown in the IER. Some may have been modified post-IER, but that should be noted somewhere in the CED and/or appendix: • Westbank D • Westbank E Phase 1 • Riverbirch Phase 2 • Contreras Dirt • Acosta 2	USFWS	Concur; changes made as recommended.
144	CED Volume II			Additional maps needing other revision include: • Churchill Farms – only shows planned excavation , not the entire environmentally cleared area, which could all potentially be excavated • Stumf 1 and 2 – boundaries are incorrectly mixed together. • Tac Carre appears to be misplaced to the south • Idlewilde Stage 1 and 2 boundaries reversed in the CED • Tabony and Brad Buras labels are reversed in the CED • Willowbend Phase 1 shows only about half of the site	USFWS	Concur; changes made as recommended.
145	CED Volume III			Appendix G, Page 1 – A Title and legends need to be added to this table for clarification.	USFWS	Concur; change made as recommended.

Comment - Response Matrix on the Draft Hurricane and Storm Damage Risk Reduction System (HSDRRS) Comprehensive Environmental Document (CED) Phase I

#	Location: Page	Location: Line	Location: Section	Comment	Reviewer	Preparer's Response
146	General Comment			Several of us planned to come to the meeting Tuesday at the Greek Church but at the last minute we were not able. We would like to see more options here because of the importance of the undertaking. We would like to have more practical opportunity to learn what you have done. So, yes, we would like to have additional public presentation, and hopefully a little closer to Lower Ninth Ward where your work is of vital concern.	John Koeferl for Holy Cross Neighborhood Association New Orleans	A public meeting was held on 26 March 2013 at CEMVN as requested.
147	General Comment			Per the Notice of Intent published in the Federal Register in 2007: • The CED will incorporate by reference and address the work completed and the work remaining to be completed on a systemwide scale and a final mitigation plan. The IERs are not incorporated by reference; instead large chunks were copied/pasted into the CED. A final mitigation plan is not included. • The CED will include a discussion of how the individual IERs are integrated into a systematic planning effort. This is not captured in the CED.	CPRA	Do not concur. The information from the IERs were summarized in the CED for ease of reference by the reader. All information from IERs were referenced to the appropriate IER or IER Supplemental so additional information could be obtained by the reader. The CED describes the HSDRRS as a system and provides the reader the background as to how the separate projects described independently by IERs are connected to provide an entire system for providing the 100-year level of risk reduction for the Greater New Orleans area.

#	Location			Comment	Reviewer	Preparer's Response
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148	General Comment			The HSDRRS CED should at a minimum qualitatively assess such potential adverse impacts in the Central Wetlands and other aquatic areas that could be affected by the HSDRRS gates and water control structures. To address uncertainties regarding the future rate of relative sea level rise, this assessment should consider a range of potential changes in water elevations. In the case of the Chalmette Loop and Central Wetlands, this assessment should include consideration of the potential effects of increased closure frequency on proposed coastal restoration efforts, particularly the Violet Diversion.	EPA	There are no anticipated changes in the Water Control Plans at Bayou Bienvenue or Bayou Dupre as a result of the HSDRRS. If Water Control Plans change, those changes and the potential for impacts on the Central Wetlands will be described in future supplement(s) to the CED. Also, see response to comments number 117 and number 118.
149	General Comment			We encourage the Corps to accelerate the pace of implementation of compensatory mitigation for the HSDRRS. To ensure the effectiveness of this work and compliance with the pertinent laws and regulations, we recommend that the CED contain an explicit commitment to fully address the 12 compensatory mitigation plan components required by the 2009 Department of Defense and EPA final rule regarding compensatory mitigation for the losses of aquatic resources.	EPA	The USACE remains committed to implementing compensatory mitigation for HSDRRS habitat impacts as quickly as possible. It is assumed that the "12 compensatory mitigation plan components" mentioned are the components identified in 33 CFR §332.4(c)(2) through 332.4(c)(13), published in 2008. The HSDRRS mitigation IERs seeking approval to implement USACE-constructed mitigation projects will contain information regarding each of these 12 mitigation plan components, as applicable.

Comment - Response Matrix on the Draft Hurricane and Storm Damage Risk Reduction System (HSDRRS) Comprehensive Environmental Document (CED) Phase I

#	Location			Comment	Reviewer	Preparer's Response
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150	General Comment			Overall, the CED presents a good summation of the implementation of alternative arrangements (including the extensive coordination undertaken), project features constructed and the resulting impacts to significant resources. The Service has previously brought attention to the amount of time being required to finalize mitigation plans and urges the rapid implementation of mitigation to ensure additional temporal impacts do not have to be incorporated into mitigation features.	USFWS	Thank you for your comment. See the responses to comment numbers 103 and 149.
151	General Comment			We built high walls, beefed up the pump stations and capacity. Where does this water go? Does it pump outside the protection, or circulate inside the walls of protection? A slow moving rain maker will stress the system if it doesn't pump outside the system. If there is a breach, over topping, we will drown inside the system designed to protect us. People will not leave. They have a misconceived faith the system is fail proof.	Edward Chauppetta	Precipitation that falls within the protected side of the HSDRRS is removed via pumps that lift stormwater out of the HSDRRS and into adjacent water bodies, such as Lake Pontchartrain.

Comment - Response Matrix on the Draft Hurricane and Storm Damage Risk Reduction System (HSDRRS) Comprehensive Environmental Document (CED) Phase I						
#	Location			Comment	Reviewer	Preparer's Response
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152	General Comment			Another concern is raising the river levees. I live in St. Bernard where they are anticipating a bike path atop the levy. I personally rather put the monies into more protection, even though the money was allocated for that purpose. Someone suggested going ahead with the path. He stated they did the same in Jefferson Parish. The Army Corp supposedly came back and removed the path structure and raised the levy. Haven't we wasted enough money. Don't be influenced by politics. Saving lives and property comes first.	Edward Chauppetta	Thank you for your comment. Access is available at the top of all levees for vehicles for the purpose of levee inspection and maintenance. In some of the Mississippi River levee reaches, bike paths have been built on the levee top access roads including a portion of the Mississippi River levee on the East Bank Jefferson Parish.
153	General Comment			The third concern is dredging the river to 50 ft. That's fine for commerce. A lot of study needs to go into this project. As I stated I live in St. Bernard. There is a crescent or severe turn at Violet. When the river is high and flowing frantically it tears away at the batture. There are areas where the river gets close to the levy. We have a paved embankment. This a good feature but my concern is what is going on beneath the concrete at river's edge. They routinely line the turn with rocks to stabilize the area.	Edward Chauppetta	The Mississippi River is maintained for both flood protection and for navigation. In some Mississippi River reaches, where river scour is more severe, the embankment of the river is hardened to reduce the impacts of river scour on the base of the levee. The purpose of the hardened embankment is to decrease erosion along the slope and toe of the levee.

RESTORE
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March 30, 2013

Mrs. Sandra Stiles
U.S. Army Corps of Engineers
Regional Planning and Environmental Division South
Environmental Planning Branch; CEMVN-PDN
P.O. Box 60267
New Orleans, LA
70160-0267

Comments on the Draft Comprehensive Environmental Document (CED) titled:
"Comprehensive Environmental Document Greater New Orleans (GNO) Area Hurricane Storm Surge Damage Risk Reduction System (HSDRRS)"

Dear Mrs. Stiles,

Thank you for sending me the hard copy of the CED Executive Summary and the CD of the whole report. Although I have not been able to do a really detailed study of the material, I believe that I get the overall message. I have the following comments:

1. As I have said many times in the past, I believe that it is impossible to keep New Orleans from being destroyed by inundation therefore it is counterproductive to do anything other than relocate the people to higher ground. The money spent on temporary measures such as levees, floodwalls, gates, and pump stations would be better spent building a new city north of Lake Pontchartrain. That could be done in phases if the area to be protected were much smaller, limited to the financial district, the port, and the tourist quarter. However, I know that only the final catastrophe will get people to admit that such a strategy would have been the wise, prudent approach.

2. Meanwhile, it concerns me that I could not find, among all the places where sea level rise is finally being talked about, any documentation of the actual projection which is being utilized, nor the source of that number, whatever it might be. What I have observed through the years is a reluctance, not just on the part of the Corps of Engineers, but also among all coastal restoration planners, to pick a number that fits with "doable" engineering projects instead of using a number that is more likely, or, as I would myself choose, the "worst case" number that would make the planning most robust. Since the projections for sea level rise keep shifting that "worst case" number upward, what I would have chosen as a limit a few years ago would now seem to be in the "more likely" range. The trend toward an acceleration in the rate and the expected degree of rise in sea level should guide you toward the more prudent choice of a number that, although disturbing, will likely be the wiser choice.

3. I am not an engineer and so I do not know the seriousness of a couple of things I have picked out as examples of what would appear to me to be situations akin to what happened in Braithwaite during Hurricane Isaac.

As I perceived that situation, there was something of a "funneling" effect. A lot of sea water moved into a smaller and smaller place and had no escape route so it flooded the community. That funnel effect looks likely for the area of St. Claude/Jourdan/ Japonica streets at the head of the Inner Harbor Navigation Canal, where, on Map 6 I see no preventive measure.

Similarly, although there is a Sector Gate near the mouth of Bayou St. John near Killdeer Street, it looks to me like there is also the likelihood that, during a storm surge situation, lake water velocities would be amplified at that location, just as they are in a hydraulic jack.

Having such apparently vulnerable elements in a plan would seem to undermine its overall reliability, just as the failure of a few short stretches of levee during Katrina led to massive flooding.

4. As I said above, my primary concern is the ongoing false hope caused by a system that cannot really protect people

completely and indefinitely. That false hope is certain to lead to more drownings.

However, I also have concerns about the ecological impacts. Keeping a major human presence in an area not fit for human habitation is not good for the people nor is it good stewardship of our natural resources. The longer people stay where they do not belong, the more telling will be the adverse impacts upon the coastal and oceanic ecosystems and the harder it will be to restore the proper dynamic equilibrium to those systems once the people are removed.

The extensive discussions in Chapter 4 show that the Corps does understand the many adverse impacts of its former and future work on ecosystems. The fact that public pressure has led to the "Emergency" declaration way of getting around the legal framework meant to diminish those impacts is no surprise to me. However, as I have said in the past, more than once, I would hope that someday the Corps might gather the courage to tell Congress things that are hard to hear, such as: the cost of permanently ruining a coastal ecosystem is not offset by the half-century benefits to a regional economy.

Meanwhile, the token "wildlife crossings" shown in the maps seem hardly sufficient since they are so far apart. That is the kind of "mitigation" that seems so transparent and such an afterthought that it is almost heartbreaking to think of what will really be happening to the wild lives.

Thank you for the opportunity to submit these comments.

Sincerely, Michael Tritico

Michael Tritico, Biologist and President of RESTORE

Restore Explicit Symmetry To Our Ravaged Earth

Michael Tritico
P.O. Box 233
Longville, LA
70652

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Mrs. Sandra Stiles
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70160026767

-----Original Message-----
From: Carithers, Clay MVN
Sent: Thursday, March 28, 2013 6:31 AM
To: Behrens, Elizabeth MVN
Cc: Stiles, Sandra E MVN; Wilkinson, Laura L MVN
Subject: RE: Message from Unknown sender (5047314625) (UNCLASSIFIED) - RE CED RE MITIGATION IERs

Libby ---
Below is the voicemail message and my initial stab at response. Your turn now. Email final response to LL.

Clay

Voicemail message from Jason Smith, Jefferson Parish Dept. of Environmental Affairs, left on 27 March 2013 --- "What are the anticipated completion dates of the mitigation IERs, IER 36 and IER 37?"

Response ----
Your question pertains to the IERs being prepared for the Lake Pontchartrain and Vicinity (LPV) HSDRRS Mitigation Project (IER 26) and the West Bank and Vicinity (WBV) HSDRRS Mitigation Project (IER 37). Note that for each of these mitigation projects, CEMVN is first preparing a Programmatic IER (PIER) which will be followed one or more tiered IERs (TIERs). Each PIER will address the overall plan for mitigating unavoidable habitat impacts resulting from construction of the applicable portions of the Greater New Orleans HSDRRS. However, each PIER will only seek authorization to implement the Tentatively Selected Plan (TSP) that involves purchase of credits from a mitigation bank. The TIERs will seek authorization to implement the remaining TSPs which all involve Corps-constructed mitigation.

It is currently anticipated that the PIER for LPV mitigation (e.g. PIER 36) will be released for public review around April 2013. We are still in the process of developing the schedule for the LPV mitigation TIERs. Due to unforeseen delays, we are presently uncertain as to when the PIER for WBV mitigation (e.g. PIER 37) will be released for public review although we hope to be able to release PIER 37 by the end of this year. We are still in the process of developing the schedule for the WBV TIERs.

Original Message-----
From: Roy Arrigo [mailto:tranerep@hotmail.com]
Sent: Wednesday, March 20, 2013 10:22 PM
To: Stiles, Sandra E MVN
Subject: Public Comments/Questions

Ms. Stiles,

Please address the following questions at the public meeting scheduled at the Corp's Leake Street office on Tuesday March 26 at 6:30pm. I also request that this statement and these questions become a part of the official record for the CED-Greater New Orleans Area-HSDRRS.

Claims have been made that the Corps of Engineers required the state of Louisiana to increase the real estate interest of levee inspection zones from their existing toe plus 6 feet width to toe plus 15 feet, and that to not increase the real estate interest would jeopardize the certification of those levees where only a toe plus 6 feet real estate interest exist.

Please clarify:

1) Does any Corps policy require local sponsors to increase existing real estate interest in order to attain minimum toe plus 15 feet inspection zones?

2) Did the Corps request Louisiana to increase levee inspection zones from toe plus 6 feet real estate interest to toe plus 15 feet real estate interest statewide?

3) In cases where the existing real estate interest was levee toe plus 6 feet, does this circumstance threaten the certification of those levees?

4) Did the Corps notify Louisiana that 6 foot inspection zones were a threat to levee certification statewide?

5) Have Louisiana levees with toe plus 6 foot inspection zones actually met certification?

6) In cases where levees with toe plus 6 foot inspection zones have been certified, provided that these inspection zones are maintained as they were when certified, can this levee certification be rescinded for reasons of inadequate inspection zones sizes?

Please allow me to thank you in advance for addressing these questions at Tuesday's meeting.

Regards,

Roy Arrigo

6724 Bellaire Drive

New Orleans, LA 70124

Please excuse typos, sent from my iPhone.

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Mr Edward Chauppetta
2213 Munster Blvd
Meraux LA 70075

3-19-13

Attention Sandy Stiles:

I have a few concerns.
We built high walls, beefed up the pump stations and capacity.
Where does this water go?
Does it pump outside the protection, or circulate inside the walls of protection?
A slow moving rain maker will stress the system if it doesn't pump outside the system.
If there is a breach, over topping, we will drown inside the system designed to protect us.
People will not leave. They have a misconceived faith the system is fail proof.
Another concern is raising the river levees.
I live in St. Bernard where

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they are inticipating a bike path atop the levy.

I personally rather put the monies into more protection, even though the money was allocated for that purpose.

Someone suggested going ahead with the path. He stated they did the same in Jefferson Parish. The Army Corp supposedly came back and removed the path structure and raised the levy. Haven't we wasted enough money.

Don't be influenced by politics!

Saving lives and property comes first.

The third concern is dredging the river to 50ft.

That's fine for commerce. A lot of study needs to go into this project.

As I stated I live in St. Bernard. There is a crescent or severe turn at Violet. When the river is high and flowing frantically it tears away at the bottom.

There are areas where the river gets close to the levy. We have a paved enbankment.

This a good feature, but my concern is what is going on beneath the concrete at river's edge.

They routinely line the turn with rocks, to stabilize the area.

People live along the river and have no clue to what is going on.

Concerned citizen,
Edward J. Chiappetta

Mr Edward Chauppetta
2213 Munster Blvd
Meraux LA 70075

NEW ORLEANS LA 700
21 MAR 2013 PM 4 L

Sandy Stiles
Regional Planning and Environment Div.
U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, La. 70160-0267

The CED describes the five-parish HSDRRS with a cumulative impact analysis; identifies remaining data gaps, conceptually explains the status of the proposed mitigation plan, and informs on the development of long term operations and maintenance.

Speaker Request/Comment Card

Would you like to speak tonight? **Yes** ☐ **No** ☑

Comments: A CONCERN FOR THE MISS GULF COAST IS THAT THE LA STATE MASTER PLAN OF PROTECTING LAKE PONTCHTRAIN WILL FLOOD SOUTH MISS. MORE NOW THAN IN THE PAST

Name MIKE SMITH **Affiliation** CITY OF WAVELAND

Street 427 HWY 90 **Phone** 228-493-6643

City, St Zip WAVELAND, MS 39576 **Fax**

E-mail FIREMAN39576@ATT.NET

The CED describes the five-parish HSDRRS with a cumulative impact analysis; identifies remaining data gaps, conceptually explains the status of the proposed mitigation plan, and informs on the development of long term operations and maintenance.

Speaker Request/Comment Card

Would you like to speak tonight? **Yes** ☑ **No** ☐

Comments: Seek clarification of a Veg. Policy

Name Roy Arrigo **Affiliation** 17th St. Canal Coalition

Street 6724 Bellaire Dr **Phone** 504 432-4404

City, St Zip New Orleans, LA 70124 **Fax** None

E-mail traneRep@hotmail.com

The CED describes the five-parish HSDRRS with a cumulative impact analysis; identifies remaining data gaps, conceptually explains the status of the proposed mitigation plan, and informs on the development of long term operations and maintenance.

Speaker Request/Comment Card

Would you like to speak tonight? **Yes** [X] **No** [ ]

Comments: QUESTION: STATUS OF MRL HEIGHT IN ST. BERNARD & EAST PLAQUEMINES. ~~AT~~ PARTICURALY @ CARNARVON JUNCTION OF HSDRRS AND MRL.

Name RAY GAROFALO **Affiliation** STATE REP 103

Street ~~2~~100 PORT BLVD 2ND FL. **Phone** 504 279-1124

City, St Zip CHALMETTE, LA 70075 **Fax**

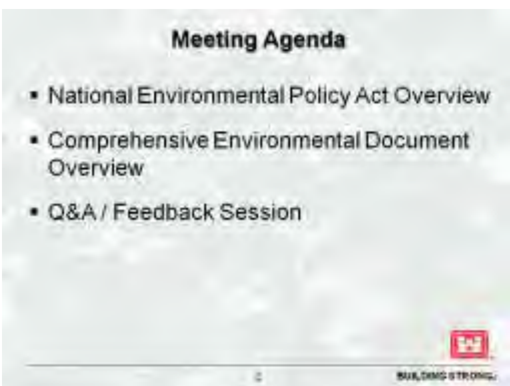
E-mail RAY@RAYGAROFALO.COM

Public Meeting Summary

Hurricane and Storm Damage Risk Reduction System Comprehensive Environmental Document Cumulative Benefits, Impacts, Mitigation, Data Gaps

Location	
Time	6:30 p.m.
Attendees	Approx. 30
Format	Open House Presentation
Handouts	• Comprehensive Environmental Document – Volumes I, II & III • Comprehensive Environmental Document – Executive Summary • Post-Isaac Hurricane Modeling Brochure
Facilitator	Rene Poche

Rene Poche: Thank you so much for coming out this evening. My name is Rene Poche and I'm with the public affairs office here with the Corps of Engineers and I will be facilitating tonight's meeting. A couple of things, if you have not signed in we ask that you do in the back near the entry. We will put you on the mailing list and can keep up with you by sending you information when it becomes available. I also ask that you hold all your questions until after the presentation for a couple of reasons. First, it helps us get through the presentation and more importantly, your question may be answered in the upcoming slides. So we will now get started.



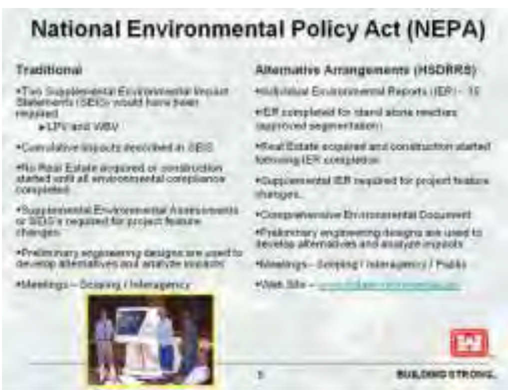
Here's tonight's agenda. We are going to look at the National Environmental Policy Act Overview, we are going to look at the Comprehensive Environmental Document Overview and then we are going to get to the question and answer feedback session.

How do we reduce risk? There's a variety of ways and this slide shows that. We start at the top with the initial risk and then there are ways we can reduce that risk. Here we call it buying down risk, as it is a shared responsibility with us, local partners and residents in the area. Here are some ways we can reduce that risk. Insurance, building codes, zoning, levee features, response plans, outreach. At the end of the day, you are going to have some type of risk as we can't eliminate risk

100% but we can reduce the risk. Everyone contributes to reducing that risk.

I'm going to turn it over now to Laura Lee Wilkinson, she's the environmental manager and she will take you through the majority of the meeting.

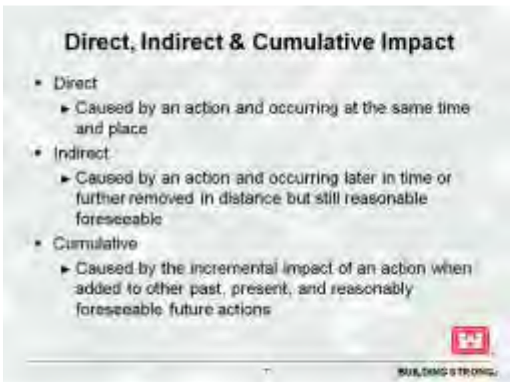
Laura Lee Wilkinson: The last time we had a public meeting we had some scoping meetings on the comprehensive environmental document and that was back in September 2009. I don't if you remember that specifically, but I thought I would go through some summary to let you know how our process works. We were granted alternative arrangements by the president's Council on Environmental Quality back in March 2007 and the reason we asked for this expedited process was to allow us to implement the Hurricane Storm Damage Risk Reduction System and complete the projects by June 2011 or as quickly as possible. This Hurricane Storm Damage Risk Reduction System provides a 1% risk reduction system to the New Orleans metropolitan area. These alternative arrangements allowed us to expedite the environmental process. We did a thorough analysis that allowed ways through public involvement to separate the system into pieces to expedite the process.



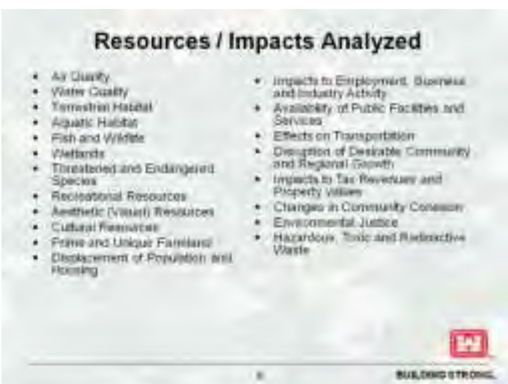
To walk you through this, we have a traditional process of implementing the National Environmental Policy Act and then we have the alternative arrangements. Some of the differences listed here, if we had done it the traditional way, we would to have to have done two environmental impact statements, one for the Lake Pontchartrain and Vicinity and another for the West Bank and Vicinity and it would have been five to seven years before we could have started construction because we would have to have done all human impact analysis, we would have to have done some scoping meetings in the beginning and then detailed impact analysis to have all designs in hand and all details worked out before we could have even moved to acquire real estate. So, with the alternative arrangements what we were able to do is have separate individual environmental reports for separate reaches of the Hurricane Damage Risk Reduction System, which I'm going to call from now on HSDRRS, and Supplemental Environmental Reports when there was a design change. The way to look at the larger picture of the entire system, as part of the alternative arrangements, when enough information was available we would come out with a Comprehensive Environmental Document and so that is why we are here tonight. We have enough information to provide a summary of the cumulative or the comprehensive impacts to November of 2010. I'm also going to share with you some other differences in that, as part of the alternative arrangements, I don't know how many of you have been to one of our public meetings, but since 2007 we've held upwards of 200 public meetings discussing different reaches or areas of this project implemented in the HSDRRS system. As for public involvement, we've hosted 6500 field trips to let the public, neighborhood associations or stakeholders know about the project. We even set up a dedicated website so, like a gentlemen asked me earlier about St. Charles Parish and he can go to the website and pull up the report and if you had comments or questions about that, you can email or call with specific questions.

Public Meeting Summary

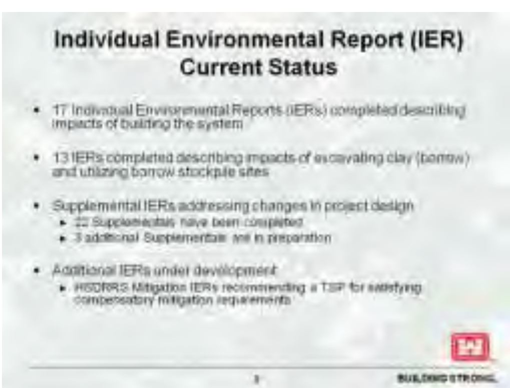
This slide shows you the Hurricane & Storm Damage Risk Reduction System for the New Orleans metro area and it encompasses St. Charles, Jefferson, Orleans, St. Bernard and Plaquemines Parishes; Plaquemines is not completely surrounded by the system though.



Some terms that we use to assess impacts as part of the NEPA Process are direct, indirect, cumulative impacts and they are defined here. A direct impact is caused by an action and occurring at the same time and place. An indirect, is an action occurring later in time or further removed in distance from the project and then cumulative is the incremental impact of an action when compared to past, present and reasonably foreseeable actions.



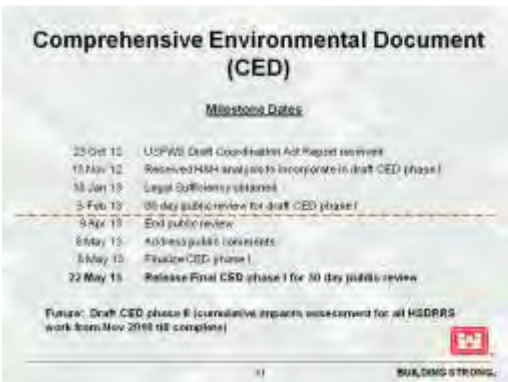
As part of the Comprehensible Environmental Document, we looked at resources and they are all listed here , things that the public holds dear, wildlife, wetlands, threatened and endangered species, but it’s also socio-economic impacts, impacts to tax revenues and property values, environmental justice, community cohesion; these are all things that are discussed in the Comprehensive Environmental Document.



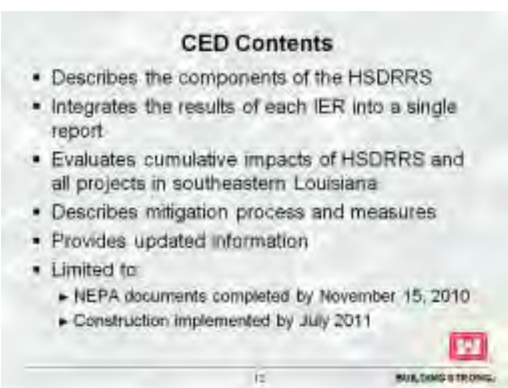
So what is the current status of all of these individual Environmental Reports? You can see the numbers here. We have 17 individual Environmental Reports that were completed and 13 IERs that were completed just to discuss the digging of borrow, which is materials that’s used to construct the levees. Expedited as this process was, there were some design changes and to make sure we had covered this and disclose the impacts to the public, we had 22 Supplemental IERs to discuss that and we actually now have three additional supplements that are in preparation and two other major IERs, which are the mitigation IERs that will be coming out in the near future. One will be for the Lake

Pontchartrain and Vicinity Impacts and the other will be for the West Bank and Vicinity.

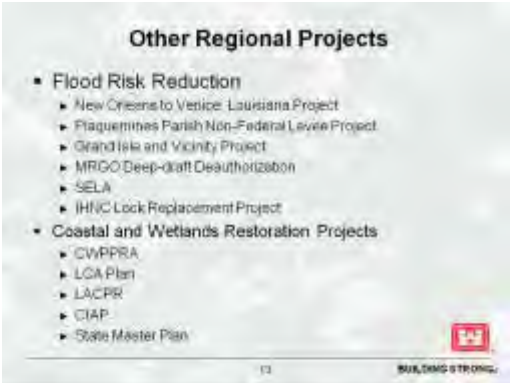
So this next slide shows you all of the 17 IERs and 22 different Supplements that I've previously discussed. The blue on this is completed and the red are those that are in progress. I had some questions earlier about the permanent pump station projects and we have a supplement coming out on that one so you can see IER S 5.a is in red, so it's in progress.



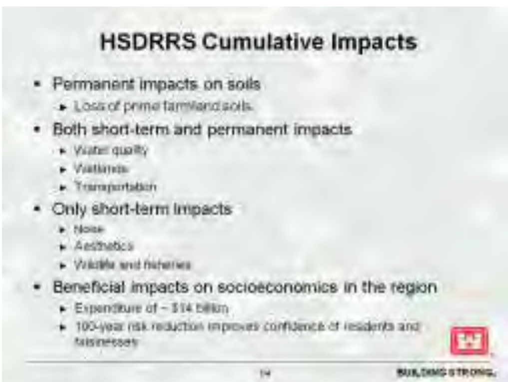
If you want to know details about each of these individual IERs, because these are just the titles with abbreviation, Appendix I in the CED has everything listed. We are now currently in the 60-day review process, it started on February 5th and ends on April 8th, so we are taking comments on this document and we are also taking comments here tonight. IF you want a hard copy, I have lots of hard copy left. It's a three-volume book with a nice 11 x 14 executive summary in the back. What I do want to keep stressing though, is this is the first phase o f the Comprehensive Environmental Document. The impacts and the cumulative effects analyzed in this document are for November 2010 as our cutoff date because we had so much information involved in the last seven years of this construction and the planning for this HSDRRS. We thought it best to put out as much information as you can absorb out there and when all construction is complete, we will complete out with a final phase two Comprehensive Environmental Document to cover everything from Nov. 2010 until construction is complete, which I think is now 2014 or 2015. We have some other projects that are still ongoing; we have a pump station that estimated in 2016. All of that information will be included in phase two.



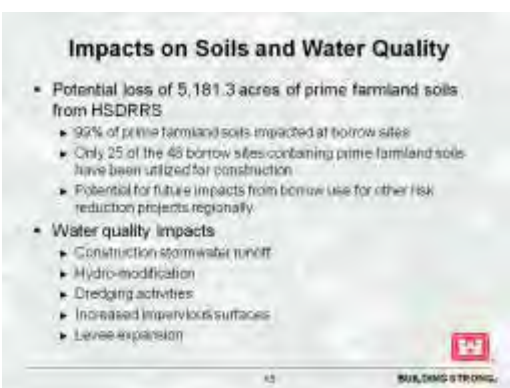
Because this is phase one of a now multi-phase document so we are not going to be signing a decision record on this Comprehensive Environmental Document as we will finalize it by including all comments received and responses and put it out for a 30-day public review. There is no decision to be made yet because we are still undergoing the project. So what does the CED contain? It describes components of the HSDRRS and it integrates it into one report, but there will be a second phase to this. It evaluates the cumulative impacts of HSDRRS as well as other projects in Southeastern Louisiana. It describes the mitigation process and measures that we implemented during construction. Currently we have such things as best management practices to minimize noise and dust and storm water runoff. If also provides updated information that may have changed since the original IER went out for public review. It is limited to Nov. 15, 2010 and construction that was implemented by July 2011.



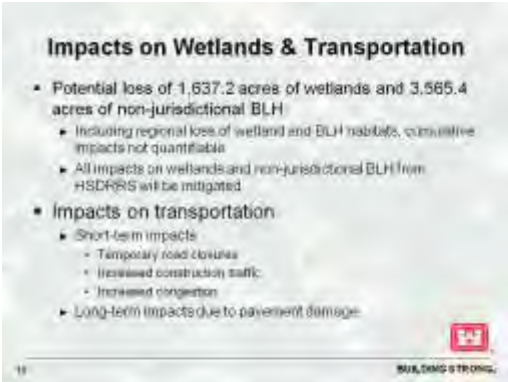
As far as the cumulative assessment of other regional projects that we looked at and compared it with, were those that are listed here like the New Orleans to Venice Project, the LACPR Study, the MRGO Draft, the authorization as well as the state master plan so other projects we looked at and compared what those impacts will do to our projects.



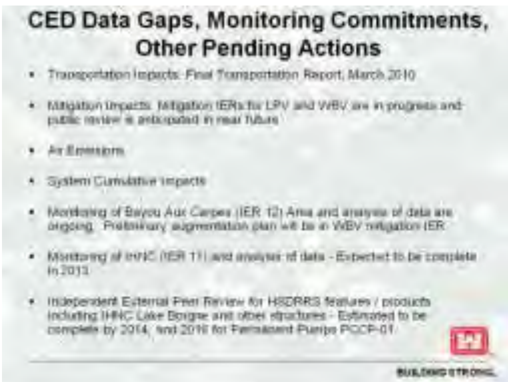
As far as cumulative impacts, the major impacts that we had was that there was a permanent impact on soils. Tables 2 and 3 of the executive summary on pages 45 and 46 show how all resources were impacted; there are some summary tables there. They are broken down by intensity, whether it's negligible, moderate or major and broken down by resource. If you want the details of everything, you can look at those two tables. On the impacts of socioeconomics, we actually had beneficial impacts when you thing about the amount of money that was spend to implement the Hurricane Storm Damage Risk Reduction System, that was 14 billion dollars that was spent in this area. We did our best to describe some things that are not necessarily quantifiable, but by putting them in a system that would provide 1% protection, it improved the confidence of residents and businesses in the area and as a result, you can see there's been rebuilding going on versus just abandoning. That is an example of some of the benefits; the next few slides will be the negative impacts.



The major impact that we had, had to do with the excavation of borrow material and the construction of the levee building and that makes sense. It was 114 miles that we constructed and it impacted about 5,181 acres to prime and farmland soils. Again, this is the estimate that was from Nov. 2010 and this acreage would be if all borrow pits were excavated and to date, we've only excavated 25 of the 48 that looked at or investigated. Some other impacts are water quality impacts. During construction when you construct a levee or floodwall, you have storm water runoff, you have hydro-modification, we had to do some dredging to construct the board barrier; these were all impacts having to do with constructing the system.



This slide will show you the acreage for wetlands. We had a potential loss of 1,637 acres of wetlands and 3.565 acres of non-jurisdictional bottomland hardwoods. Again, the majority of this had to do with excavation for construction of the levee system and the wetlands that were impacted had to do with the construction of the levees, not necessarily the excavation of borrow. Non-wet bottomland hardwoods were the majority of the impacts in the borrow material. Impacts for transportation, those come from general construction such as traffic delays, increased congestion and this coupled with the fact that we are not the only people in town doing construction as there is road way improves and other state and redevelopment projects and people rebuilding houses along side us constructing; this was all discussed.



This slide discusses the Data Gaps as to what the CED does not include or what we do not have information on currently but will be included, as best we can, in the next phase of this document. What we included in the phase one appendices, there is a final transportation report. This is the estimate of what traffic would have used and impacting around the metropolitan area, mostly talking about borrow materials used in constructing the levees. Again, it's an estimate and as more information is narrowed down and completed in these projects, we can look to see about adding additional information as it relates to actual construction amounts. The mitigation, as I mentioned that they are still ongoing, putting our IERs for mitigation for the West Band and Vicinity and Lake Pontchartrain and Vicinity projects so those projects are anticipated to put out for public review in the near future and those will have the absolute wetlands impacts as results of the HSDRRS system. We had some additional things to monitor with our construction impacts and had to with the IER 12 area, which was the Bayou Aux Carpes area and we've been monitoring in the Inner Harbor Navigation Canal mostly for water quality impacts and that monitoring, at least in the IHNC, the monitoring is completed and we are still working on the report for that, but it's expected to be completed this year. The IEPR or the Independent External Peer Review, this is ongoing and they set forth what plans and projects to review back in Sept. 2008 and they narrowed it down to 10 unique features that they are going to review and seven system applications. This had to reviewing design guidelines, the armoring manual, the iron weld pipe study as well as many others. These are expected to be complete in 2014 except for the permanent pump stations projects because it's protested so we are estimating that to be complete in 2016.

As far as comments that we have received thus far on the Comprehensive Environmental Document, it's been basically on the modeling and referencing to the recent storm Isaac and the impacts to surrounding areas. What we do have available is a report that is current because the CED is addressing those impacts from Nov. 2010 and Isaac occurred in 2012. So if you are interested specifically in the storm surge repairing with Hurricane Isaac with the 100-years HSDRRS system, this is the link where you can find that report to review with appendices. In Phase II, what we will do in work to incorporate this information.

Rene Poche: In addition to hearing what you have to say tonight, there are some other ways you can contact us and I direct your attention toward the center of the slide toward the bottom. You can contact Sandra Stiles and her information is there is you have any questions or comments that you would like to submit.

We are also out there on the internet in a variety of ways if you want to find out some of the things that we are doing. You can go like our Facebook page and we post there regularly. If you want to see some of the pictures of what is going on we have a Flickr site and you can look out there and see progress from start to finish. We also have a Twitter account and we also post videos on You Tube.

Some other resources available, we have nolaenvironmental.gov, which is a great tool to find out what is going on with all the projects. We also have a public website and you see the web address there. We are now going to move into our Q & A section. If you can state your name when Sarah comes to you, so we can get that into the record and your questions that would be helpful.

Clement Cole: Wondered if all the work on the 17th Street Canal has been finished.

Rene Poche: No, we still have some work we are doing out there.

Laura Lee Wilkinson: I'm not the project manager for the 17th Street Canal, but I'm the environmental manager for assessing current work or the temporary pump stations.

Clement Cole: The canal itself and the protection on the east side of the canal.

Laura Lee Wilkinson: That was a project that was discussed in IER 27 and there is still remediation work going on for the different reaches of the 17th Street Canal; it's an ongoing project. As far as the mouth of the canal and as I mentioned earlier, because of the protest on the project the contract hasn't necessarily been awarded so again, there will be a massive pump station [Inaudible] as well.

Craig Berthurd: I live on the 17th Street Drive and we were told on that on the east bank of 17th Street on the Orleans side that the Corps was completely finished with their work there, on the Orleans side, not the Jefferson side.

Laura Lee Wilkinson: No, we are still looking at doing some additional work like remediation.

Craig Berthurd: Like what?

Laura Lee Wilkinson: I believe there is some sheet pile they are looking to install.

Craig Berthurd: Where?

Laura Lee Wilkinson: It's adjacent to south of the interstate

Craig Berthurd: Is it extensive?

Laura Lee Wilkinson: No, it's five or six-hundred feet.

Craig Berthurd: And that's the only project hat you know of that's left on the Orleans side of the canal?

Laura Lee Wilkinson: I believe so and there is some work on the London Ave. Canal as well. Theirs is a few reaches on London on both the east and west side.

Rene Poche: We will verify the information and if it's anything different, we will get the information to you.

Ray Garofalo: I'm from St. Bernard Parish. I first want to thank you guys for protecting us and we appreciate everything you've done; we need it and appreciate it. My question regards the Mississippi River Levee heights. Can you address that or is that something I can enter into the record.

Rene Poche: Let's hear your question.

Ray Garofalo: Where the HSDRRS meets the Mississippi River Levee in Caernarvon, there is a drop off to the Mississippi River Levee and we've been told in other public meetings that the Mississippi River Levee on the West Bank is a foot higher than the levee on the East Bank. We are concerned that if we have a strong storm surge that comes up the river, we are going to be flooding on the East Bank even though we have the nice 31-32 foot wall now, we will flood from the Mississippi River. I have many constituents in that area who are concerned about this issue so we would like to have some input from the Corps of the possibility of that occurring number one, and number two, to find out if there are any plans to address this in the future.

Rene Poche: We have your comments and questions and we will get some information and get that to you. It's a bit complex to…

Ray Garofalo: Garret Graves just told me that you guys are doing work and doing a study to see if that's actually an eventuality or potentially an eventuality and I just wanted to come and get it on the record.

Rene Poche: We have it now and we will get back in touch with you.

Rudy Newbeck: I was trying to get some answers before the formal meeting started, but the answers that I'm getting are really no good. I'm going to rephrase my question. What is being done to protect all the parishes that boarder on Lake Pontchartrain on the north and western shore? Is anything going to be done to help these people? We had a little storm called Isaac come in and flooded some 60 miles away from the Gulf of Mexico with a storm surge that traveled up in there and flooded areas that had never been flooded before. I think it's about time for the Corps, if they have any input or whatever, to try and find out what project would best serve all of the people in the Lake Pontchartrain Basin. We have spent tons of money on Jefferson, Orleans, Plaquemines, but nothing has been done for the people on the on the north and western shores of Lake Pontchartrain and it's about time for someone to come up with the plan that something can be done and will be done. So far, it looks like this is not going to happen. I also has some kind of funny question. Is the Corps of Engineers having basically the same kind of problem that the federal government has; the Corps with Lake Pontchartrain, the federal government with illegal immigrants? The federal government says we will let them come across the border and we will handling them after they get here, well don't look at the water that way. Let's handle the water before it gets into Lake Pontchartrain because now we have the proof that what we have at the present time as far as protection does not protect everybody.

Rene Poche: To your question, the state master plan addresses barrier-type project on the east side that runs parallel to the railroad tracks over there. I'm not sure of what other projects they may have in that area, but I would ask that you take a look at the state master plan. We had on the west side, we did have one project but the funding hasn't been there for quite some times. I know that since the events of last August-September, those areas are being looked at again. That's about an in-depth an answer I can give you right now, but the best thing you can do is look at the state's master plan and talk to them about what their plans are for that area.

Rudy Newbeck: May I say something else please? This project that you are talking about on the eastern side of Lake Pontchartrain, would that be what is called a land bridge between Chef Menteur and the Rigolets?

Rene Poche: Yes, I think that's how some folks know it.

Rudy Newbeck: I've walked in that marsh many times before and I suppose the Corps now is going to build something like they did on the 17th Street Canal…

Rene Poche: No, this is a state…

Rudy Newbeck: And the soil will not hold.

Rene Poche: This is the state that is looking at this with their master plan. We don't have anything in there right now, so this is something the state is taking up.

Margaret Longstreet: Thank you for letting us come here and sharing the information with the public. I have a question about Seabrook or the Industrial Canal and the gate that was placed there. I guess it's a multi-question regarding who determines when that gate is closed, when it's opened? My concern is that, because I'm a boater, and being a boater I've learned quite a lot about the waterways within Lake

Pontchartrain and the Rigolets and Chef Pass and the lake is majorly filled by ingress of water of the Rigolets, Chef Pass and the Seabrook or the Industrial Canal, which is water coming up from the Gulf up the Mississippi River to Lake Borgne and into the Lake. By putting a gate between Seabrook and the MRGO, you have blocked off one of three ingresses of water into Lake Pontchartrain, which leaves water coming through Chef Pass and the Rigolets in the Lake, as well as all the rivers that dump into the lake. One of my concerns is that by controlling the gate at Seabrook, you are controlling and not allowing further water to get into the lake from that point. Once a storm has passed and the gates are still locked, you have not allowed water to egress out of the Lake as you've taken out one of three pathways for the water to leave the lake, which means water is being retained more in the lake, duration wise. I guess my concern is what time do you close the gate, whose closing the gate and when does it reopen to figure out that time? I am living in Slidell, we moved there in 2008 because of Katrina, and I have been told by the my neighbors that water never, ever, ever came into the backyards during Katrina, and these are 11 and 12 feet above sea level. Since we have been there in 2008, we've had five hurricanes and all five hurricanes we have water in our backyard, a third to halfway in our backyard and our house is 11 feet above sea level. Residents who have been there for over 25 years say this has never occurred; it happened in Katrina, but that was like the anomaly. People in that area are really recognizing that there is a lot more volume of water in the lake area, whether it's from global warming or whatever, I don't know, but there is more water in the lake now than ever before and when the storm s come and water ingresses into the Lake, we are just seeing more impact. Putting all the barriers on the South Shore has created concern that that's putting more water held up on the North Shore; I know your maps or the impacts don't show that. My question mostly regarding the Seabrook and closure and opening of that gate.

Nancy Powell: I'm chief of the hydraulics bridge with the Corps of Engineers and right now what we are doing is writing what we call a Water Control Plan and it's going to cover the operation of the Seabrook Structure as well as the IHNC Surge Barrier, sector gate and lift gate on that structure also. I think it was last month we held a public meeting at the Greek Church on the Lake Front and had some general discussions about what you are talking about, so your comments have been noted and will go into the document that talks about how decisions are to be arrived to when those gates are supposed to be open and closed. Ultimately, when the project is turned over to the local sponsor, the local sponsor will be responsible for operating according to that Water Control Plan.

Margaret Longstreet: I guess at the moment those gates are controlled by the Corps?

Nancy Powell: That is correct. We have not completed construction; we are almost there, but we can't turn the structures over for operation until construction is complete and we have this water control document written and approved.

Roy Arrigo: My question is on the Corps' policy. Does Corps policy call on the local sponsor, the state in this case, to increase their real estate interest in order to attain the 15-foot vegetative free zone described by the policies?

Rene Poche: That's what I was telling you before. We received your question, but we are not able to give you a response here tonight on that. We are working on it and that list of questions that you sent me via email and that will be coming out soon and that question will be addressed there.

Roy Arrigo: And that question is not exactly one of the ones on email.

Rene Poche: Then we will go back and review, get it and make it part of that.

David Garcia: I'm the mayor of the City of Waveland, MS and we realize what y'all are doing to protect the metropolitan area of New Orleans and we certainly agree that the people of St.

Tammany need protection as well. What does the Corps have planned for the MS Gulf Coast region because we are already receiving the thanks from all the hurricanes? One of the evacuation route out on Highway 603 floods with a tropical storm now, which has never, ever happened in the past. That highway has been raised four or five feet over the years but it was four lanes in the beginning so what is the Corp's plan in the MS region or we just going to be left with all this water?

Rene Poche: Remember, we had this discussion with Congressman Palazzo a few months back and it's bigger than just the new Orleans District; the Mobile District is the district responsible for your area. I can't give you an exact answer of what the Corps is doing. We understand your concern and we have it here as part of the record and we will keep working with you and primarily the Mobile District will keep working with you. Someone who lived in Clermont Harbor, I understand what you are saying.

David Garcia: Like the gentleman said, we need…it looks like there should be talks between Vicksburg office, New Orleans and Mobile offices. We shouldn't be creating problems for other people like Congressman Palazzo said when we can't everyone to the same table.

Rene Poche: And I know those discussions are happening between the three districts; to what extent right now, I don't know. I'm not the technical type here.

David Garcia: When will we get an update on that?

Rene Poche: We can look into it and we have your contact information. I would say keep talking with Mobile District and to some extent Vicksburg as well.

David Garcia: They don't like talking about it.

Bethany Garfield: I actually live very close to here and unfortunately I didn't get to review this whole thing and I came in a little late so I don't know if it was talked about before I came in. I'm actually curious about the project for this area here; I believe it was supposed to start in November, something about raising the levees a couple of feet. You were supposed to dig into The Fly there and do away with all those trees that you guys could raise the levees. I think the purpose was for any threat of storm surge traveling up the Mississippi even though I was never really clear about the purpose of the project. I'm wondering if you know what the purpose of that project was and if it will go underway so I think it was planned to start in November.

Rene Poche: I think we are going to have to go back and get some information and get with you. What I can tell you is that you've seen the levee work going on out here going back toward the Jefferson Parish line. I'm not sure of the exact schedule of what is going on with The Fly area, but we will get that.

Rudy Newbeck: In connection with the lady who asked the question about the gate at Seabrook, I attended the meeting at the Greek Church and asked the question, what was the primary purpose for the gate at Seabrook. The answer from the Corps at that time was to keep water from Lake Pontchartrain from entering into the canal. I don't know how that fits with how you explained that and that is what was told to me at that meeting.

Rene Poche: That is correct. The Seabrook, in conjunction with the IHNC Surge Barrier, is to keep any additional water or surge from getting into the IHNC Corridor so that was a correct statement they made.

I believe this is the same gentleman as before – he had a sweater on earlier?? You would know for sure as he was a bit combative.

Craig Berthurd: I have another question about the outfall canals and levees there. Are all those levees certified right now, the 17th, London and Orleans Canals?

Rene Poche: I think I understand your question, but I don't know the answer. Certified, I'm not sure that is the correct term so I will check.

Craig Berthurd: Are any of them in threat of being de-certified?

Rene Poche: If it's one of your questions, it will be responded to, nice try.

Craig Berthurd: I'm just wondering if the levees were certified.

Rene Poche: I don't know that answer and I can't speak out of turn and give you bad information. What I can tell you is that we have your questions and we are going to respond to them and we will get that to you soon.

Craig Berthurd: I was just asking something that you would think would be yes or no.

Rene Poche: And I don't know. As soon as I say one, it's the other…

Craig Berthurd: So it changes.

Rene Poche: I don't know, I don't know that answer as I'm not the engineer and I'm not the project manager. I'm just the public affairs guy. I take the questions, get the answers and get back with you and I want to give you the most accurate information.

Bethany Garfield: You mentioned that a 1637 acres of wetlands were impacted by some of your levee projects, maybe other projects as well. I'm wondering if there are any counter-actions going on to address that loss of wetland?

Laura Lee Wilkinson: As I mentioned in the presentation, we have two mitigation IERs that will be going out in the near future. What we are looking to do as part of the mitigation process, one because we impacted wetlands and non-wet bottomland hardwoods, we are going to responsible for mitigating. We are looking to pull our resources to do some sort of large-scale project of a marsh remediation or enhancement of an area. As of yet, the post action document is not available for public review, but when it is and if you are interested I can take your name and make sure you are sent a copy. We will be mitigating as part of this process and NEPA requirements were as a federal agency, because of the impacts we've done, we are going to mitigating that. So it's complex on how it's done as it's not an acre-to-acre kind of process because we look at the value of the wetland that are impacted and the habitat type and that goes through an alternative analysis and disclose what the impacts would be with different projects. I think the mitigation IER will answer your question better.

Bethany Garfield: When you say you look at the value of the wetland impacted, are you speaking in terms of storm protection, I know you mentioned habitat right after that.

Laura Lee Wilkinson: Wetland values assessment, a WVA is what we call it, it goes through a model and is assigned and economic value to the acres, but also to the quality. As far as storm surge, the system that we constructed, most of it as levees and floodwalls to protect the New Orleans metro area. I agree that wetlands do play a part of that in protecting. It's a 1% or 100-year storm risk reduction.

Bethany Garfield: So in essence, the levees are being seen as the new form of protection as opposed to the wetlands that were there but may not have protected against a 100-year storm. So you are saying that you put levees up so the wetlands are not necessarily needed any more.

Laura Lee Wilkinson: No. I'm saying that the wetlands that were impacted with the construction of this project, we are responsible to mitigate for.

Rene Poche: Thank you for coming this evening. We do have comments cards in case you think of something after the fact and want to submit that. Thanks for coming out.

END OF AUDIO.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

MAR 19 2013

Mrs. Sandra Stiles
Environmental Planning Branch, CEMVN-PDN
U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160-0267

Dear Mrs. Stiles:

The U.S. Environmental Protection Agency (EPA) has reviewed the U.S. Army Corps of Engineers (Corps) February 2013 draft Comprehensive Environmental Document (CED) for the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS). In general, the draft CED accurately and effectively describes the environmental impacts of the HSDRRS through November 2010. These environmental effects must be understood within the scope and context of the HSDRRS. The post-Katrina improvements to the Greater New Orleans Area levee system were clearly a national priority of great urgency. There was a strong basis for using an alternative process for compliance with the National Environmental Policy Act (NEPA). The timely completion of the HSDRRS stands as one of the most important milestones in the ongoing recovery of the Greater New Orleans Area.

Proposals to expedite NEPA processes can raise concerns that some aspect of the environmental assessment could be curtailed, potentially leading to inferior information, reduced public involvement, and a less acceptable environmental outcome. In the case of the HSDRRS, however, the alternative arrangements did in some ways surpass what is typically achieved in standard NEPA processes. For example, as the draft CED states, there were 200 public meetings, 11 meetings with non-governmental organizations, and 6,500 site visits and field trips. In this way, the level of public outreach for the HSDRRS went well beyond the typical NEPA process. In addition, the avoidance of impacts to jurisdictional wetlands for levee-building (or "borrow") material is one of the significant environmental accomplishments of this risk reduction project, particularly in light of the volume of such material identified and used. In the case of levee projects covered by standard NEPA processes, it is not uncommon to have wetland impacts associated with the source of borrow materials.

The construction of levee systems can result in both direct and indirect impacts to wetlands and aquatic resources. While direct impacts are relatively easy to quantify, indirect impacts can be technically challenging to assess and yet of significant consequence to aquatic resources and other aspects of the environment. The assessment of potential indirect impacts to wetlands and aquatic resources is often the most critical component of the environmental review of levee projects. In the case of the HSDRRS, the potential for indirect adverse impacts to wetlands and aquatic resources was limited by the fact that most of the project was to be built on or along existing levees. There were notable exceptions, such as the Borgne Surge Barrier. But in general, the potential for significant indirect impacts was relatively minimal given the scope and scale of the project. In this way, the environmental assessment of the HSDRRS was simpler than what would be needed for the construction of a similarly large-scale and complex levee system where no levees existed. This point would be highly relevant to any proposal to expedite the NEPA process for a new levee system (as opposed to the upgrade of an existing system).

Despite the generally low potential for indirect impacts from the HSDRRS, in some locations there is a long-term environmental risk associated with increases in the frequency of gate closure due to relative sea level rise. This is the case, for example, in the Central Wetlands area, which is enclosed within the so-called "Chalmette Loop" portion of the HSDRRS. Water circulation, navigable access, and the ingress and egress of aquatic organisms to the Central Wetlands are controlled by the Bayou Bienvenue and Bayou Dupre sector gates. According to section 5.3.2.1.4 of the draft CED, these gates would remain open "except during storms and high tides". While the definition of a "high tide" was not provided, it is reasonable to assume that the water elevation which currently constitutes a high tide would be met with increasing frequency due to relative sea level rise. This could lead to an increase in the frequency of gate closure, which in turn could result in adverse impacts to wetlands, fisheries, water quality, and navigation. The HSDRRS CED should at a minimum qualitatively assess such potential adverse impacts in the Central Wetlands and other aquatic areas that could be affected by the HSDRRS gates and water control structures. To address uncertainties regarding the future rate of relative sea level rise, this assessment should consider a range of potential changes in water elevations. In the case of the Chalmette Loop and Central Wetlands, this assessment should include consideration of the potential effects of increased closure frequency on proposed coastal restoration efforts, particularly the Violet Diversion.

Although the Corps avoided wetland losses associated with borrow material, construction of the HSDRRS did result in direct impacts to as many as 1,637 acres of wetlands, primarily due to the expansion of existing levees. The need to provide timely and effective compensatory mitigation for these unavoidable wetland impacts is the most critical remaining environmental compliance challenge for the HSDRRS. This compensatory mitigation is not being implemented concurrently with project construction. Indeed, the planning and implementation processes for this compensatory mitigation do not appear to be advancing with the same haste and urgency as the design and construction processes for the risk reduction portions of the HSDRRS. Granted, the Corps has and continues to be asked to review a broad range of compensatory mitigation options, including ones that are atypical and may not comply with current policies. Nevertheless, the current schedule for implementation of compensatory mitigation raises concerns about compliance with existing laws and regulations, temporal losses of wetland functions, and the ability of the Corps to ensure the availability of funds set aside to complete this aspect of the HSDRRS. We encourage the Corps to accelerate the pace of implementation of compensatory mitigation for the HSDRRS. To ensure the effectiveness of this work and compliance with the pertinent laws and regulations, we recommend that the CED contain an explicit commitment to fully address the 12 compensatory mitigation plan components required in the 2008 Department of Defense and EPA final rule regarding compensatory mitigation for losses of aquatic resources.

In addition to the above comments and recommendations, EPA has the following editorial notations and requests for additional or clarifying information:

- Page ES-5: The discussion of the National Flood Insurance Program (NFIP) could be clarified by explaining whether the NFIP certification is not typically afforded to a project incorporating interim protection measures or whether FEMA maintains some concerns about the integrity of the interim closure structures that were in place as of June 2011. According to the Corps, those interim measures are providing the same level of flood protection as expected by the completed project. In other words, could those communities served by the 80% of the HSDRRS work completed in June 2011 be eligible for NFIP now? Without further explanation, this discussion could be interpreted several ways.

- Page ES-36: The discussion of the Louisiana Coastal Area (LCA) Ecosystem Restoration Plan here and elsewhere in the draft CED should inform the reader that the State of Louisiana has terminated the cost-share agreements for a number of authorized LCA projects.

- Page ES-57: The last paragraph explains the difference between the number of environmentally cleared borrow sites and those that were utilized for HSDRRS construction as of July 2011. It would be instructive to add a discussion as to whether it is now expected that most of those sites will ultimately be required for completion of the HSDRRS project and, if not, whether they will be eligible for use on future coastal restoration and protection projects. The return on the public's investment in this endeavor may well be better than presented in this short summary.

- Page 1-23 and Table 1-3: The row in the table pertaining to IER 12 could use some editing. First, the word "hydrological" in the second column should be replaced with "ecological." Second, column three should reference sections 5.3.2.2 and should correct the next one to 5.3.2.6.1.

- Page 4-49 and Tables 4-6 and 9-1: These sections of the draft CED state that the HSDRRS resulted in direct impacts to approximately 1,483 acres of wetlands, while the executive summary (page ES-57) indicates that there were direct impacts to 1,637 acres of wetlands. These numbers need to be reconciled.

- Page 5-16: The description under the first paragraph of Section 5.3.1.3.7 seems to refer to the West Closure Complex, though it is not named. This narrative assumes that the structure was not constructed as of the cutoff date for this draft CED. However, because this is such a large and significant feature of the overall project, there would be less opportunity for confusion if these few sentences were updated.

- Page 5-21, Section 5.3.1.5.6, bullet three: Edit to read: "…should be constructed within a 100 ft wide corridor from the GIWW into the 404(c) area, impacting as little of the wetland habitat as feasible."

- Page 5-48, last sentence: Note that, as it currently looks, the long-term monitoring plan may well be developed after the augmentation features are constructed, but that sequencing was not stipulated.

- Page 7-2; Table 7-1: Add Clean Water Act Section 404(c) as a relevant law and regulation providing guidance in the development of the HSDRRS.

- Page 9-5, Wetlands: Add mention of the impacts to the Bayou aux Carpes Clean Water Act Section 404(c) wetlands.

- Page 9-3; Table 9-1: What is the basis of the finding that wetland impacts from the HSDRRS were "moderate" when reviewed at the sub-basin level? Certainly, the cumulative direct loss of either 1,637 or 1,483 acres of wetlands could be considered significant or major (see above comment regarding discrepancy in direct wetland impacts). Is there a technical basis to support the finding of moderate wetland impacts in each sub-basin?

- Appendix G: This presentation of monitoring data collected is not instructive without further explanation, including the purpose for the data collection, the implications of the data collected, and possibly maps of where the data was collected.

Thank you in advance for your consideration of these comments. EPA looks forward to working with the Corps to expeditiously address these recommendations. If you have any questions or would like to discuss this matter in greater detail, please contact John Ettinger at (504) 862-1119 or by e-mail at ettinger.john@epa.gov.

Sincerely,

Sharon Fancy Parrish

Sharon Fancy Parrish
Chief
Wetlands Section

cc: LDNR, Baton Rouge, LA
LDEQ, Baton Rouge, LA
NMFS, Baton Rouge, LA
USFWS, Lafayette, LA

CONGRESSIONAL CONTROL RECORD

DATE REC'D: **08 March 2013**

SUBJECT NAME: Constituent concerns That HSDRRS Has Not Been Fully Evaluated

SUSPENSE DATE: ~~19~~ 31 March 2013

NO: 13-023

DATE (Letter): **March 19, 2013**

TYPE: LTR

FROM: Vitter

FILE DESIG: **Congressional**

SUMMARY – Constituents Dennis Strecker and Thomas Thompson wrote separate letters regarding their concerns that the HSDRRS has not been fully evaluated. See their enclosed letters.

TO: PM - Podany TP
PD - Constance
~~TFH - Park~~ ED -

DATE: 22 February 2013

COMPLETED:

TO: ____________________

DATE: ____________________

13-023

DAVID VITTER
LOUISIANA

DEPUTY WHIP

Armed Services
Banking, Housing, and Urban Affairs
Environment and Public Works
Small Business and Entrepreneurship

United States Senate

WASHINGTON, DC 20510

WASHINGTON, D.C.
HART SENATE OFFICE BUILDING
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FAX: (202) 228-5061

BATON ROUGE
858 CONVENTION STREET
BATON ROUGE, LA 70802
(225) 383-0331
FAX: (225) 383-0952

Website with E-Mail Access:
vitter.senate.gov

March 6, 2013

Colonel Edward Fleming
District Commander
U. S. Army Corps of Engineers
New Orleans District
Executive Office
PO Box 60267
New Orleans, LA 70160-0267

Dear Colonel Fleming:

I have been copied on separate letters from Mr. Dennis Strecker and Mr. Thomas Thompson regarding their concerns that the HSDRRS has not been fully evaluated. I have enclosed copies of these letters for your review.

I would appreciate any information that you may be able to provide to address the concerns of Mr. Strecker and Mr. Thompson. Please refer all correspondence in this regard to my Metairie Regional Office at 2800 Veterans Boulevard, Suite 201, Metairie, LA 70002.

Thank you for your time and consideration.

Sincerely,

David Vitter

David Vitter
United States Senate

Enclosure

Received By
CEMVN-EX
US Army Corps of Engineers
New Orleans District

MAR 08 2013

david_doss@vitter.senate.gov, Rachel_Perez@vitter.senate.gov, whitem@legis.la.gov, larep104@legis.state.la.us, agc@agcrowe.com, cromerg@legis.state.la.us, Garret@GOV.STATE.LA.US, pbrister@charter.net, fdrennan@cityofslidell.org, oiler@stpgov.org, jpforsenateinfo@gmail.com, whitem@legis.la.gov, parishpres@sjbparish.com, letters@nola.com, jsnell@fox8live.com, mhernandez@wwltv.com, Don@wwl.com, www.coastalmasterplan.la.gov, MasterPlan@la.gov, sward@gecinc.com, Timothy.Harper@la.gov, chuck.perrodin2@la.gov, routon@la.gov, drpjfitz@yahoo.com, Dennis.c.Strecker@charter.net, june103@charter.net, bigj340@charter.net, Lee@datakik.com

February 7, 2013

Dennis Strecker
283 Carr Dr
Slidell, Louisiana 70458
Dennis.c.strecker@charter.net

Mrs. Sandra Stiles
U. S. Army Corps of Engineers
Regional Planning and Environmental Division South
Environmental Planning Branch
CEMVN-PDN
P.O. Box 60267
New Orleans, Louisiana 70160-0267
laura.l.wilkinson@usace.army.mil

Reference: Public comment on the: "Comprehensive Environmental Document (CED) titled, "Comprehensive Environmental Document Greater New Orleans (GNO) Area Hurricane Storm Damage Risk Reduction System (HSDRRS)" - http://www. http://nolaenvironmental.gov

Dear Mrs. Sandra Stiles,

The flood impact of the levees and structures built on the east side of the Mississippi since 1965 to areas outside of the flood protection system as part of the HSDRRS has not been fully evaluated. Prior to 1965 the highest recorded water level in Lake Pontchartrain was 7.5' from Hurricane Betsy based on records going back to the early 1900s. Since then there have been a number of hurricanes that have matched or exceeded Hurricane Betsy's storm surge in Lake Pontchartain; Hurricanes Juan (1985), Hurricane Rita (2005), Hurricane Katrina (2005), Hurricane Gustav (2008) and Hurricane Isaac (2012). This may be a coincidence, but until a storm such as Hurricane Betsy is modeled with and without the HSDRRS and compared for accuracy with known storm surge water levels from Betsy, there is no certainty of the impact the HSDRRS has on areas outside the system. This is particularly troublesome for people exposed to these storm surges since it appears we can no longer use historical data prior to HSDRRS to determine our increase risk, if any.

Sincerely,

Dennis Strecker

Dennis Strecker

February 7, 2013

Thomas Thompson
217 Windward Passage
Eden Isles, Louisiana 70458
thomasthompson@yahoo.com

Mrs. Sandra Stiles
U. S. Army Corps of Engineers
Regional Planning and Environmental Division South
Environmental Planning Branch
CEMVN-PDN
P.O. Box 60267
New Orleans, Louisiana 70160-0267
laura.l.wilkinson@usace.army.mil

Reference: Public comment on the: "Comprehensive Environmental Document (CED) titled, "Comprehensive Environmental Document Greater New Orleans (GNO) Area Hurricane Storm Damage Risk Reduction System (HSDRRS)" - http://www. http://nolaenvironmental.gov

Dear Mrs. Sandra Stiles,

The referenced CED must not be approved until the full impact of the HSDRRS on the Lake Pontchartrain basin is known.

At the Corps public meeting in Slidell Louisiana on November 14, 2012, Colonel Fleming, commander of the Corps' New Orleans District Office, admitted that only 40% of the HSDRRS was modeled to determine its impact on the Lake Pontchartrain basin.

It would be absurd to accept the GNO HSDRRS CED when Colonel Fleming admits that 60% of the HSDRRS was not included when evaluating its impact on the Lake Pontchartrain basin.

The Corps must revise all of their models and studies to include 100% of the HSDRRS before any CED of the system can be considered a valid and accurate representation of the environmental impact it has on the greater New Orleans area.

Click on the link below to hear Colonel Fleming admit that only 40% of the HSDRRS was modeled when evaluating its impact to the Lake Pontchartrain basin.

http://youtu.be/PkmatvfMIRk

Sincerely,

Thomas Thompson

Eric Webb

From: Wilkinson, Laura L MVN <Laura.L.Wilkinson@usace.army.mil>
Sent: Friday, March 01, 2013 1:04 PM
To: Eric Webb
Subject: FW: 130211/0310 USACE-NOA-Draft CED-Comprehensive Environmental (UNCLASSIFIED)
Attachments: image001.png

Classification: UNCLASSIFIED
Caveats: NONE

Comment from LDEQ on draft CED.
LL

-----Original Message-----
From: Beth Altazan-Dixon [mailto:Beth.Dixon@LA.GOV]
Sent: Friday, March 01, 2013 8:46 AM
To: Stiles, Sandra E MVN; Wilkinson, Laura L MVN
Subject: 130211/0310 USACE-NOA-Draft CED-Comprehensive Environmental

March 1, 2013

Joan M. Exnicios, Chief

USACE Environmental Compliance Branch

P.O. Box 60267

New Orleans, LA 70160-0267

Sandra.e.stiles@usace.army.mil; Laura.L.Wilkinson@usace.army.mil <mailto:Sandra.e.stiles@usace.army.mil>

RE: 130211/0310

USACE-NOA-Draft CED-Comprehensive Environmental

Document Greater New Orleans (GNO) Area Hurricane

Storm Damage Risk Reduction System (HSDRRS)

St. Charles, Jefferson, Orleans, St. Bernard and Plaquemines Parishes

Dear Ms. Exnicios:

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

After reviewing your request, the Department has no objections based on the information provided in your submittal. However, for the St. Charles Sub-basin (IER #1 and IER Supplemental #1), please note that the Bayou Trepagnier sediment remediation project mentioned in this section of the Hazardous, Toxic and Radioactive Waste chapter was completed in January 2012.

Also for your information, the following general comments have been included. Please be advised that if you should encounter a problem during the implementation of this project, you should immediately notify LDEQ's Single-Point-of-contact (SPOC) at (225) 219-3640.

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

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

* If your project will include a sanitary wastewater treatment facility, a Sewage Sludge and Biosolids Use or Disposal Permit application or Notice of Intent must be submitted no later than January 1, 2013. Additional information may be obtained on the LDEQ website at http://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx <http://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx> or by contacting the LDEQ Water Permits Division at (225) 219- 9371.

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

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

Please send all future requests to my attention. If you have any questions, please feel free to contact me at (225) 219-3958 or by email at beth.dixon@la.gov <mailto:beth.dixon@la.gov> .

Sincerely,

Beth Altazan-Dixon, EPS III

Performance Management

LDEQ/Office of the Secretary

Business and Community Outreach and Incentives Division P.O. Box 4301 (602 N. 5th Street) Baton Rouge, LA 70821-4301
Phone: 225-219-3955
Fax: 225-325-8148

Email: beth.dixon@la.gov

Classification: UNCLASSIFIED
Caveats: NONE

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

REPLY TO
ATTENTION OF

APR 16 2013

Regional Planning and
Environment Division South
Environmental Planning Branch

Honorable David Vitter
United States Senate
2800 Veterans Boulevard
Suite 201
Metairie, Louisiana 70002

Dear Senator Vitter:

This response is in reference to your letter dated March 6, 2013, concerning Mr. Dennis Strecker's and Mr. Thomas Thompson's letters to the US Amy Corps of Engineers (Corps). These letters inquired specifically about the Comprehensive Environmental Document Greater New Orleans Hurricane and Storm Damage Risk Reduction System hydrologic studies and models on current and historical storm surge affects to the Lake Pontchartrain basin and surrounding areas.

A copy of the Corps' letters to Mr. Strecker and Mr. Thompson are enclosed. If you have any questions or require additional information regarding the hydrologic modeling, please contact Ms. Nancy Powell, Chief, Hydraulics & Hydrologic Branch. She may be reached at (504) 862-2449 or email nancy.j.powell@usace.army.mil. For specific questions pertaining to the Comprehensive Environmental Document, please contact Ms. Joan Exnicios, Chief, Environmental Planning Branch. You may reach her at (504) 862-1760 or by email at joan.m.exnicios@usace.army.mil.

Sincerely,

For LTC, EN

Edward R. Fleming
Colonel, US Army
District Commander

Enclosures

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

APR 16 2013

REPLY TO
ATTENTION OF

Regional Planning and
Environment Division South
Environmental Planning Branch

Mr. Dennis Strecker
283 Carr Drive
Slidell, Louisiana 70458

Dear Mr. Strecker:

This letter is in response to your letter dated February 7, 2013, providing comments to our draft Comprehensive Environmental Document (CED) Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS) February 2013." The US Army Corps of Engineers, New Orleans District (CEMVN) would like to thank you for your participation in the public review process. Items cited in your letter regarding your comments on the evaluation of the potential impacts of the HSDRRS are addressed below:

1. **"The flood impact of the levees and structures built on the east side of the Mississippi since 1965 to areas outside of the flood protection system as part of the HSDRRS has not been fully evaluated."**:

CEMVN Response: The draft CED Phase I incorporates information from the Individual Environmental Reports (IERs) completed through November 15, 2010 and provides a cumulative impact assessment of the initial construction components for 217 miles of the HSDRRS implemented before July 2011. The Preface of the CED (P-1 to P-4) provides a summary of the hydrologic analysis that is currently available regarding impact of the pre- and post 100-year HSDRRS, specifically for Hurricane Isaac's impact outside the system. In the future, when all information is available, a CED Phase II will be released that will describe the cumulative impacts for all the HSDRRS construction, including a hydrologic assessment, transportation analysis, mitigation and monitoring as well as an Independent External Peer Review of specific features. Only after all phases of the CED have been released for public review, comments received and considered will the CEMVN District Commander approve the proposed recommended action and sign a Decision Record for the Final CED.

2. **"...until a storm such as Hurricane Betsy with and without the HSDRRS and compared for accuracy with known storm surge water levels from Betsy, there is no certainty of the impact the HSDRRS has on areas outside the system."**:

CEMVN Response: A "Cumulative storm surge comparison of the Historical Lake Pontchartrain and Vicinity and West Bank and Vicinity and the 2012 100-year Hurricane and Storm Damage Risk Reduction System hydrologic modeling assessment" is in progress to evaluate impacts outside the system. This hydrologic assessment proposes to develop 1965, 2005, and 2012 versions of the SL16 mesh, representing the levee system in the years 1965, 2005, and 2012, and run simulations with ADCIRC+SWAN, of the following storms: Betsy, Camille, Juan, Katrina, Rita, Gustav, Ike, and Isaac with the best available data. Once complete, a hydrologic report would be released by November 2013 that would describe and evaluate the historical as well as the present cumulative storm surge impact of the completed HSDRRS and the surrounding area. This report and its findings would be incorporated into the CED Phase II.

I hope this addresses your comments. If you have any questions or need additional information concerning the CED in general please contact Ms. Laura Lee Wilkinson. You may reach her at (504) 862-1212 or email at laura.l.wilkinson@usace.army.mil. If you have specific questions concerning the hydrologic modeling please contact Ms. Nancy Powell. She may be reached at (504) 862-2449 or email nancy.j.powell@usace.army.mil.

Sincerely,

Joan M Exnicios

Joan M. Exnicios
Chief, New Orleans
Environmental Branch

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

APR 16 2013

REPLY TO
ATTENTION OF

Regional Planning and
Environment Division South
Environmental Planning Branch

Mr. Thomas Thompson
217 Windward Passage
Eden Isles, Louisiana 70458

Dear Mr. Thompson:

This letter is in response to your letter dated February 7, 2013, providing comments to our draft Comprehensive Environmental Document (CED) Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS) February 2013." The US Army Corps of Engineers, New Orleans District (CEMVN) would like to thank you for your participation in the public review process. Items cited in your letter regarding your comments on the evaluation of the potential impacts of the HSDRRS are addressed below:

1. **"The CED must not be approved until the full impact of the HSDRRS on the Lake Pontchartrain basin is known.":**

CEMVN Response: The draft CED Phase I incorporates information from the Individual Environmental Reports (IERs) completed through November 15, 2010 and provides a cumulative impact assessment of the initial construction components for 217 miles of the HSDRRS implemented before July 2011. The Preface of the CED (P-1 to P-4) provides a summary of the hydrologic analysis that is currently available regarding impact of the pre- and post 100-year HSDRRS, specifically for Hurricane Isaac's impact outside the system. In the future, when all information is available, a CED Phase II will be released that will describe the cumulative impacts for all the HSDRRS construction, including a hydrologic assessment, transportation analysis, mitigation and monitoring as well as an Independent External Peer Review of specific features. Only after all phases of the CED have been released for public review, comments received and considered will the CEMVN District Commander approve the proposed recommended action and sign a Decision Record for the Final CED.

2. **"The Corps must revise all of their models and studies to include 100% of the HSDRRS before any CED of the system can be considered a valid and accurate reperesentation of the environmental impact it has on the greater New Orleans area.":**

CEMVN Response: A "Cumulative storm surge comparison of the Historical Lake Pontchartrain and Vicinity and West Bank and Vicinity and the 2012 100-year Hurricane and Storm Damage Risk Reduction System hydrologic modeling assessment" is in progress to evaluate impacts outside the system. This hydrologic assessment proposes to develop 1965, 2005, and 2012 versions of the SL16 mesh, representing the levee system in the years 1965, 2005, and 2012, and run simulations with ADCIRC+SWAN, of the following storms: Betsy, Camille, Juan, Katrina, Rita, Gustav, Ike, and Isaac with the best available data. Once complete, a hydrologic report would be released by November 2013 that would describe and evaluate the historical as well as the present cumulative storm surge impact of the completed HSDRRS and the surrounding area. This report and its findings would be incorporated into the CED Phase II.

I hope this addresses your comments. If you have any questions or need additional information concerning the CED in general please contact Ms. Laura Lee Wilkinson. She may be reached at (504) 862-1212 or email at laura.l.wilkinson@usace.army.mil. If you have specific questions concerning the hydrologic modeling please contact Ms. Nancy Powel. You may reach her at (504) 862-2449 or email nancy.j.powell@usace.army.mil.

Sincerely,

Joan M Exnicios

Joan M. Exnicios
Chief, New Orleans
Environmental Branch

United States Department of the Interior

NATIONAL PARK SERVICE
Jean Lafitte National Historical Park and Preserve
New Orleans Jazz National Historical Park
419 Decatur Street
New Orleans, Louisiana 70130-1035

IN REPLY REFER TO:
1.A.1. (JELA-S)

April 15, 2013

Ms. Sandra Stiles
U.S. Army Corps of Engineers (ACOE)
New Orleans District
PO Box 60267
New Orleans, Louisiana 70160-0267

Re: National Park Service (NPS) Review of Comprehensive Environmental Document

Dear Ms. Stiles:

The NPS Southeast Regional Office, Natural Resources Division and Jean Lafitte National Historical Park and Preserve (preserve) have reviewed the Draft Comprehensive Environmental Document Vol. I-III, and we have the following comments:

1) A Wetland Statement of Findings, per PM 77-1, will be required for compensation activities on National Park Service federal lands.
2) Sect 4.2.3.1 Certain wetland and land loss references appear outdated. Please provide more recent sources for example Dahl 1991, Boesch 1994, USGS 2003. Are more recent and accurate sources available to address current rates of wetland loss?
3) Kesel 1987, is also an outdated reference for sediment load reductions in the Mississippi River. We offer Mead Allison's as an appropriate reference. For example: Allison, M.A., Demas, C.R., Ebersole, B.A., Kleiss, B.A., Little, C.D., Meselhe, E.A., Powell, N.J., Pratt, T.C., and Vosburg, B.M., 2012. A water and sediment budget for the lower Mississippi-Atchafalaya River in flood years 2008-2010: implications for sediment discharge to the oceans and coastal restoration in Louisiana. *Journal of Hydrology* 432/3:84-97. Ehab Mesehle also may have some appropriate publications on sediment budgets.
4) Page 4-48 Consider spelling out entire name of WVA with the first use.
5) Page 4-49 Consider spelling out name for AAHU with the first use. We found this section vague which made it difficult to understand direct wetland impacts to the preserve.
6) 5.2.2.2 The use of AAHU's is not acceptable by the NPS to determine compensation. Please refer to Procedural Manual #77-1 for NPS compensation policies. This remains true for all following compensation discussion. Methodology indicates that there will be two Programmatic Mitigation IERs that will be prepared.
7) Page 5-9 FWS Coordination. Please advise us if there was NPS consultation.
8) Section 5.3.1.5 Wetlands. This section discusses acreage to be mitigated, but does not offer plan details. We look forward to mitigation plan preparation.

We found that the Comprehensive Environmental Document soundly summarizes for general audiences, but request more detailed information with regard to areas within the preserve.

We are now focused on processing the most recent edits to the draft mitigation plans for the sites tentatively selected for mitigation within the preserve. We await receipt of the wetland habitat analysis and the ArcGIS shape files (as built ROW, new park boundary file, real estate parcels) used by the ACOE. That information will allow us evaluate treatments of the CIT Tract Land exchange.

If you have any questions please contact Guy Hughes, Chief of Resource Management, guy_hughes@nps.gov, 504-512-2558.

Our apologies for not providing comments sooner.

Sincerely,

Lance Hatten
Acting Superintendent

Louisiana Audubon Council
1522 Lowerline St., New Orleans, Louisiana 70118-4010

April 8, 2013

Ms. Sandra Stiles
USACE, CEMVN-PDN
Regional Planning and Environ Div
Environ. Planning Branch
PO Box 60267
New Orleans, LA 70160

Re: Draft CED Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS) project.

Dear Ms. Stiles,

The Louisiana Audubon Council has reviewed the Draft Comprehensive Environmental Document (CED) for the HSDRRS project. We understand that this document only addresses environmental issues up to Nov. 15, 2010. The following are the comments for the LAC and we request that these issues be addressed in the Final CED:

<u>End of Alternative Arrangements for HSDRRS:</u>

We note the following statements in the Draft CED, p. 4-2:

"At this time, future levee lifts to maintain the 100-year level of risk reduction through the year 2057 are <u>not</u> authorized and no such levee lifts are currently planned. It is estimated that the total future levee lifts through 2057 to provide the 100-year level of risk reduction would need approximately 7.3 million cy of borrow to achieve project goals. For purposes of analysis, it is assumed that the required borrow material would not necessarily be removed from previously identified borrow sites, but instead could come from any available source in the region. This is because the NEPA Alternative Arrangements do <u>not</u> apply to this future construction work, that various waivers granted to the CEMVN Chief of Real Estate to deviate from standard borrow acquisition process will <u>not</u> apply, and the Authorizations for HSDRRS construction were specifically for emergency work." (p. 4-2).

"Therefore, after completion of the HSDRRS, additional NEPA analyses would be conducted on the impacts of removing soil from borrow areas for all future maintenance levee lifts through 2057. (p. 4-2).

"Alternative arrangements are limited to those actions necessary to control the immediate impacts of the emergency and will remain in effect during the preparation and competition of the Individual Environmental Reports (IERs) and Comprehensive Environmental Document (CED) included in the alternative arrangements." (CEQ letter 2/23/07).

Our questions are: On what date does the Alternative arrangements for the emergency building of HSDRRS sunset? When does the emergency terminate? When do the normal NEPA procedures take over?

Leaky Levees: indirect impacts.

1). Morganza to the Gulf:

The impacts to enclosed wetlands over the life of the project are not included in the Draft CED. For example, in the Morganza to Gulf PEIS it was recognized that relative sea level rise (RSLR) would change the future closure of openings to interior wetlands:

"Under future conditions, closure frequency could increase if the closure trigger is not adjusted to account for sea level rise. For example, under existing conditions, HNC floodgate closure (based on a 2.5-ft closure stage only, not the salinity triggers) would occur approximately 1.5 days per year. If the trigger remained the same through 2085, low RSLR would require closure 5 days per year by 2035 and 168 days per year by 2085 (refer to RSLR rates in table 3-1). Intermediate RSLR would require closure for 15 days per year by 2035 and 354 days per year by 2085. High RSLR would require closure for 24 days per year in 2035 and 365 days per year in 2085. To prevent frequent structure closings, operation plans will need to be re-evaluated periodically and closure trigger elevations may need to be increased if significant sea level rise occurs." USACE (2013b, p. 81 in LAC, 2013).

2). HSDRRS:

Several areas (IER-16, Lake Cataouatche) and (IER-10, Chalmette Loop) include significant wetlands on the protected side of the HSDRRS project. According to the DCED, these wetlands will remain in contact with the tidal influences and will only be closed off "during storms and high tides." The question is, what happens during the 57 year life of the project when RSLR forces increased frequency of closure of gates and culverts to avoid inundation during periods of high water?

IER-10 (Chalmette Loop)

This issue is especially significant for the Chalmette Levee, IER-10. What is the "trigger" used to close the structures? How many days per year will the interior wetlands be isolated from the GOM influence because of RSL rise? The closure should be addressed for each IER segment which has interior wetlands based on Corps' computer modeling.

EPA (2013) expressed concern that the Central Wetlands, which are enclosed by the Chalmette Loop, are controlled by Bayou Bienvenue and Bayou Dupre sector gates. These sector gates would remain open "except during storms and high tides." (p. 5-43). EPA states that, "water elevation, which currently constitutes a high tide would be met with increasing frequency due to relative sea level rise." This is a similar situation to Morganza to the Gulf project. The Corps should include in the Final CED the criteria used to close the gates, and the future frequency of closure based on projected RSL rise for the life of the project.

Violet Canal: Fresh water discharge through the Violet Diversion will be adversely impacted by increased closure frequency of the sector gates. How will the project affect proposed coastal restoration efforts? This should be included in the Final CED.

IER-16 (Lake Cataouatche)

"To minimize the impacts on 2,485 acres of wetlands located north of US 90, the combined cross section at the perimeter of the project was sized to equal the combined cross-section of the openings through US 90 prior to HSDRRS construction. The approximately 265 acres of wetlands located south of US 90 will continue to have hydrologic connections, but with a reduced cross-sectional area (IER #16)." (p. 5-23).

"As noted in IER #16, the USFWS recommends that the previous induced development study examine potential development over the period of analysis (i.e., 50 years) to be consistent with the planning process. Information about potential development of the area in question derived from this analysis was used to determine wetlands and non-jurisdictional BLH mitigation requirements. The St. Charles Parish Development Study demonstrates the likely development that will occur within the study area, and the period of analysis for the induced development is appropriate. However, the USACE does not mitigate for indirect impacts such as induced development, where local and state entities regulate zoning and land use and are able to assign mitigation requirements directly to the developer. The USFWS recommendation was not adopted as a mitigation measure." (DCED, p. 5-23).

"Changes in floodgate operations or more frequent closures due to increased storm frequencies at any gated structure in the HSDRRS could be required in the future due to sea-level rise or changes in climate patterns. These changes cannot be predicted at this time, and may never be severe enough to force an operational change. However, any increase in the duration of HSDRRS floodgate closures would increase the depth and duration of flooding of the marsh, adversely impacting plant health and causing wetland loss." (DCED, p. 4-54).

We agree that increased duration of flooding caused by closure of the sector gates will adversely affect the wetlands. Computer modeling of the future RSLR is within the realm of predictability. The estimates of RSLR for southeastern Louisiana has been estimated by climate scientists and the range of rise can be plotted for future years. These predictions should be modeled and included in the Final CED. The increased inundation of wetlands and the adverse impacts must be included in the Final CED as indirect impacts of the project.

Wetlands enclosed by HSDRRS.

The USFWS submitted recommendations in Nov. 26, 2007 for minimizing adverse impacts on the natural environment from the entire HSDRRS project. A few of the significant recommendations follow with the Corps concurrence:

"Recommendation 11: In general, larger and more numerous openings in a risk reduction levee better maintain estuarine-dependent fishery migration. Therefore, as many openings as practicable, in number, size, and diversity of locations should be incorporated into project levees."
CEMVN Response 11: Concur."

"Recommendation 13: Flood protection water control structures should remain completely open except during storm events. Management of those structures should be developed in coordination with the USFWS, NMFS, LDWF, and LDNR."
CEMVN Response 13: Concur."

"Recommendation 15: The number and siting of openings in flood protection levees should be optimized to minimize the migratory distance from the opening to enclosed wetland habitats.
CEMVN Response 15: Concur." (from DCED p. 6-6).

We request that the Final CED include tables listing the number of acres enclosed by the HSDRRS project for each IER segment, the status of those wetlands, and how the Corps plans to maintain the productivity of those wetlands over the life of the project. Any deterioration of the wetlands over the life of the project must be included as indirect impacts and stated as such in the Final CED.

Mitigation:

"USFWS Recommendation 24: Acquisition, habitat development, and maintenance and management of mitigation lands should be allocated as first-cost expenses of the project, and the local project-sponsor should be responsible for operational costs. If the local project-sponsor is unable to fulfill the financial mitigation requirements for operation, then the CEMVN shall provide the necessary funding to ensure that mitigation obligations are met on behalf of the public interest. (DCED, p. 6-8)

CEMVN Response 24: Construction of the project features is cost-shared between the Federal Government and non-Federal sponsor. However, costs for operation, maintenance, repair, replacement, and rehabilitation will be the responsibility of the non-Federal sponsor." (p. 6-8)

It is stated that 5,128 acres of wetlands and BLH habitats (DCED p. 4-52) were lost by the construction of the HSDRRS. The mitigation of those wetlands losses will have a basic cost. How much has the Corps estimated for mitigation of impacts? Is this money set aside - to be available when the

Corps purchases mitigation lands to compensate for wetlands impacts? What is the timeframe to institute the mitigation features? We support the USFWS's recommendation that money for purchase of mitigation should be allocated as first cost of the project. There have been many occasions where the money for a public works project "ran out" and the low priority mitigation requirements were forgotten.

"EPA (2013, p. 2), also agrees with the USFWS, "The need to provide timely and effective compensatory mitigation for these unavoidable wetland impacts is the most critical remaining environmental compliance challenge for the HSDDRS." "the current schedule for implementation . . . raises concerns about compliance . . . and the ability of the Corps to ensure the availability of funds set aside to complete this aspect of the HSDRRS."

The Audubon Council is also concerned about the lack of availability of funds to carry out the mitigation program for HSDRRS. We request that the Final CED answer the questions above and assure the public that the mitigation program will be carried out to its conclusion.

Induced development:

CED Scoping Comment: "Induced development – conservation easements."

"USACE Response: Induced development and the use of conservation easements were issues raised by U.S. Fish and Wildlife Service (USFWS) with the IER #16 project work. The USACE determined that USFWS recommendations that non-development easements be acquired for enclosed wetlands would not be adopted. The USACE policy on induced development is that land development is subject to state and local land use rules, including permit and zoning requirements. Therefore, state and local entities are responsible for determining whether mitigation for development is appropriate. This is strengthened by a study that USACE performed in 1994 to help develop policy guidance on mitigation for induced development as a result of potential indirect impacts from the Westwego to Harvey Canal Hurricane Protection Project." (p. 1-26)

"…Indirect impacts such as land development are subject to compliance with local and state permit and zoning requirements, and therefore local and state interests are responsible for defining the appropriate mitigation requirements for land development activities. The direct causative agents of indirect impacts and the beneficiaries are the developers themselves. It is not equitable to allow state and local governments to avoid assuming responsibility for managing development and resources by placing the burden of local environmental protection on the national taxpayer." (USACE, DCED p. 1-26)

We also agree that conservation easements be included in the mitigation for enclosing wetlands that the Corps acknowledges are under development pressure. The building of the HSDRRS should not be a stimulus for development of wetlands. This is why our organization opposes the inclusion of wetlands behind a hurricane protection levee. Wetlands do not need flood protection and impoundment may accelerated the loss of these enclosed wetlands.

External Engineering Peer Review:

According to the Federal Register (USACE, 2007), the external engineering peer review was supposed to be made available to the public no later than the publication of the draft CED. According to the Draft CED, "The estimated completion date of Independent External Peer Review (IEPR) for all HSDRRS features, products, and activities is 2014." (p. ES-54, 55). This process includes completion of individual reviews, completion of summary reports, approval of peer review package, and posting for public release by Mississippi Valley Division.

Based on this time schedule, the IEPR will come more than a year after the CED is completed. The intention of the External Peer Review was to provide the public with some certainty that the levees and structures were being built to avoid engineering failures. By delaying the IEPRs, it raises concern about the credibility of the Corps' engineering. What happens if the project is built and later there are changes recommended by the outside expert? The IEPRs should be completed in a timely manner and the reports should have a positive impact on future projects.

Communication with Public:

We attended most of the early public meetings on the HSDRRS project. Of continued concern to us, has been the reluctance by the NOD to provide technical information on issues raised at public meetings. In most cases when we asked for technical data (that the Corps used to support its statement at the meeting), we were told that a FOIA request was required to receive the information. This is contrary to the position that CEQ and the Corps took, in support of a free flow of information between the agencies and the public. We attended these meetings in 2006 with the USACE, EPA, CEQ and NGOs to develop the Alternative Arrangements.

We have found a continued reluctance on the part of the NOD to provide information requested. In some cases, information requested under FOIA was provided only after a 90 day period. This is an unacceptable policy. In fact, the omission of critical information in IER-18, 19 stimulated a letter requesting a meeting with CEQ and NOD to discuss the deficiencies (LAC, 2007).

It was the LAC that brought to the attention of the Corps that the Bayou aux Carpes 404(c) area was being designated as a borrow "staging" area. The Corps' maps continued to show that designation at subsequent public meetings for several weeks.

We thank you for the opportunity to review the Draft CED and request that our comments be made part of the public record.

Sincerely,

Barry Kohl

Dr. Barry Kohl, President,
La Audubon Council

cc:
EPA, Dallas
USFWS, Lafayette
NMFS, Baton Rouge
Sierra Club, Delta Chpt
GRN, New Orleans
LEAN, Baton Rouge
NAS, Baton Rouge
NWF, Baton Rouge

References:

CEQ, 2007. Letter from James L Connaughton, CEQ to Gen. Don T. Riley, Dir of Civil Works, USACE. Regarding approval of alternative Arrangements for HSDRRS. Letter dated Feb. 23. 2007.

EPA, 2013. Letter to Sandra Stiles, NOD from Sharon Parrish, regarding the DCED, HSDRSS document. Letter dated March 19, 2013

LAC, 2007. Letter to Col. Alvin Lee, NOD, regarding data omitted by Corps in IER 18 and 19, HSDRSS. Request meeting with NOD and CEQ. Letter dated Dec. 14, 2007.

LAC, 2008. Letter to Gib Owen, NOD, regarding selection/rejection of borrow sites, HSDRRS. Letter dated Feb. 10, 2008.

LAC, 2013. Letter to Nathan Dyan, NOD, regarding the Draft, Revised Programmatic Environmental Impact Statement (DRPEIS); and Draft Post-Authorization Change Report (DPAC) Morganza to Gulf of Mexico, Louisiana. Letter dated Feb. 18, 2013. 7 pp.

USACE 2013b. Draft Post Authorization Change (DPAC) Report Morganza to the Gulf of Mexico, Louisiana, January 2013. Included in CD distributed by NOD as MtG Item 02a., 114 pp.

USACE, 2007. Adoption of Alternative Arrangements Under the National Environmental Policy Act for New Orleans Hurricane and Storm Damage Reduction System. Federal Register, v. 72, n. 48, March 13, 2007. p. 11337-11340.

LAC, 2013. Letter to Nathan Dyan, NOD, regarding the Draft, Revised Programmatic Environmental Impact Statement (DRPEIS); and Draft Post-Authorization Change Report (DPAC) Morganza to Gulf of Mexico, Louisiana. Letter dated Feb. 18, 2013. 7 pp.

GULF RESTORATION NETWORK
healthygulf.org
UNITED FOR A HEALTHY GULF
541 Julia Street, Suite 300, New Orleans, LA 70130
Phone: 504.525.1528 Fax: 504.525.0833

8 April, 2013

Sandra E Stiles, MVN
United States Army
Corps of Engineers
New Orleans District
Post Office Box 60267
New Orleans, LA 70160-0267
Sandra.E.Stiles@usace.army.mil
mvnenvironmental@usace.army.mil

RE: **Comprehensive Environmental Document (CED), Greater New Orleans Hurricane And Storm Damage Risk Reduction System (HSDRRS)**

Ms. Stiles,

I am writing on behalf of the Gulf Restoration Network (GRN).[1] We have had long-standing concerns about the inadequacy of the alternative arrangements to NEPA that were arranged for the Greater New Orleans hurricane system post-Katrina. While the need for infrastructure was urgent and great, we feel that this process has failed to inform the public and will more likely lead to a failure to replace wetland values lost during the construction of the system. As these wetlands provide a degree of flood risk reduction, their replacement is a concern of public safety as well as the environment.

We feel that this practice of alternative arrangements to NEPA should not provide the Corps with a way to proceed for other ongoing and proposed hurricane protection and coastal restoration efforts.[2] The standard NEPA process is a way for agencies to review major projects and examine the best alternative for achieving project goals in current conditions.

What we have lost via this alternative arrangements process is an opportunity to improve the basic design of the risk reduction system. The NEPA process was an opportunity to take a hard look at the impacts of the built risk reduction features to the natural risk reduction features. Because of this failure to learn, we fear that future risk reduction projects will continue to dismiss the value of wetlands as risk reduction features.

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[1] A diverse coalition of individual citizens and local, regional, and national organizations committed to uniting and empowering people to protect and restore the resources of the Gulf of Mexico.
[2] Feb 23, 2007 CEQ letter from James L. Connaughton to Maj. Gen. Don T. Riley

GULF RESTORATION NETWORK
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Since Katrina, a new design strategy on tidal surge reduction has been needed. We feel that this approach is outlined in great detail in the Multiple Lines of Defense Strategy[3]. This document outlines the manner in which coastal wetlands provide storm protection in concert with features of the built environment. A major component of this strategy is the design of built flood risk reduction features and wetlands restoration to avoid the enclosure of wetlands behind constructed features, and, to the maximum extent practicable, allow for natural tidal connections to the estuarine system.

This enclosure has been shown to lead to degradation of function[4] and eventual loss of the wetland. In Terrebonne parish, marsh management has led to the degradation of wetland functions, particularly the lack of soil organic accretion. In a worst case, impounded and drained wetlands in the New Orleans East sub-basin burn continually, occasionally leading to a public health hazard[5].

This “Lines of Defense” strategy document also informed the NGO comment to the MRGO restoration plan, in and around the New Orleans East and Chalmette Loop sub-basins. Rather than restore wetlands inside of these enclosed areas, the NGO alternative plan outlined the need to restore critical land features highlighted by the LCA project as important for flood risk reduction.

As the wetlands in and around the Greater New Orleans system are a part of the risk reduction system, it is contradictory that indirect impacts to these wetlands are not listed in the Comprehensive Environmental Document. There are tidal gates for navigation that generally remain open, and do allow some flow between enclosed and exterior environment. But as sea level rises, we anticipate the gates will be closed more and more often as 2057 approaches, until they are closed by default. This design will restrict access to fishing areas, as well as have negative impacts to wetlands enclosed, then impounded, within the system.

Thanks for this opportunity to comment on the Comprehensive Environmental Document for the Greater New Orleans Hurricane Storm Defense and Risk Reduction System. Enumerated comments are below.

---

[3] Multiple Lines of Defense Strategy. http://www.mlods.org/

[4] Cahoon and Groat, ed. 1990. A Study of Marsh Management Practice in Coastal Louisiana. http://www.data.boem.gov/PI/PDFImages/ESPIS/3/3654.pdf

[5] Schliefstein, M. *Smoke from marsh fire prompts health warnings, school restrictions* Monday, August 29, 2011http://www.nola.com/traffic/index.ssf/2011/08/eastern_new_orleans_marsh_fire.html

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Comments

1. **The alternative arrangements pursuant to 40 CFR 1506.11 have resulted in further delays to assessment of impacts and to mitigation of the loss of ecosystem functions.**

2. **There remains a major question of when the emergency circumstances come to an end.**

3. **The CED document is incomplete, especially pertaining to indirect impacts of the HSDRRS system upon wetlands and federal projects, including newly impounded wetland forests in Lake Catahouachie sub-basin, as well as federal lands and federal restoration projects enclosed by the system in New Orleans East and Chalmette Loop sub-basins.**

4. **Because the impact assessment remains incomplete, mitigation plans lag behind. Construction of wetland features is a critical component of flood risk reduction in the New Orleans District, and their funding must be assured.**

5. **Given the failure of this process to take a hard look at the impacts and evaluate alternatives for risk reduction that synthesize natural and built risk reduction features, we protest the use of such alternative arrangements in the future.**

For a healthy Gulf,
[sent via e-mail]

Scott Eustis, M.S., Coastal Wetland Specialist

Cc: Matt Rota, Water Resources Program Director
Cyn Sarthou, Executive Director

Louisiana Audubon Council
Coalition to Restore Coastal Louisiana
Lake Pontchartrain Basin Foundation
Louisiana Environmental Action Network
US EPA
NOAA

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United States Department of the Interior

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

April 5, 2013

Colonel Edward R. Fleming
District Commander
U.S. Army Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160-0267

Dear Colonel Fleming:

The U.S. Fish and Wildlife Service (Service) has reviewed the Department of the Army, Corps of Engineers (Corps), Comprehensive Environmental Document (CED) for the Greater New Orleans (GNO) Area Hurricane Storm Damage Risk Reduction System (HSDRRS) transmitted to our office via a February 5, 2013, letter from Ms. Joan M. Exnicios, Chief, of your Environmental Planning Branch. The Service submits the following comments in accordance with the National Environmental Policy Act of 1969 (NEPA, 83 Stat. 852, as amended; 42 U.S.C. 4321 et seq.) and the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

The CED addresses impacts associated with construction of HSDRRS that was authorized following the extensive damage resulting from Hurricane Katrina's landfall in southeast Louisiana. To construct the newly authorized level of hurricane and flood reduction features the Corps implemented, with approval from the Council on Environmental Quality, NEPA Alternative Arrangements. Approximately 217 miles of levees and other flood reduction measures (e.g., T-walls, floodgates, pump stations, etc.), along with associated features (e.g., borrow sites, access roads, etc.) needed to construct the system were addressed in several Individual Environmental Reports (IERs). IERs addressed construction impacts by portions of the system having independent utility. The CED presents an interim summary of impacts and constructed features that were addressed in IERs completed by November 15, 2010. Impacts and features occurring after that date will be addressed in a CED supplement.

General Comments

Overall, the CED presents a good summation of the implementation of alternative arrangements (including the extensive coordination undertaken), project features constructed and the resulting impacts to significant resources. The Service has previously brought attention to the amount of time being required to finalize mitigation plans and urges the rapid implementation of mitigation to ensure additional temporal impacts do not have to be incorporated into mitigation features.

The Service does, however, have specific comments on the document; those comments are presented below.

Specific Comments

Volume I

Page ES-48, first paragraph – This paragraph references an Appendix S which should contain the current guidelines for assessing impacts to open water habitats and submerged aquatic vegetation during the implementation of the proposed projects. We were unable to locate Appendix S, nor the subject guidelines, in the CED; we recommend that this appendix be included. This same comment applies to the last paragraph on page 2-30.

Page ES-56 - The value for wetland impacts appears to be incorrect and should be revised to include 1,483.49 acres of wetlands and 3,644.81 acres of non-jurisdictional bottomland hardwood habitat to coincide with the rest of the document. Other pages where impact acreage discrepancies occur are 9-5, and Volume 3, Appendix N, Table 1.

Page 2-30, HSDRRS Mitigation Components, last paragraph - This paragraph mentions guidelines that will be used in assessing impacts to open water habitats and submerged aquatic vegetation during the implementation of the proposed mitigation projects. It is our understanding that those guidelines have not been officially accepted by the involved natural resource agencies, and many variable-specific and site-specific assumptions related to these habitats are currently under development by our office. We recommend that this paragraph be removed, with the exception of the first sentence, and that the following statement be added: "Those guidelines are nearing completion, but are undergoing further refinement. We anticipate their completion prior to the release of any supplemental CEDs, and a full description will be included as appropriate in forthcoming NEPA documents."

Page 4-51, Table 4-6, Wetlands and Non-Jurisdictional BLH Impacts - Impacts for IER 13 are incorrectly listed. Approximately 58 acres (38.86 AAHUs) of wetlands were impacted, and 13 acres (7.80 AAHUs) of non-jurisdictional BLH were impacted.

Page 4-7, New Orleans East Sub-basin, fourth paragraph - We recommend removing/revising the last sentence which states that "A probable positive impact...resulted from the concentration of numerous prey items at the cofferdam and the attraction of larger fish and predators to the area." This concentration may be a temporary benefit to predatory organisms or activities (e.g., recreational fishing) but it could also prove to be a negative impact to prey species.

Page 4-74, Specific Impacts of the HSDRRS, Gretna-Algiers Sub-basin - To prevent any further impacts that could result from operation of the pump station, (i.e., scouring, banks erosion, etc.) due to its discharge of 20,000 cubic foot per second (cfs), foreshore protection would be constructed within the channel adjacent to the western Gulf Intracoastal Waterway (GIWW) shoreline. We recommend revising the last sentence to state that "rock foreshore protection," rather than "rock placement" on the shoreline could improve edge habitat.

Page 4-77, 4.2.5.2.2 HSDRRS 2057 Impacts - In regards to the "Improved Protection on the Inner Harbor Navigation" Canal project, the Corps has previously disclosed that the impact of sea level rise in conjunction with marsh loss on the operational scenario of the water control structures is unknown and could result in increased frequency and duration of closures. This could translate into impacts to aquatic resources and fisheries by disrupting migration patterns and ingress and egress into interior marshes. Because these impacts could result in a change in frequency and/or duration of gate closure the Corps intends to incorporate adaptive management to address such changes. As it relates to cumulative impacts to fisheries and wetland habitats the uncertainty of future operational scenarios should be addressed.

Page 5-6, second-to-last paragraph – This paragraph states that the anticipated date for completion of the programmatic mitigation IERs (IER #36 and 37) is October 2012. We recommend that this be updated to reflect the current anticipated schedule.

Page 5-14 Mitigation - According to the CED, to avoid the movement of sediments into Lake Pontchartrain the Service recommended that the coffer dam be used only during a slack tide. We recommend that the word "used" be replaced with "constructed" to accurately reflect our comment.

Page 5-49, Specific Monitoring Measures, Gretna-Algiers Sub-basin - The National Park Service has indicated that amphibian surveys will not be conducted within the Bayou aux Carpes area. This section should be revised accordingly.

Page 6-15, CEMVN Response 15, last paragraph – The Service requests that all natural resource agencies involved in mitigation be coordinated with to determine what certain mitigation activities will be necessary to meet the projects initial success criteria.

Page 8-11, 8.7 Other Non-Federal Sponsor Responsibilities – This section should indicate that the local sponsors will be aware of the need to coordinate changes with the natural resource agencies to ensure such changes do not result in additional unmitigated impacts or result in possible impacts to any threatened or endangered species.

Page 9-5, Fisheries - The second paragraph states, "the installation of rock shoreline, fronting protection, and breakwaters would provide more productive habitat for fisheries by improving edge habitat along shorelines." Natural shorelines provide the most suitable habitat for fisheries; this statement should be revised to acknowledge that while productive and possibly diverse, rock shorelines may not provide a more productive habitat for fisheries.

Volume II

Appendix D Site Location Maps - Several borrow sites, listed below, appear to have boundaries that do not reflect those shown in the IER. Some may have been modified post-IER, but that should be noted somewhere in the CED and/or appendix:

Westbank D

Westbank E Phase 1

Riverbirch Phase 2

Contreras Dirt

Acosta 2

Additional maps needing other revisions include:

Churchill Farms – only shows planned excavation, not the entire environmentally cleared area, which could all potentially be excavated.

Stumpf 1and 2 – boundaries are incorrectly mixed together.

Tac Carrere appears to be misplaced to the south.

Idlewilde Stage 1and 2 boundaries reversed in the CED.

Tabony and Brad Buras labels are reversed in the CED.

Willowbend Phase 1 shows only about half of the site.

Volume III

Appendix G, Page 1 – A title and legends need to be added to this table for clarification.

We look forward to assisting the Corps in the final documentation and assessment of project effects on our trust resources. Should you have any questions regarding our comments, please contact David Walther (337/291-3122) of this office.

Sincerely,

Jeffrey D. Weller
Supervisor
Louisiana Ecological Services Office

cc: FWS, SE Refuges Complex, Bayou Lacombe, LA
EPA, Dallas, TX
NMFS, Baton Rouge, LA
Corps, New Orleans, LA (Attention: Sandra Stiles, CEMVN-PDN)
LDWF, Baton Rouge, LA
OCPR, Baton Rouge, LA
LDNR, CMD, Baton Rouge, LA

Eric Webb

From: Wilkinson, Laura L MVN <Laura.L.Wilkinson@usace.army.mil>
Sent: Friday, April 05, 2013 4:23 PM
To: Eric Webb
Subject: FW: Comments, HSDRRS Comprehensive Environmental Document (UNCLASSIFIED)
Attachments: image003.jpg; HSDRRS Draft CED_CPRA Comments.docx; HSDRRS Draft CED_ Editorial Comments.docx

Classification: UNCLASSIFIED
Caveats: NONE

CPRA comments.
LL

-----Original Message-----
From: Stiles, Sandra E MVN
Sent: Friday, April 05, 2013 2:45 PM
To: Wilkinson, Laura L MVN
Subject: Fw: Comments, HSDRRS Comprehensive Environmental Document

----
Message sent via BlackBerry Device permanently
Attached to my hand

From: Elizabeth Davoli [mailto:Elizabeth.Davoli@LA.GOV]
Sent: Friday, April 05, 2013 07:00 AM Pacific Standard Time
To: Stiles, Sandra E MVN
Subject: Comments, HSDRRS Comprehensive Environmental Document

Sandra-

Attached are two sets of comments on the CED. One is general comments on the document and the other is editorial comments.

Liz

Description: CPRA_circle_logo_resized2

Liz Davoli, R.P.A.

Coastal Resources Scientist Supervisor

Environmental Section, Planning & Research Division

Coastal Protection and Restoration Authority

450 Laurel Street, Baton Rouge, LA 70801

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Phone: (225) 342-4616

Fax: (225) 242-3550

Classification: UNCLASSIFIED
Caveats: NONE

COMMENTS ON HSDRRS DRAFT COMPREHENSIVE ENVIRONMENTAL DOCUMENT

Chapter 1

The CED is written as a snapshot in time (2010) rather than an evaluation/analysis of the cumulative impacts from constructing/upgrading the Hurricane and Storm Damage Risk Reduction System.

"It's proposed to supplement the CED as construction activities beyond July 2011 are completed." Will the CED be supplemented ad infinitum in a piecemeal fashion? Will there be a supplement in 2057?

Per the Notice of Intent published in the Federal Register in 2007:

- *The CED will incorporate by reference and address the work completed and the work remaining to be completed on a systemwide scale and a final mitigation plan*. The IERs are not incorporated by reference; instead large chunks were copied/pasted into the CED. A final mitigation plan is not included.
- *The CED will include a discussion of how the individual IERs are integrated into a systematic planning effort*. This is not captured in the CED.

Page 1-1: *The HSDRRS effectively achieved the 100-year level of hurricane and storm damage risk reduction by June 2011.* If this is the case, why is the cut off for projects included for analysis in the CED November 2010? The IERs have been supplemented multiple times for each project within LPV and WBV and design changes have increased or decreased the overall project impacts disclosed in the original IERs. Why is this not documented within the CED?

Chapter 2

This chapter includes a discussion of IERs not included or not analyzed. If the cut-off date for inclusion was November 2010, why are the incomplete projects included and discussed?

Page 2-30 leaves the reader with the impression that mitigation projects are still in development when this is not the case. The TSPs have been selected for LPV and WBV.

Chapter 4

Much of the information included in this chapter is pulled directly from the IERs for the individual projects. Rather than pull large blocks of text from those IERs, summarize the information within tables and direct readers to NOLA Environmental for the IER documents.

It should be clear to readers that the IERS completed by November 2010 were for all of the risk reduction projects. The IERs not completed were for supplemental IERs for the risk reduction projects as well as borrow and both LPV and WBV mitigation.

Development (residential and commercial) continues within the HSDRRS system and is not necessarily tied to post-Katrina redevelopment. In the CED, it is stated that development is not a cumulative effect of HSDRRS. If not for the protection the levees, floodwalls, and floodgates and other features provide from storm events, would development be occurring inside the system?

No discussion of cumulative effects of HSDRRS on induced development reducing wetlands inside and/or outside of the system is included within the CED. No discussion of forced drainage requirements to keep system de-watered or altering tidal connections.

Page 4-17: Induced development as a result of HSDRRS would potentially remove prime farmland soils as fill is brought in. How is induced development as a result of HSDRRS a minor impact? The TSP for the WBV mitigation removes prime farmland soils to create marsh and swamp. Although not analyzed in this CED (but will be in a future supplemental CED), USACE's actions impact soils.

Pages 4-50 to 4-52, Table 4-6: The table reflects the wetland impacts documented in the Fish and Wildlife Coordination Act Report, not the actual impacts for which mitigation was developed. The calculated impacts to be mitigated should be included in the CED, not out-of-date estimates.

Chapter 5

Mitigation for the HSDRRS wetland impacts is not discussed within the CED and, instead, it's stated that programmatic IERs will be prepared. Will a supplemental CED be prepared to discuss the cumulative effects of HSDRRS on wetlands?

What was the methodology for calculation of wetland mitigation for contractor-furnished borrow areas? Were borrow impacts tracked to determine overall impacts and were credits purchased from an approved bank at the time of impact or were all wetland impacts mitigated through an approved bank at one time? Were wetland impacts on contractor furnished borrow areas calculated using WVA or MCM?

Pages 5-4 to 5-6, Section 5.2.2.1 and Section 5.2.2.2 read as if mitigation is still in the development process when that's not the case. The TSPs have been selected for LPV and WBV.

WVA is not an appropriate evaluation tool to assess the impacts of HSDRRS construction to wetland habitats.

On page 5-6: *All compensatory mitigation activities will be consistent with standards and policies established in the CWA Section 404 regulatory program and the appropriate USACE policies and regulations governing compensatory mitigation*. The USACE New Orleans District's HSDRRS mitigation is inconsistent with the CWA Section 404 regulatory program as well as USACE policies and regulations. Throughout the mitigation project selection process, District personnel consistently put more emphasis on mitigating in-kind than being consistent with a watershed approach. The actions taken appear to be contrary to USACE's implementation guidance for WRDA '07 – "*the mitigation planning process includes…compensating for lost non-negligible resources through in-kind mitigation to the extent incrementally justified employing a watershed approach in mitigation planning; and, identifying the features of the mitigation plan and how it will be implemented in the project decision document*."

Figure 5-1 on page 5-7 is titled HSDRRS Wetland Compensatory Mitigation Sites Being Evaluated. USACE selected the TSPs for the mitigation sites in 2011. It is misleading to imply the project sites on the figure are currently under evaluation for use as mitigation when the decision to utilize specific sites has been made.

Pages 5-10 to 5-18 detail mitigation measures and BMPs discussed within the IERs to be implemented during construction. The text does not clarify if these measures and BMPs were in fact implemented during construction activities nor does the text state if additional wetland impacts occurred. Rather than copy/paste this text directly from the IERs, the CED should discuss the cumulative effects of HSDRRS construction activities on wetlands.

EDITORIAL COMMENTS ON DRAFT HSDRRS COMPREHENSIVE ENVIRONMENTAL DOCUMENT

1. Pp. ES-45 and ES-46: Suggest changing the orientation of the basins by 180°.

2. P. 1-2, 2nd paragraph, 4th sentence: Change "HSDRSS" to HSDRRS.

3. Pp. 2-29 to 2-30: The reader is left with the impression that IERs 36 and 37 are only for the borrow sites rather than mitigation.

4. P. 3-21, Figure 3-7: The boundaries of the HSDRRS project areas on the larger map (not the inset) would be helpful.

5. P. 4-2, 4th paragraph: Is the discussion of proposed levee lifts limited to those projects for which IERs were completed by November 2010?

6. P. 4-3 to 4-5, Table 4-1: For the purpose of discussion of analyzed impacts, it would be helpful for the reader if the date of completion were included for each IER.

7. P. 4-18, Water Quality: USACE levee construction responsibilities date from the nineteenth century. Hydro-modification has been in place for over 100 years in the New Orleans region.

8. P. 4-21: Discussion of impacts to the 404(c) area. Water quality: The IERs are supposed to be incorporated by reference. Rather than include the detailed discussion on individual IERs, summarize and incorporate by reference.

9. P. 4-33, 2nd paragraph, Seabrook: Since data collection will continue into 2013, will there be further analysis in future supplemental CEDs?

10. P. 4-40: Suggest using the Water Quality summary instead of the pages of detailed, in-depth information pulled from the IERs.

11. P. 4-41: Suggest removal of "In the last 100 years, a large portion of historical BLH habitat has been logged and converted into agricultural and urban lands (Dahl et al. 1991). Approximately 200 years ago, 30 million acres of BLH covered the southeastern U.S., but it is estimated that loss rates were as high as 431,000 acres per year from 1965 to 1975. As a result, very little original BLH habitat exists in the southeastern U.S. (USEPA 2009a). These sentences appear to have been randomly tossed into a discussion of BLH within the HSDRRS system.

12. P. 4-55 to 4-56: Summarize within a table, if possible.

13. P. 4-56, NOV: Are the impact numbers accurate? A different alternative was selected as the preferred after the public release of the Draft EIS for NOV. Recommend the impact numbers be double-checked.

14. P. 4-57, Transportation: Consider a table.

15. P. 4-63, Fisheries: Is it relevant to discuss the history of fishing from prehistory to the mention of the gas engine?

16. P. 4-64: Why are 2005 data used for shrimp and crab landings? More recent data should be used. Annual data 1998-2000 is over a decade out of date.

17. P. 4-66: Update Table 4-9.

18. Pp. 4-68 to 4-78: Much of this information can easily be summarized within a table.

19. P. 4-79: "It is anticipated that a report will be prepared detailing the final results of the DO and salinity data collection efforts in 2013. Those data and interpretation of changes in DO and salinity will be used by CEMVN to evaluate alternatives for providing rectification or mitigation." Will these alternatives be evaluated in a supplemental CED?

20. P. 4-82: "Long-term effects of flood risk reduction infrastructure would slow the erosion of valuable fish habitat by reducing the potential of more fragmentation due to high energy storm surge."

21. P. 4-91, New Orleans East Sub-basin, 1st paragraph: "The new floodwall (IER Supplemental #6) eliminated the existing terrestrial wildlife access to Lake Pontchartrain along the reaches, which potentially impacted species such as nutria (Myocastor coypus), red fox (Vulpes vulpes), raccoon, Virginia opossum, and nine-banded armadillo." Nutria and nine-banded armadillo are invasive species. Would access to the lake promote the destructive activities of these species?

22. Why isn't the section on wildlife tailored to the WMA within the HSDRRS system?

23. P. 5-4, Section 5.2.2.: "Any fill or excavation in open water habitat that is designated by oyster seed grounds by LDWF." Is this applicable to HSDRRS?

24. P. 5-6: "Anticipated date for completion of programmatic mitigation IERs (IERs #36 and #37) is October 2012." Should "2012" be 2013?

25. P. 5-45: "Work that was originally proposed for foreshore protection as described in IERs #6 and #7 was not needed to meet the current 100 year level of risk reduction and therefore was performed." Add not before "performed" if this was the case.

26. Pp. 5-45 & 5-46, Monitoring: Isn't monitoring underway for the Bayou Aux Carpes 404(c) area?

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701

April 2, 2013 F/SER46/RH:jk
225/389-0508

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

Dear Ms. Exnicios:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the draft Comprehensive Environmental Document (CED) for the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS) transmitted by your letter dated February 5, 2013. The draft CED summarizes information from Individual Environmental Reports (IER) released for HSDRRS prior to November 15, 2010. Information in IERs released after that date will be incorporated into supplemental CEDs to be released in the future.

The HSDRRS consists of 217 miles of flood reduction structures including a combination of earthen levees, T walls, and a wide variety of water control structures. HSDRRS was authorized and funded by Congress following the passage of Hurricane Katrina in 2005 which resulted in widespread destruction and loss of life in the New Orleans area and surrounding parishes. Given the need to rapidly implement HSDRRS, Emergency Alternative Arrangements under National Environmental Policy Act procedures were developed and authorized by the Council on Environmental Quality. The release of the CED is intended to provide a summary of actions taken, and impacts to resources of concern, from initiation of HSDRRS through November 15, 2010.

NMFS staff have worked closely with those of the U.S. Army Corps of Engineers (USACE) and the other natural resource agencies in the development of the Emergency Alternative Arrangements and implementation of HSDRRS. USACE staff, especially those of the New Orleans District, should be commended for the level and quality of effort invested in the implementation of HSDRRS, as well as their efforts to minimize environmental impacts associated with the project. Regarding information provided in the draft CED, NMFS finds the document is very well written and generally accurately summarizes issues and impacts to resources of concern. However, we have the following comments and revisions which we recommend be addressed in a supplemental CED:

EXECUTIVE SUMMARY

Page ES-56, paragraph 2. According to this section of the CED, 1,637 acres of wetlands and 3,565 acres of non-jurisdictional bottomland hardwoods were directly impacted by HSDRRS construction. These numbers do not match the figures provided in Table 4-6 of the CED or Table 1 in Appendix N. Given the importance of the quantification of impacts to wetlands, essential fish habitat (EFH), and bottomland hardwoods, NMFS recommends all sections of the CED be revised to consistently and accurately provide the most up-to-date numbers possible.

Section 4.0 AFFECTED ENVIRONMENT, HSDRRS COMPONENT PROJECT IMPACTS, AND HSDRRS CUMULATIVE IMPACTS

Page 4-49, paragraph 1. This paragraph provides a good summary of how impacts to open water habitats, with and without submerged aquatic vegetation (SAV) would be evaluated and what impacts would be compensated. However, no section of the document, including Table 4-6 or the U.S. Fish and Wildlife's draft Coordination Act Report, quantifies impacts to open water with SAV. Appendix N includes a quantification of impacts to open water habitats but does not specifically identify if any included SAV. If HSDRRS implementation did not impact open water having SAV, such should be stated in this section of the CED. Alternatively, Appendix N should be revised to quantify impacts to open water with, and without, SAV. In addition, this paragraph (and paragraph 1, page 5-4) references an Appendix S as having open water impact assessment guidelines. There is no Appendix S in the CED.

Table 4-6, pages 4-50 through 4-52. This table quantifies impacts of each IER to wetlands and non-jurisdictional bottomland hardwoods. There is no quantification of wetland impacts by habitat type in the CED, other than in the draft CAR. Given mitigation for impacts will be in-kind (e.g., brackish marsh mitigation for brackish marsh impacts), future CEDs should provide a quantification of impacts by habitat type. NMFS acknowledges, as is stated in the CED, we are allowing fresh and intermediate marsh impacts to be combined to allow one project to compensate for impacts to both habitat types.

Page 4-52, paragraph 1. This paragraph discusses indirect wetland impacts which could result from HSDRRS construction. Specifically, it indicates some features were modeled and found to increase inundation depth, frequency and duration on adjacent or enclosed wetlands. Such impacts were not evaluated using the Wetland Value Assessment methodology, although such an evaluation is possible. A supplemental CED should discuss potential wetland impacts which could result from modeled hydrologic impacts and quantify compensatory mitigation needs to offset such impacts.

Page 4-55, 4-56. This section identifies wetland restoration projects which could benefit the HSDRRS area, including the Bonnet Carre diversion, Violet Canal freshwater diversion, and Caernarvon Outfall Management projects. Wording should be added to those projects giving the current status of project implementation and their likelihood of implementation.

Page 4-64, paragraph 2. This paragraph provides a listing of estuarine finfish species likely to be in the project area, including Atlantic menhaden. Gulf menhaden is the appropriate species to be listed here, not Atlantic menhaden.

Page 4-72, paragraph 1. The last sentence indicates the reduction of salinities caused by closure of the Mississippi River-Gulf Outlet would have a long term beneficial impact on fisheries in the Lake Pontchartrain basin. We recommend this statement be deleted or clarification be provided indicating the closure of the Mississippi River-Gulf Outlet would likely benefit only those fishery species which utilize fresh to low salinity wetlands as nursery and foraging habitats.

Tables 4-12 and 4-13. These tables list federally managed fishery species in the vicinity of the HSDRRS project area, including Gulf stone crab and gray snapper. Those two species should be deleted from these tables and any discussion pertaining to essential fish habitat.

Page 4-114, paragraph 2. This paragraph indicates construction activities associated with IER 10 resulted in a loss of 42 acres of open water categorized as EFH. Table 1 in Appendix N quantifies the impacts to open water for IER 10 as 50 acres. The correct acreage of impacts to all categories of EFH should be determined and all appropriate sections of the CED should be revised to consistently cite the same numbers.

Section 5.0 HSDRRS MITIGATION

Mitigation is being developed in coordination with the natural resource agencies and will be addressed in a separate IER. It has been our understanding sufficient funds have been set aside to fund mitigation to offset impacts to wetlands and associated EFH. NMFS is concerned there may be a funding shortfall to accomplish the necessary mitigation given increasing delays to construct and or acquire mitigation while cost of constructing flood protection measures increase. NMFS recommends supplemental CEDs address the subject of mitigation commitments made to date and discuss the adequacy of the funds set aside to purchase or construct mitigation, as well as maintain the mitigation project(s) until initial success criteria are reached and the project(s) are turned over to the non-federal sponsor.

We appreciate the opportunity to review and comment on the draft CED. If you have questions regarding comments provided above, please contact Richard Hartman at richard.hartman@noaa.gov or at (225) 389-0508, extension 203.

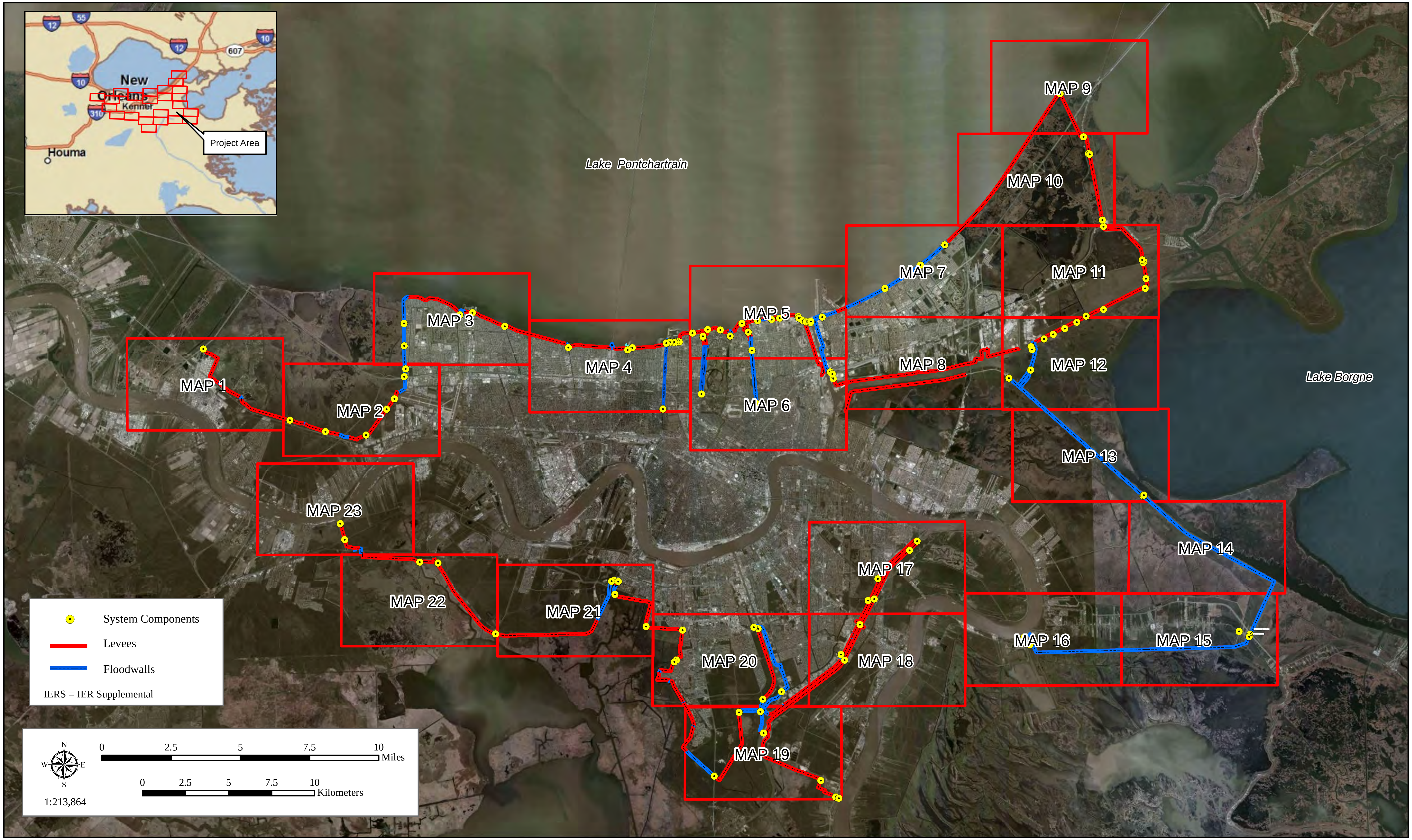
Sincerely,

Virginia M. Fay

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

c:
FWS, Lafayette, Walther
EPA, Dallas, Ettinger
LA DNR, Consistency, Lovell
LDWF, Balkum
F/SER4, Rolfes, Dale
F/SER46, Swafford
F/SER, Keys, Silverman
NOAA PPI, Nunenkamp
File

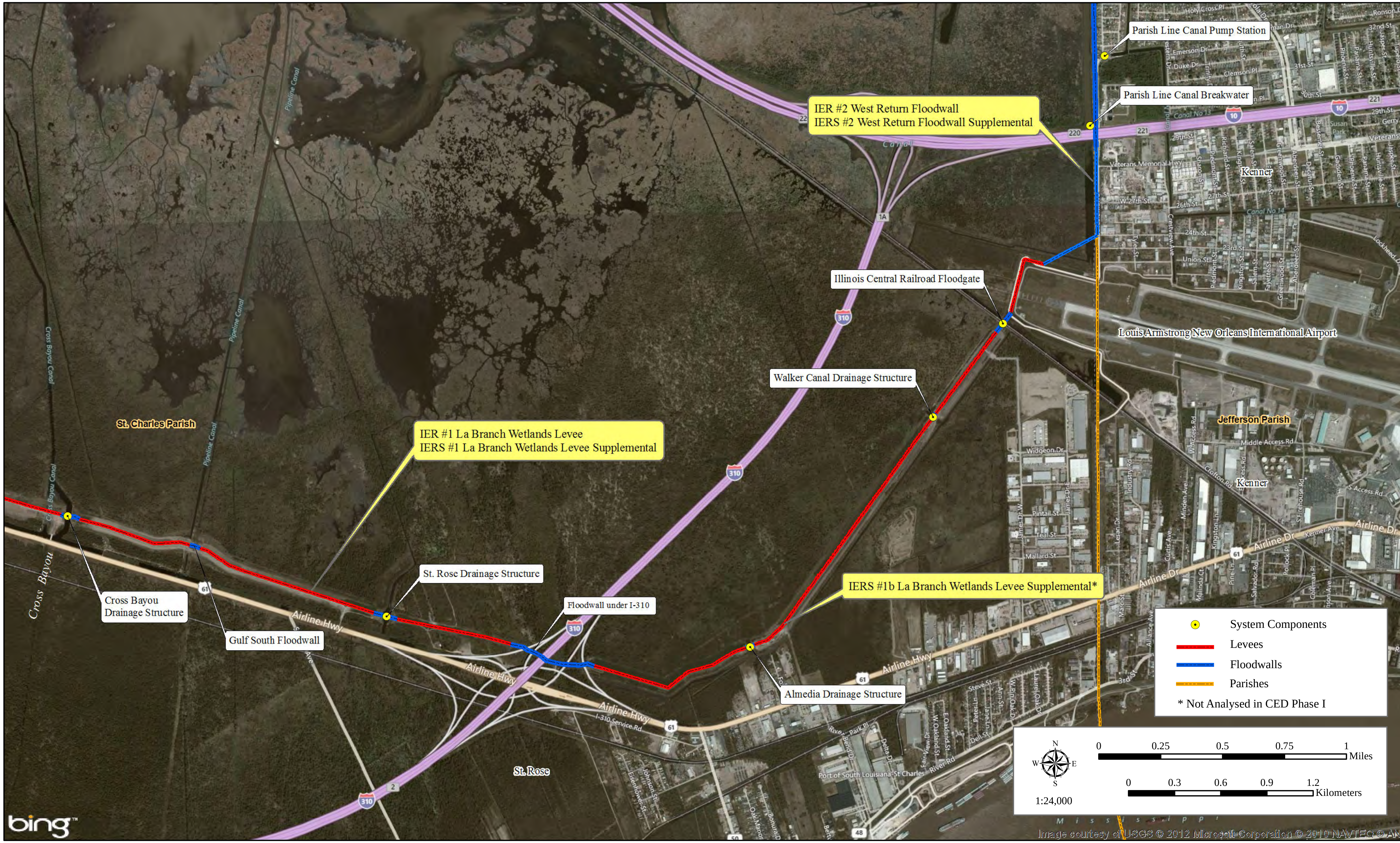
APPENDIX D
HSDRRS AND BORROW SITES LOCATION MAPS



Lake Pontchartrain
Lake Borgne
MAP 1
MAP 2
MAP 3
MAP 4
MAP 5
MAP 6
MAP 7
MAP 8
MAP 9
MAP 10
MAP 11
MAP 12
MAP 13
MAP 14
MAP 15
MAP 16
MAP 17
MAP 18
MAP 19
MAP 20
MAP 21
MAP 22
MAP 23
New Orleans
Kenner
Houma
Project Area
System Components
Levees
Floodwalls
IERS = IER Supplemental
0 2.5 5 7.5 10 Miles
0 2.5 5 7.5 10 Kilometers
1:213,864

Index Map

Location Map 1



Location Map 2

Location Map 3

Location Map 4

Location Map 5

Location Map 6

Location Map 7

Location Map 8

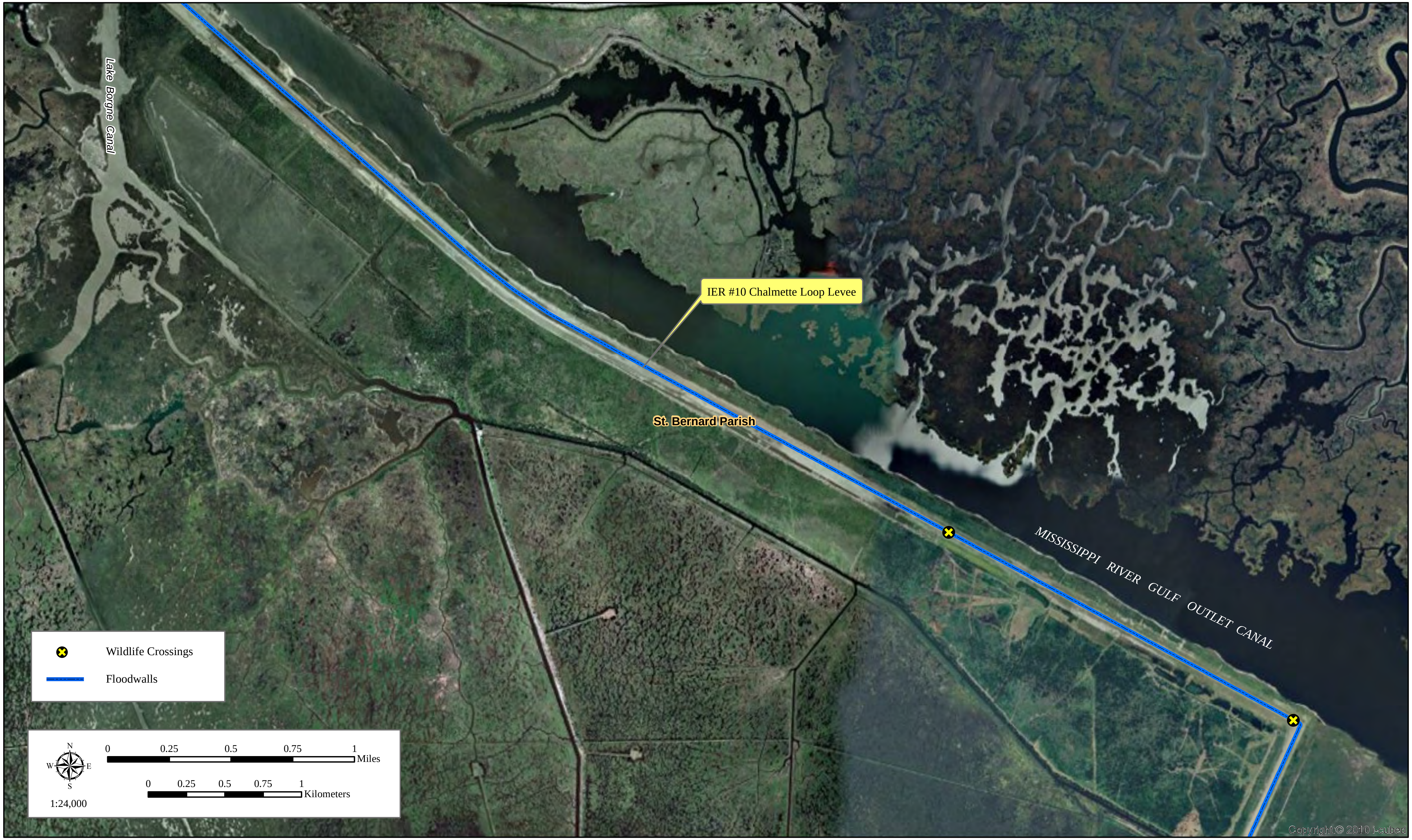
Location Map 9

Location Map 10

Location Map 11

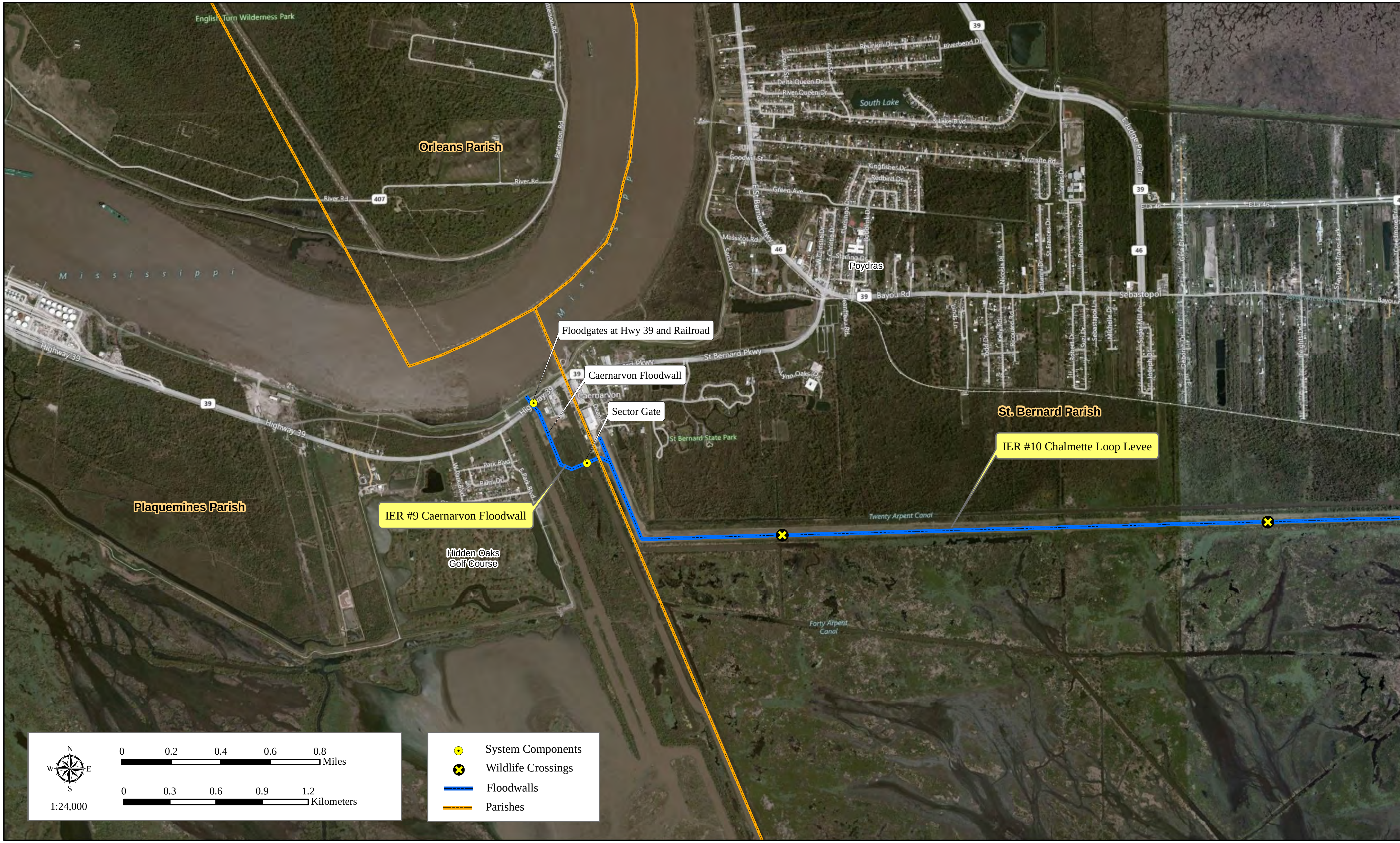
Location Map 12

Location Map 13

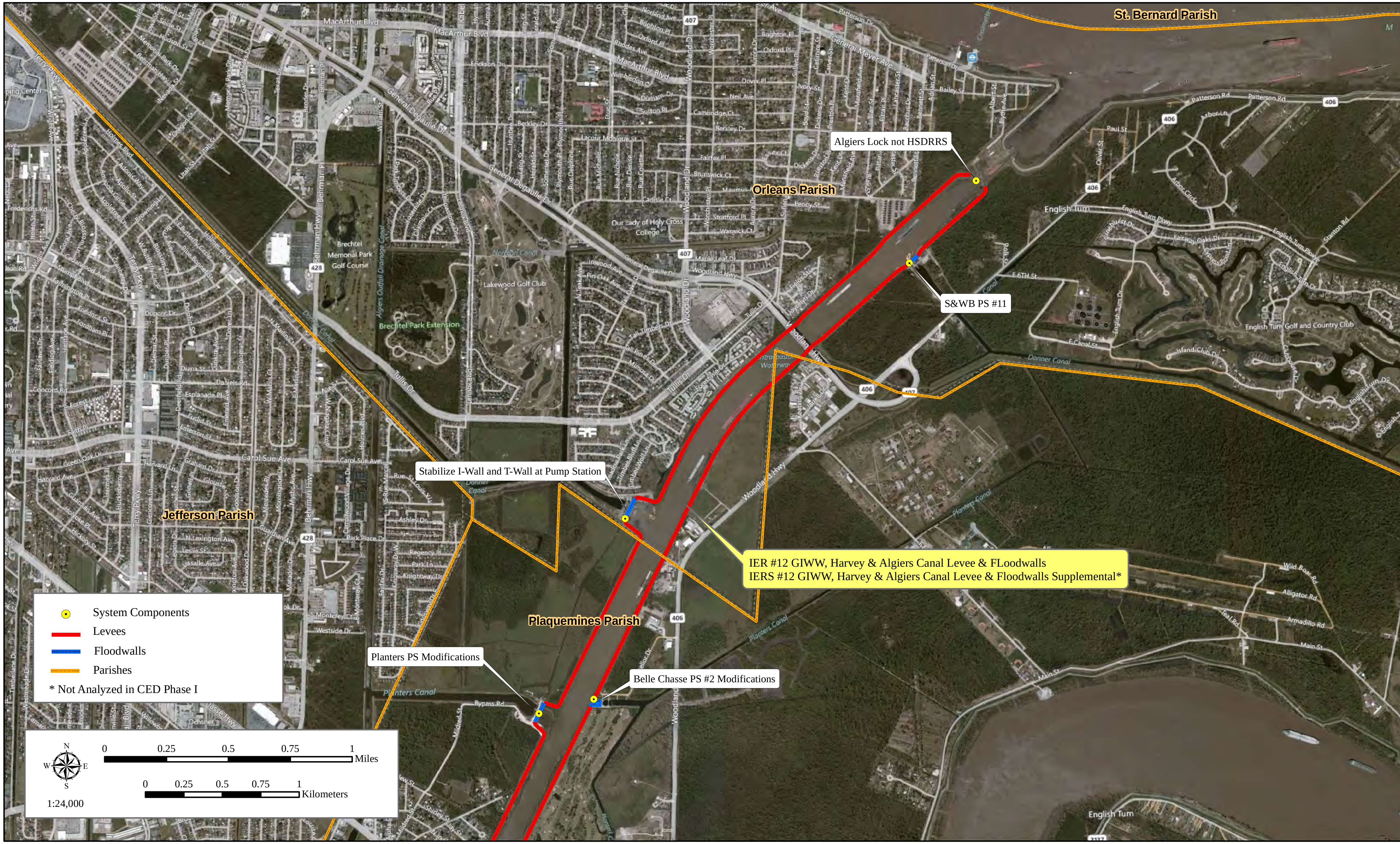


Location Map 14

Location Map 15

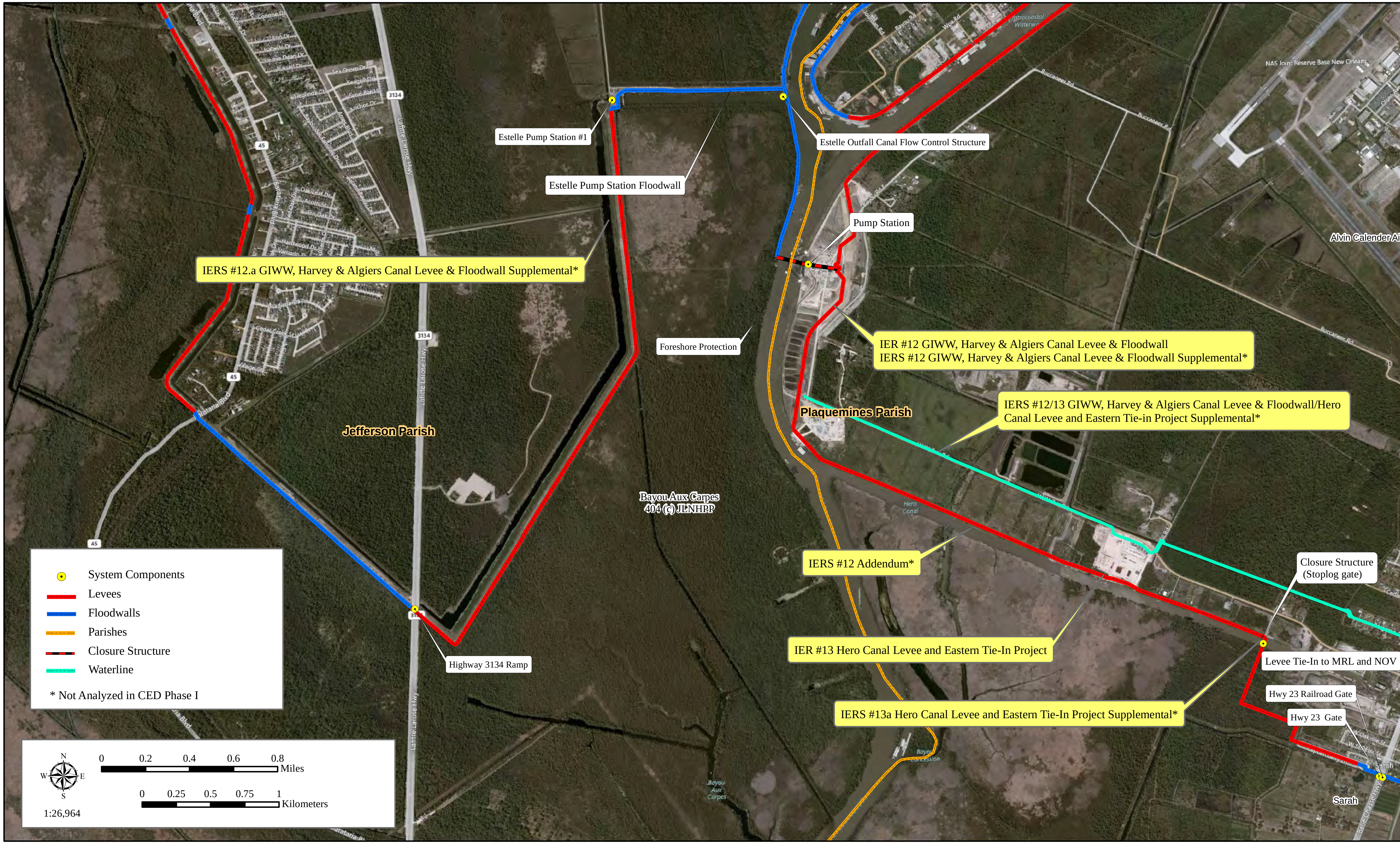


Location Map 16



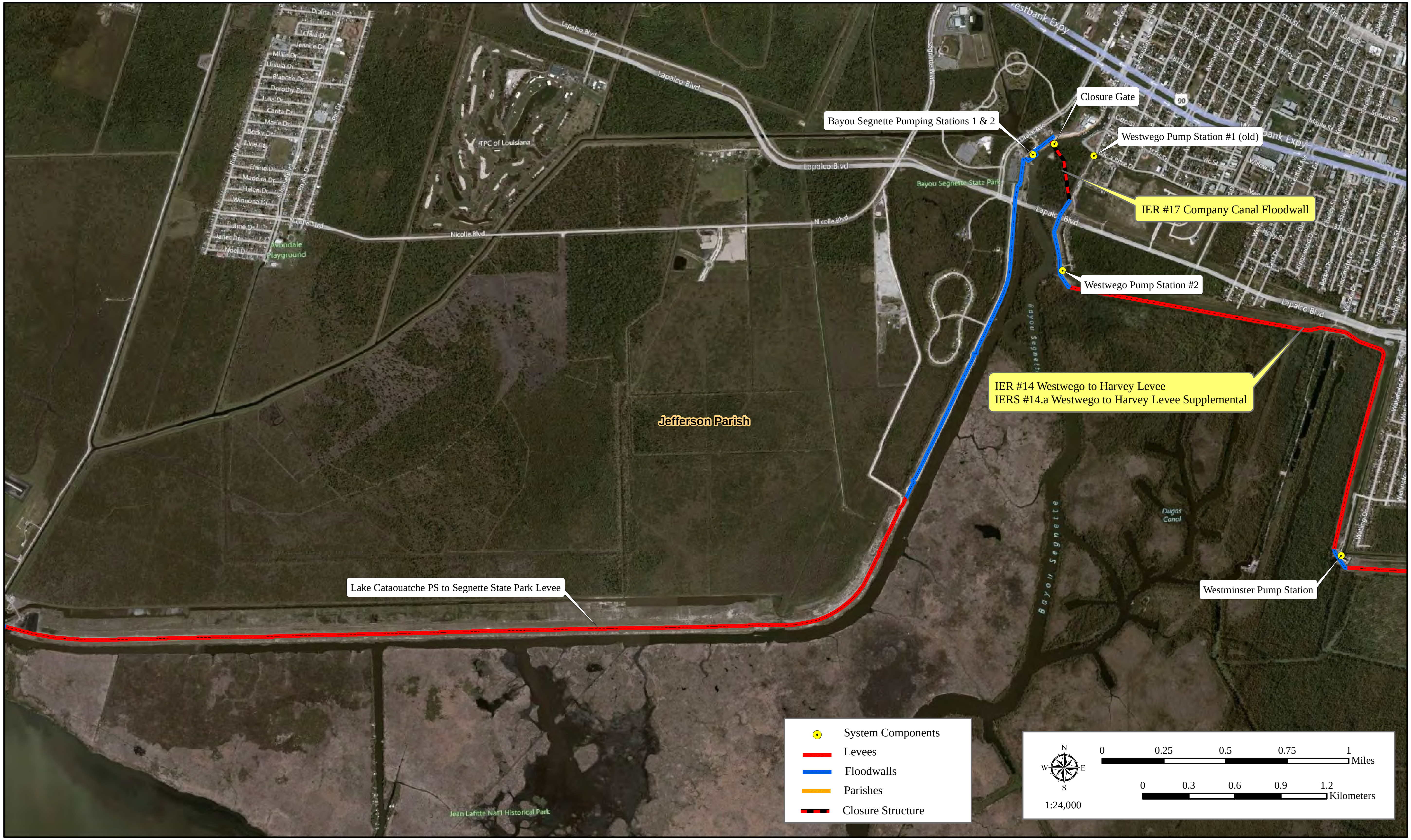
Location Map 17

Location Map 18

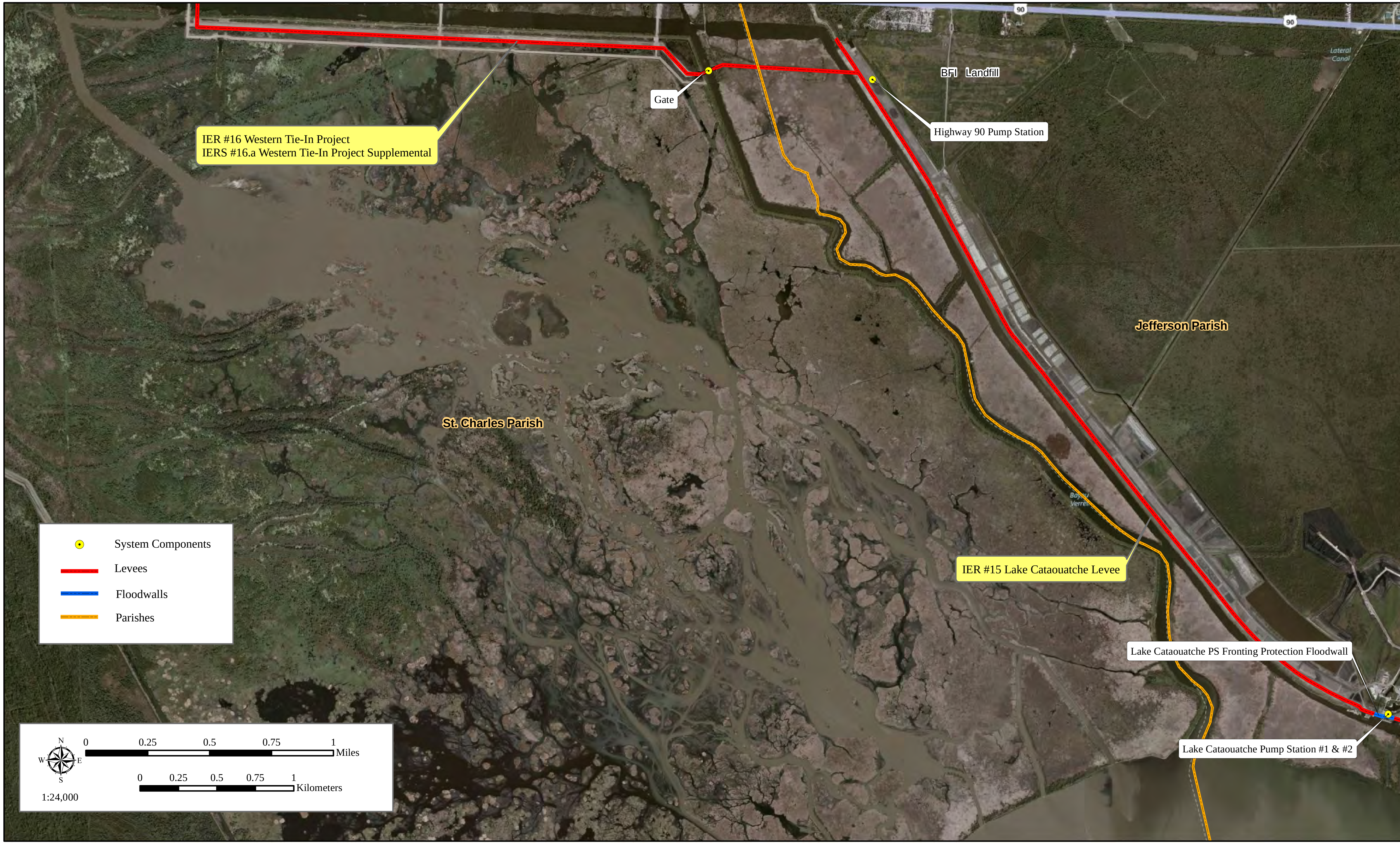


Location Map 19

Location Map 20



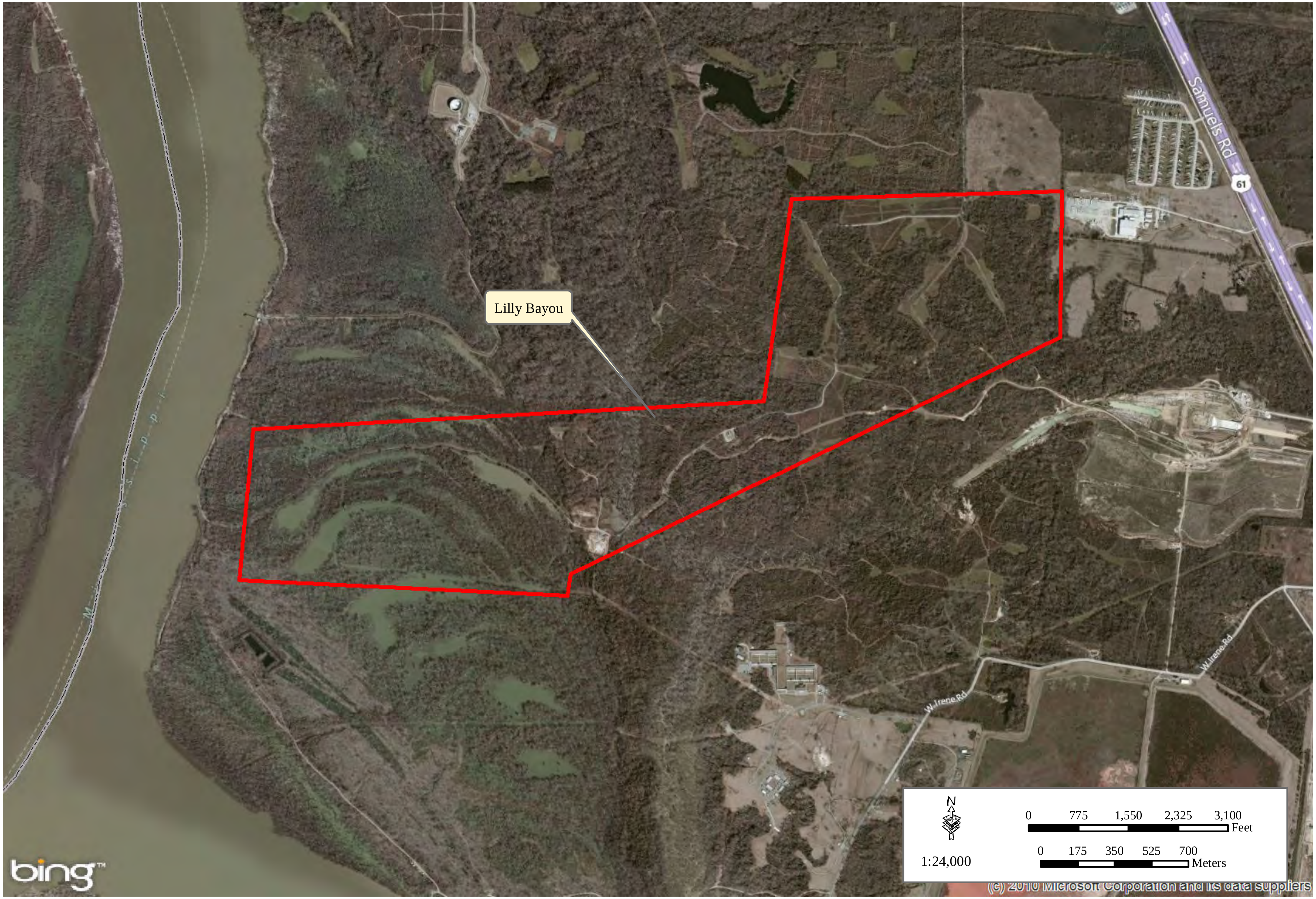
Location Map 21



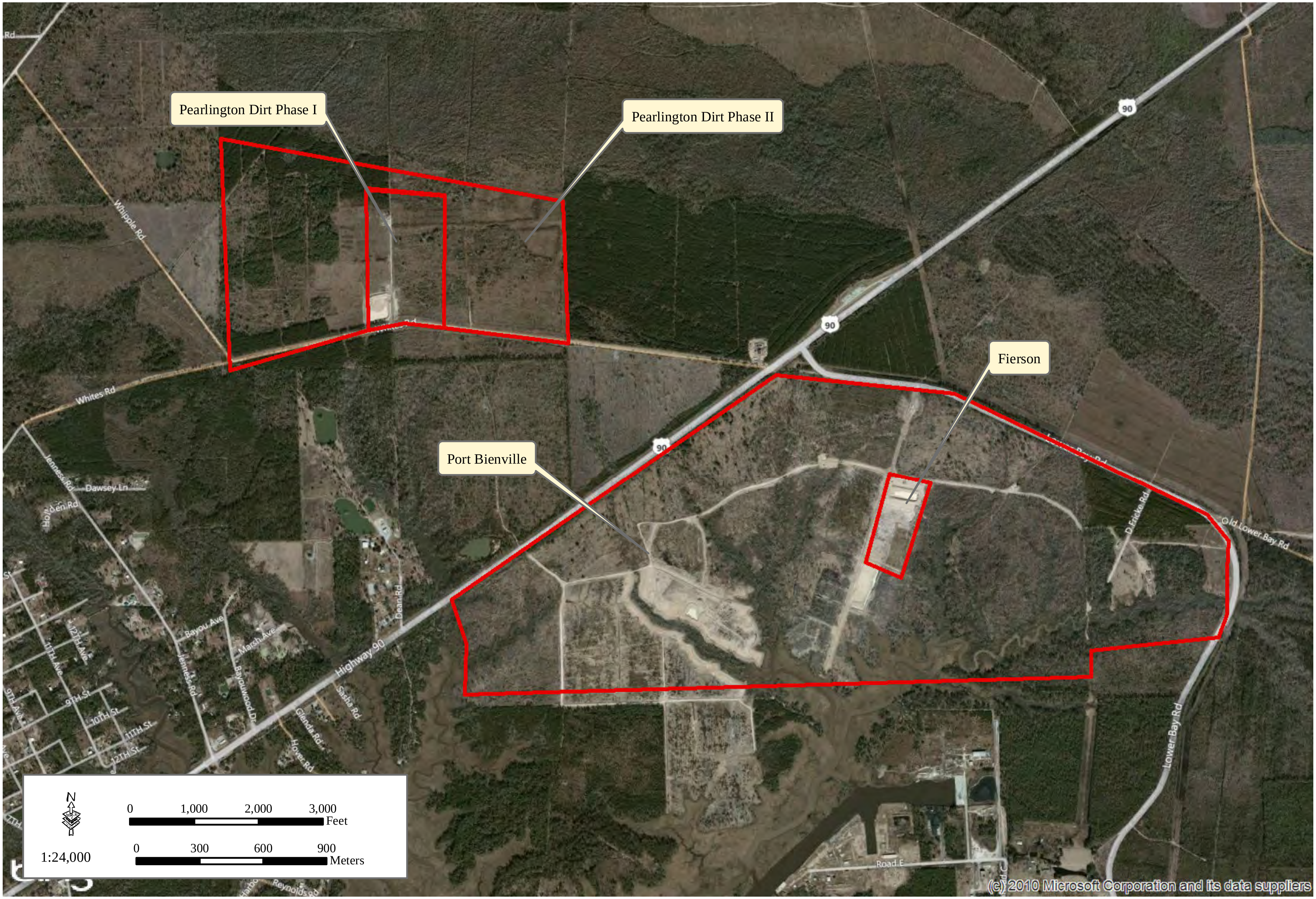
Location Map 22

Location Map 23

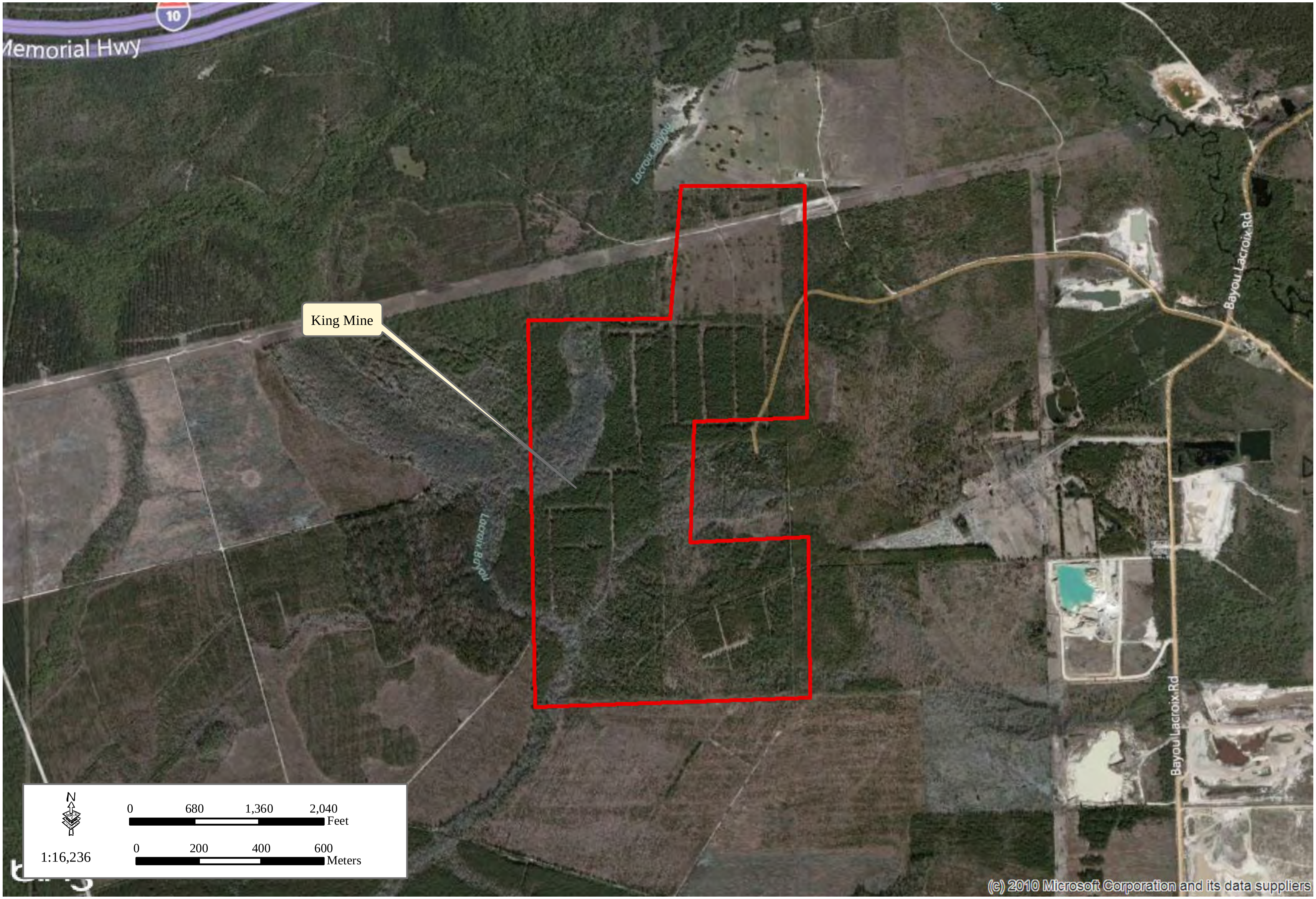
Bocage Borrow Site - Ascension Parish, LA



Lilly Bayou Borrow Site - East Baton Rouge Parish, LA



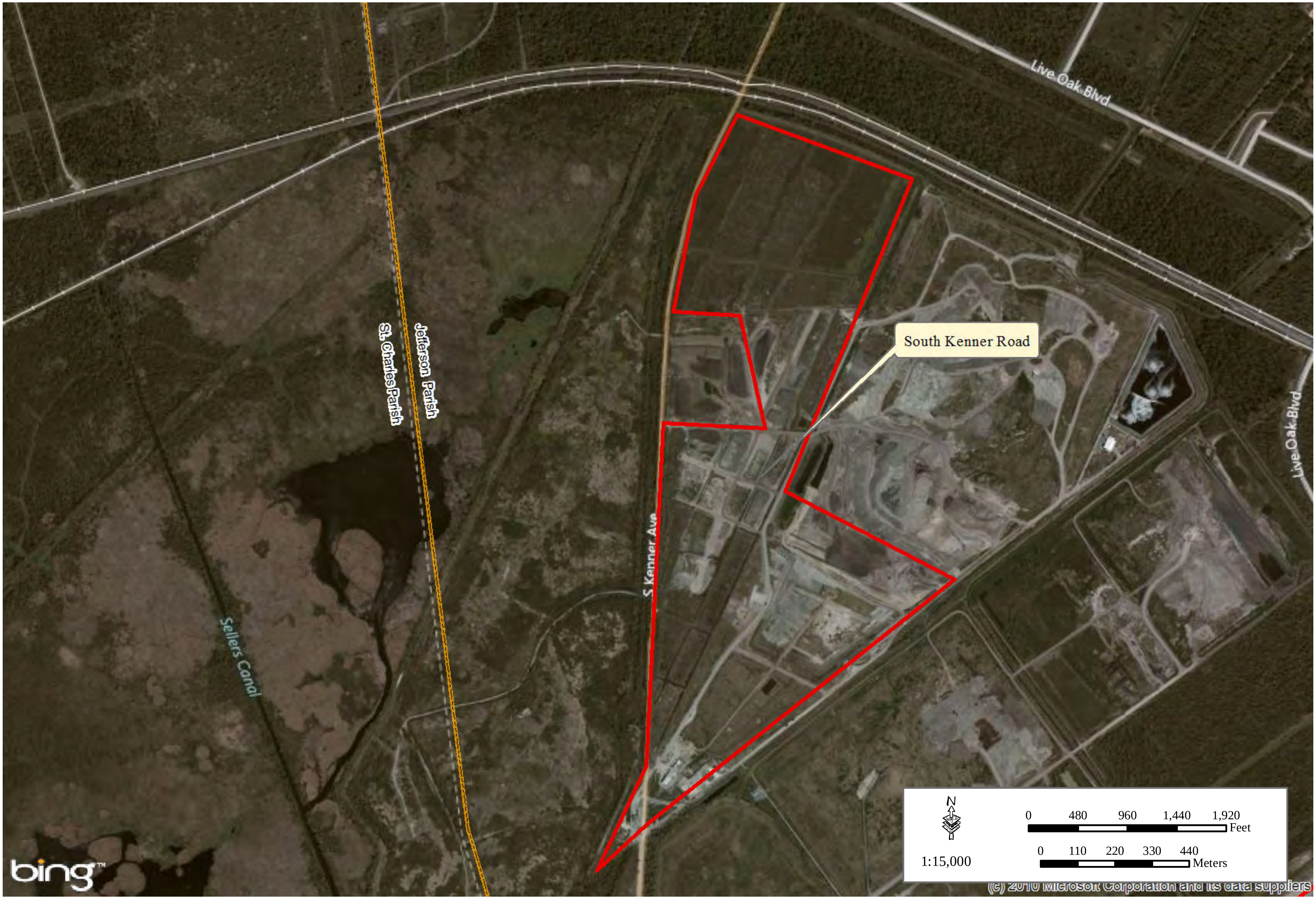
Pearlington Dirt Phase I, Pearlington Dirt Phase II, Port Bienvielle, and Fierson Borrow Sites - Hancock, MS - Map 1



King Mine Borrow Site - Hancock, MS - Map 2

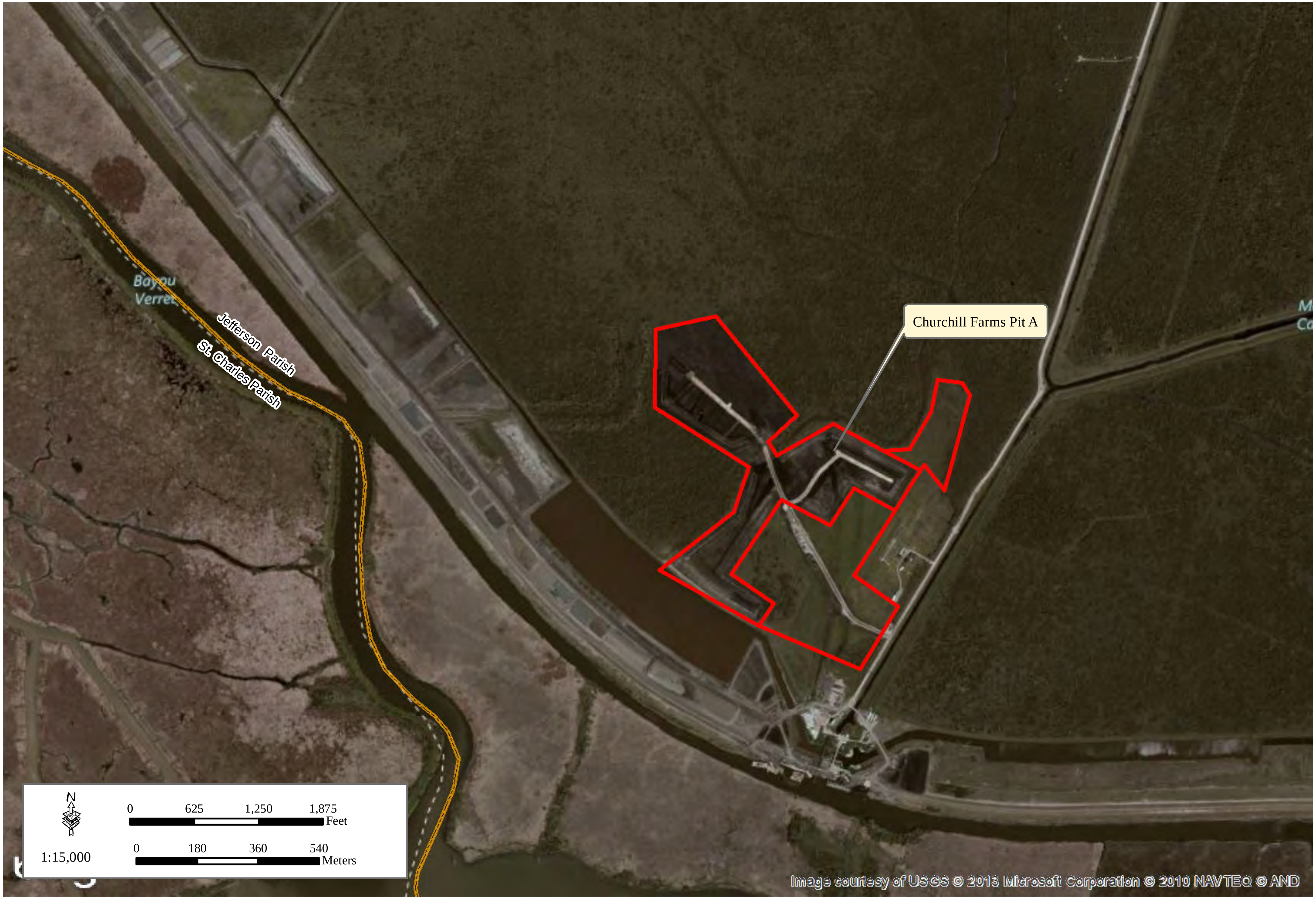
Henley Borrow Site - Hancock, MS - Map 3

St. Gabriel Redevelopment Borrow Site - Iberville Parish, LA



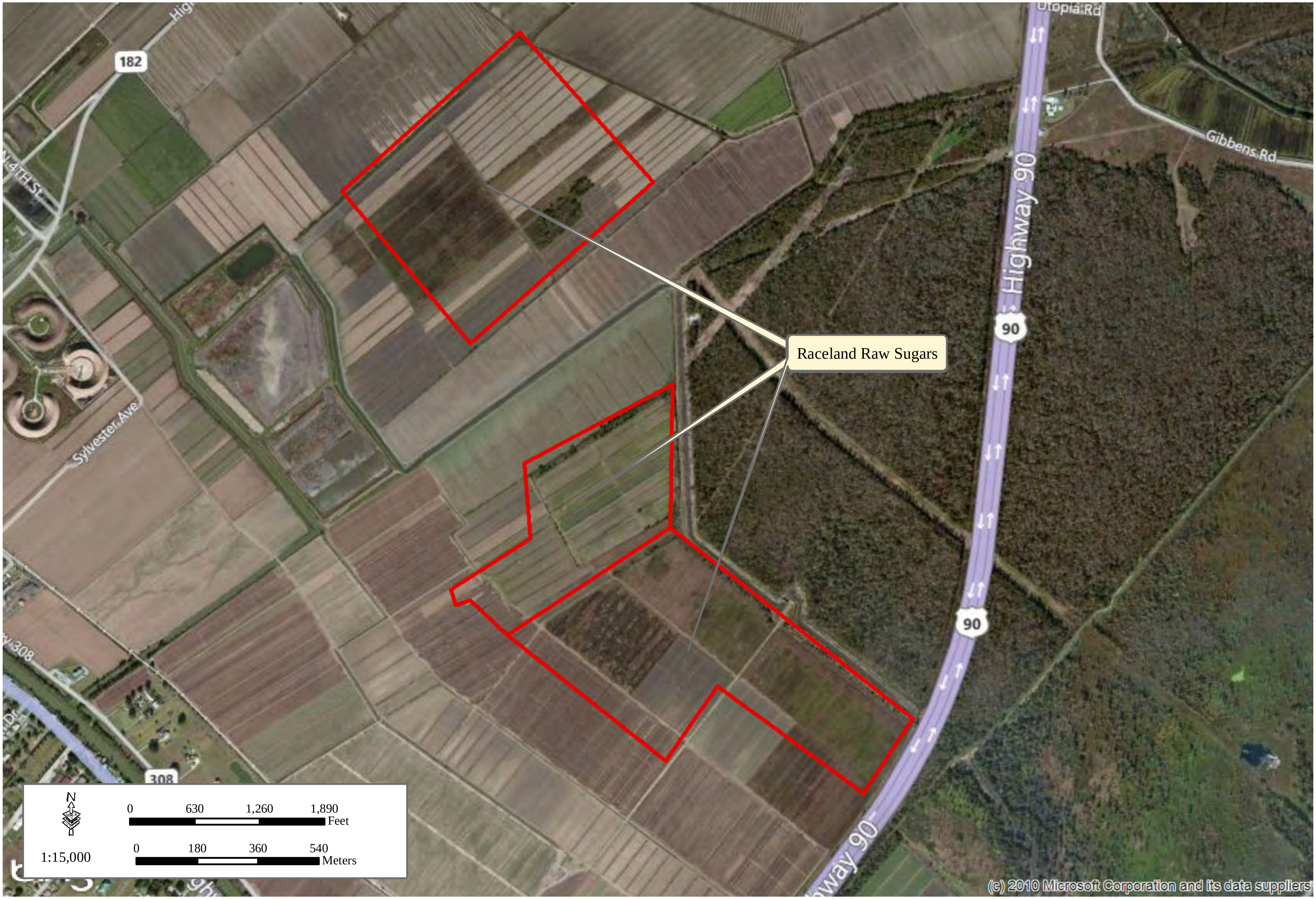
South Kenner Road Borrow Site - Jefferson Parish, LA - Map 1

Riverbirch Phase 1, Riverbirch Phase 2, River Birch, Landfill Expansion, Westbank D, Westbank F,
Westbank G Site, Westbank E Phase 1, Westbank E Phase 2, and Riverbirch - Willswood Borrow Sites - Jefferson Parish, LA - Map 2



Churchill Farms Pit A Borrow Site - Jefferson Parish, LA - Map 3

Westbank I Borrow Site - Jefferson Parish, LA - Map 4



Raceland Raw Sugars Borrow Site - Lafourche Parish

Eastover Phase I, Eastover Phase II, Cummings North, Maynard, Stumpf 1, and Stumpf 2 Borrow Sites - Orleans Parish, LA

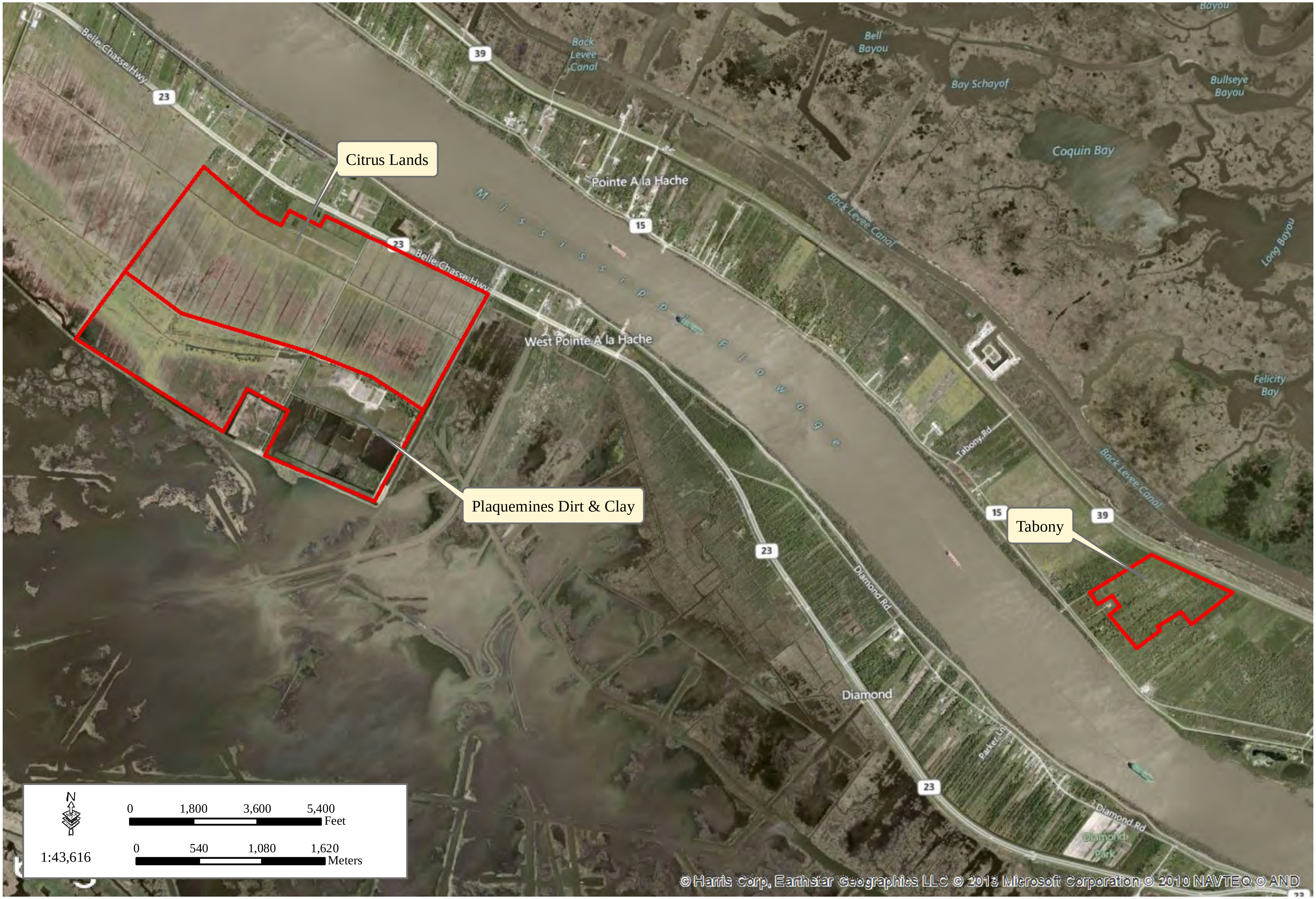
Bazile and Scarsdale Borrow Sites - Plaquemines Parish - Map 1

Belle Chasse Borrow Site - Plaquemines Parish - Map 2

Westbank N, Idlewild Stage 1, and Idlewild Stage 2 Borrow Sites - Plaquemines Parish - Map 3

Meyer Borrow Site - Plaquemines Parish - Map 4

Conoco Phillips, Myrtle Grove, and Kimball 2 Borrow Sites - Plaquemines Parish - Map 5

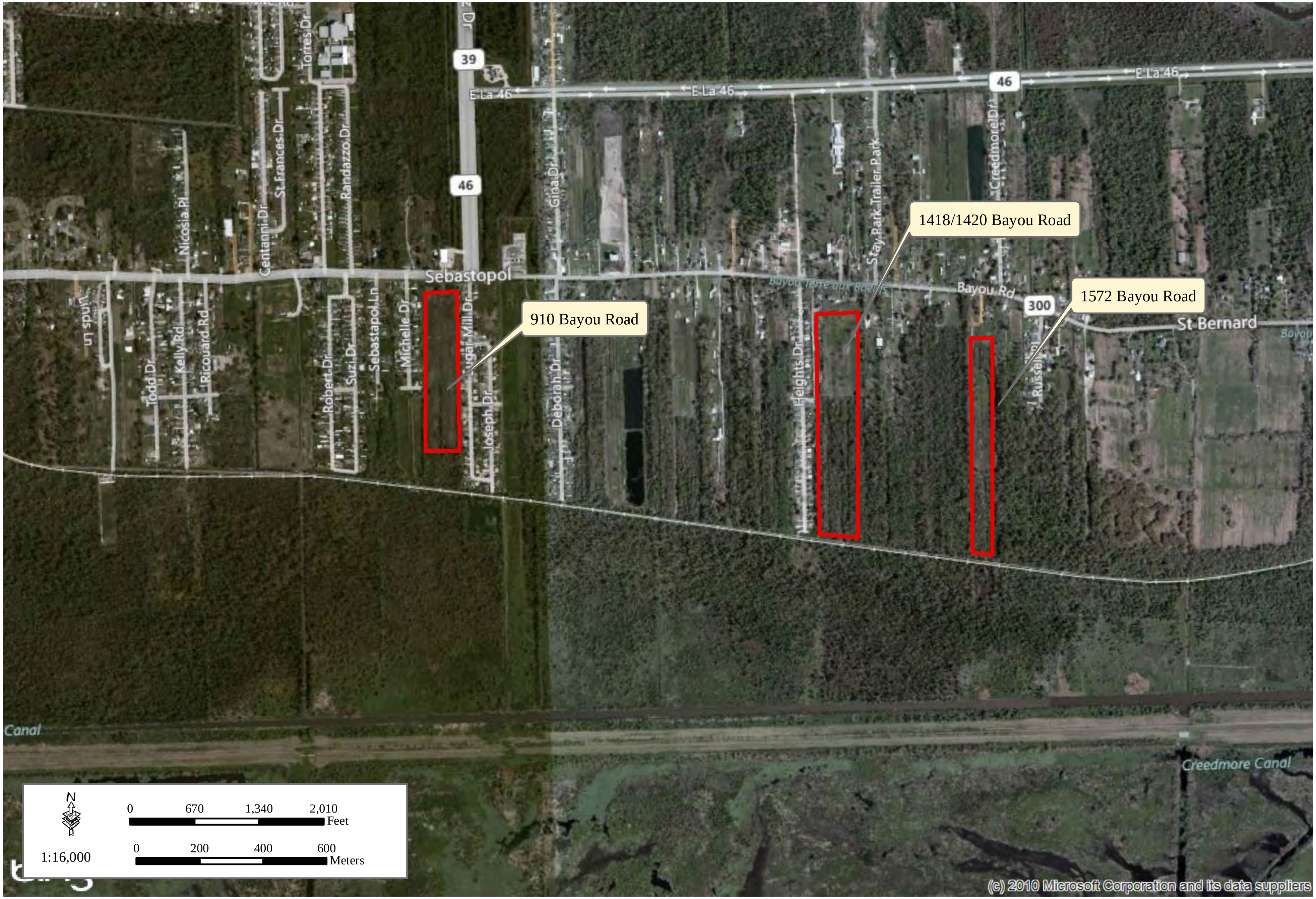


Citrus Lands, Plaquemines Dirt & Clay, and Tabony Borrow Sites - Plaquemines Parish - Map 6

Nairn and Tac Carrere Borrow Sites - Plaquemines Parish - Map 7

Triumph and Brad Buras Borrow Sites - Plaquemines Parish - Map 8

Dockville and Spoil Area Borrow Sites - St. Bernard - Map 1



910, 1418/1420, and 1572 Bayou Road Borrow Sites - St. Bernard - Map 2

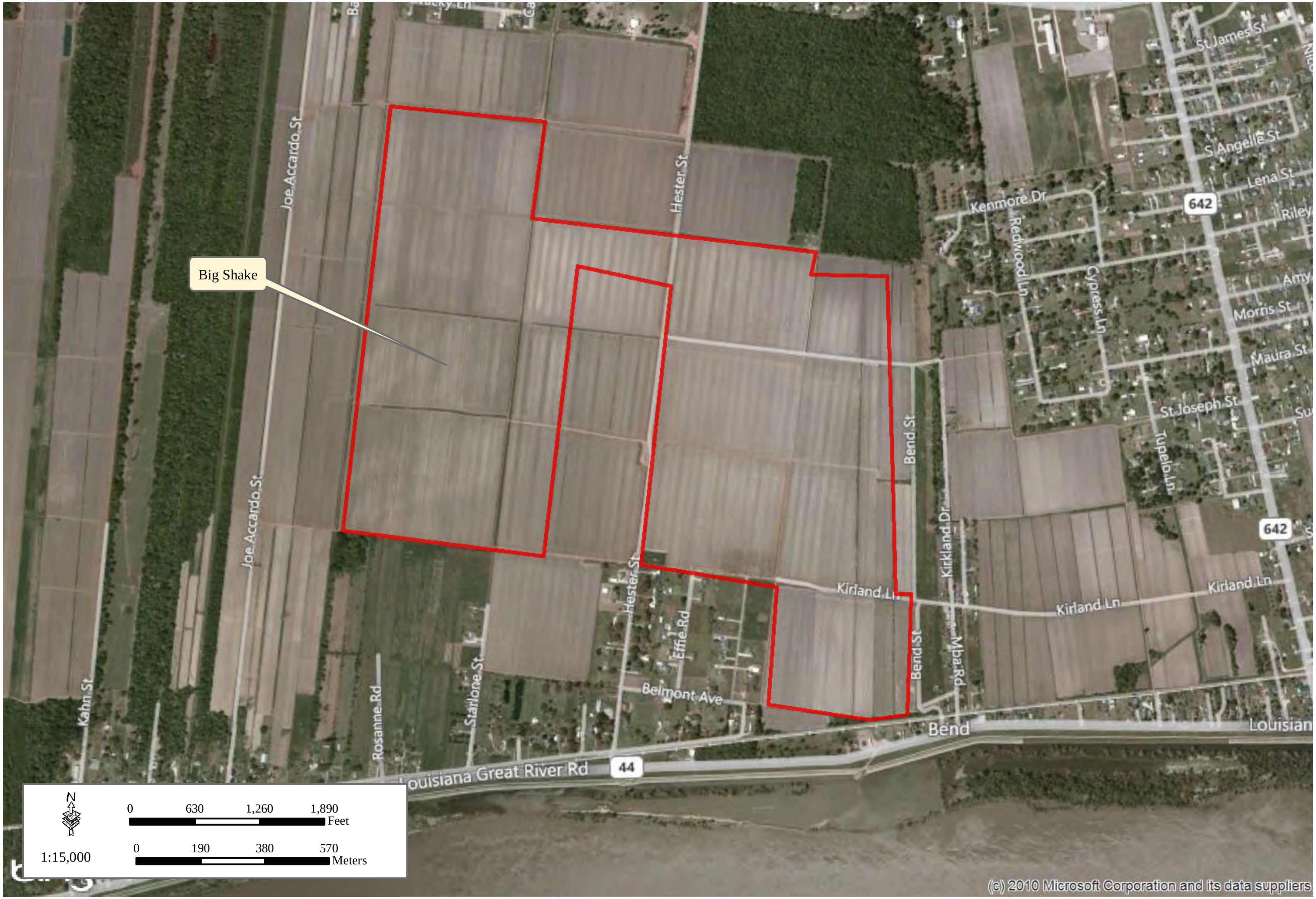
Sylvia Guillot, Johnson/Crovetto, DF Aggregates, and Contreras Dirt (Cells E, F, & Z) Borrow Sites - St. Bernard - Map 3

Acosta, Acosta 2, 4001 Florissant, and 1025 Florissant Borrow Sites - St. Bernard - Map 4

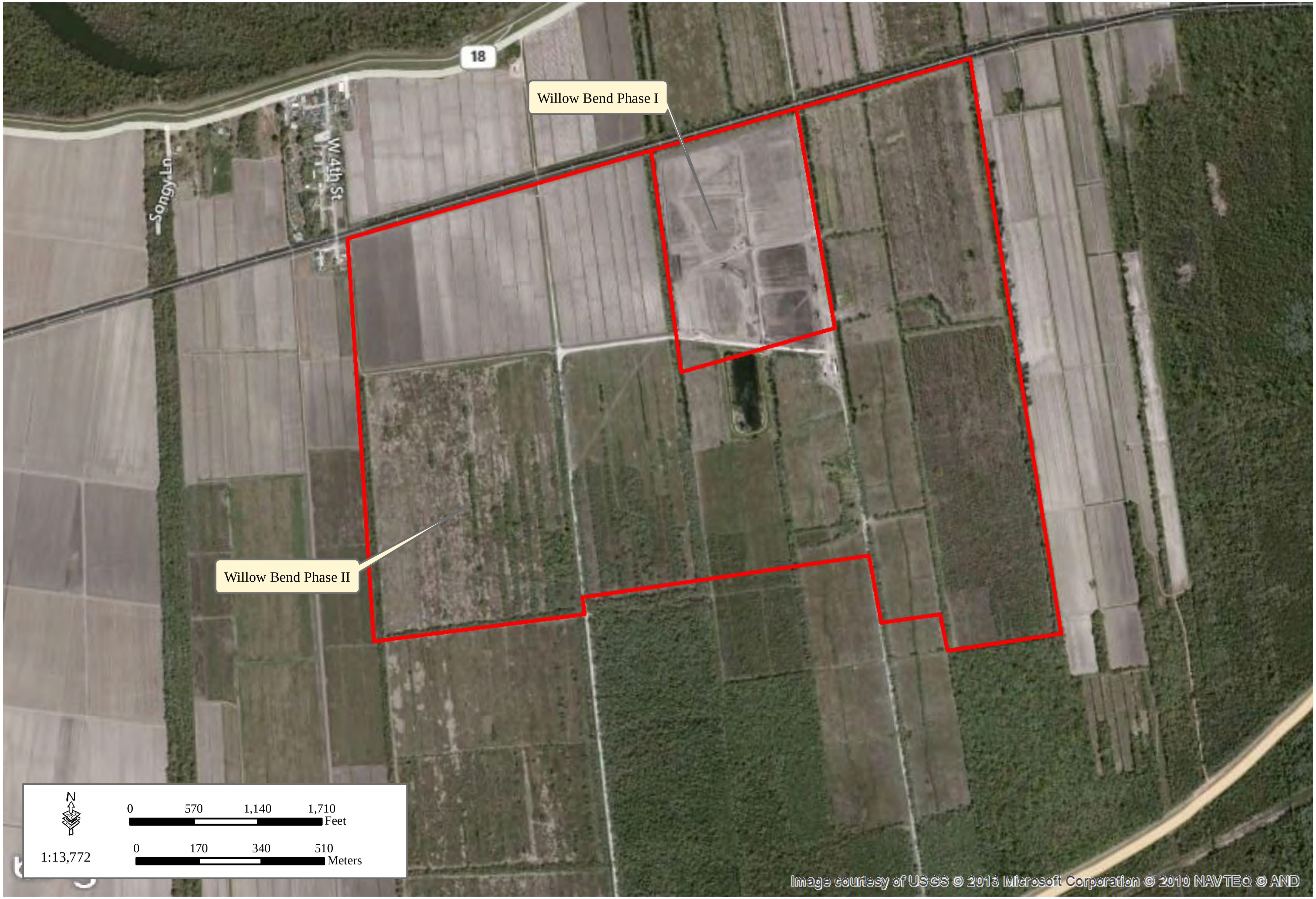
Gatien-Navy Camp Hope Borrow Site - St. Bernard - Map 5

3C Riverside Phase 1, 3C Riverside Phase 2, and 3C Riverside Phase 3 Borrow Sites - St. Charles Parish, LA - Map 1

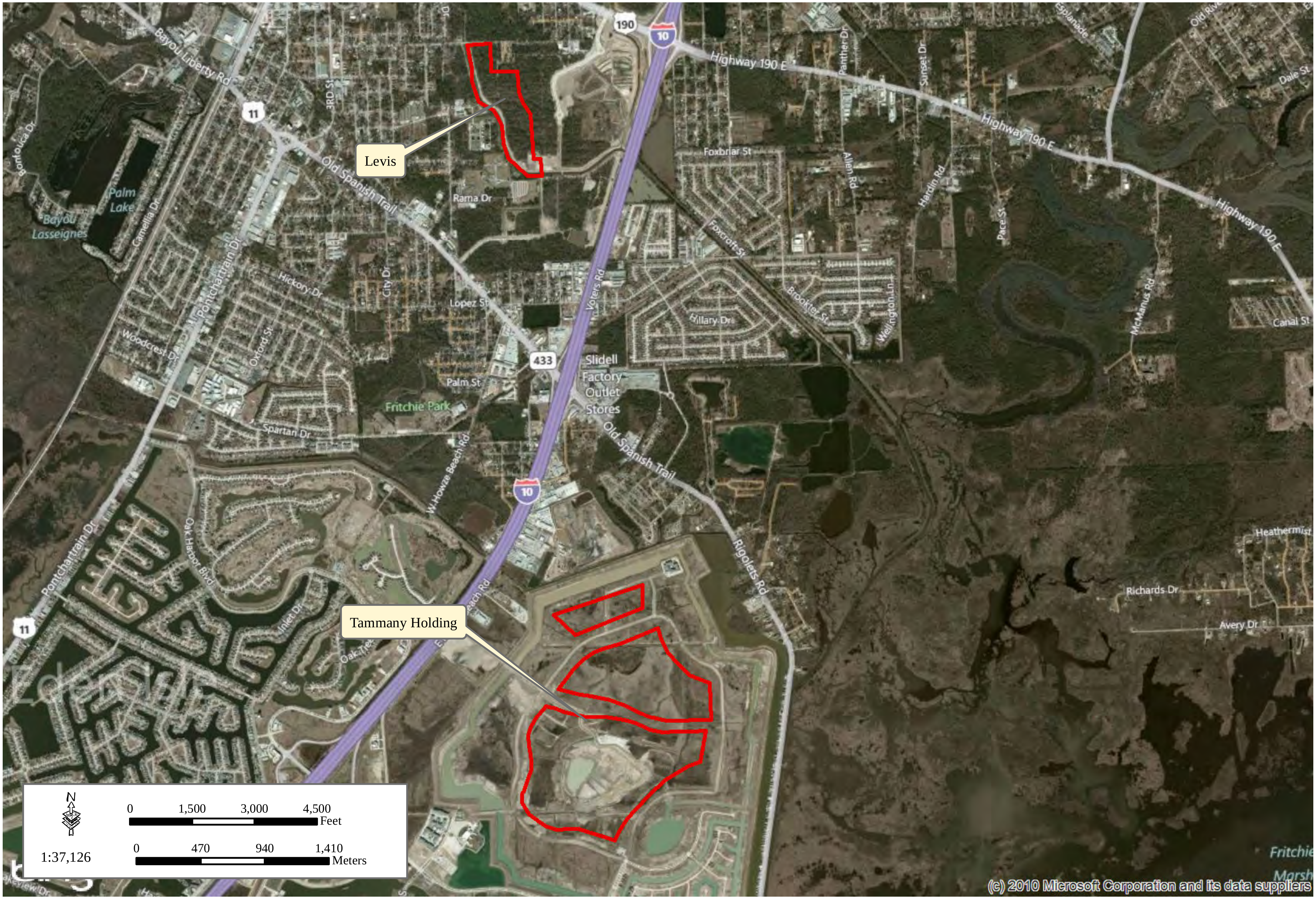
Bonnet Carre' Borrow Site - St. Charles Parish, LA - Map 2



Big Shake Borrow Site - St. James, LA



Willow Bend and Willow Bend Phase II Borrow Sites - St. John the Baptist, LA



Levis and Tammany Holding Borrow Sites - St. Tammany, LA

APPENDIX E
PUBLIC SCOPING REPORT

Public Meeting Summary

Comprehensive Environmental Document Public Meeting
Wednesday, Sept. 2, 2009

Location	New Orleans District Office District Assembly Room 7400 Leake Ave. New Orleans, LA 70118
Time	Open House 6:00 p.m. Presentation 6:30 p.m., followed by a discussion
Attendees	Approx 20
Format	Open House Presentation
Handouts	• Presentation
Facilitator	Erness Wright-Irvin

Erness Wright-Irvin: Good afternoon. My name Erness Wright-Irvin, I'm a Professional Facilitator. I'm pleased to be here with you this evening. It's because the Corps felt this meeting was so important that they wanted a neutral facilitator to be here to assist you and assist the Corps in making sure that all of those nuances, those issues that may not be addressed in every Individual Environmental Report, but that you think are critical, come to the surface. [We want you to express what those concerns are] so people really understand what the impacts [of the hurricane system are]. So, this meeting, the focus is, to really find out what are those gaps that need to be addressed? What are those issues that are significant enough that you feel need to be addressed in the Comprehensive Environmental Document? Before we formally start I'd like to ask, are there any elected officials in the audience tonight? Okay. Appointed officials, we know we have one. Okay. Alright. Let me ask this, how many, we have five Parishes that are impacted by everything that occurred by the whole risk reduction system, are there any members here who are residences or interested in Jefferson Parish? Just by a show of hands. Okay. Can I have you introduce, the four of you, introduce yourself, your name, briefly, and your concerns.

Male speaker: Sixteen years retired in the Army I started to learn never [Inaudible].

[Laughter]

Ed Runci: My name is Ed Runci, I live in Metairie in Jefferson Parish, and I'm here basically just to find out what's going on.

Erness Wright-Irvin: Okay. Great. Thank you.

Thomas Arata: I'm Thomas Arata, I live in Jefferson Parish, I'm interested in also Plaquemines, and that's basically the ones that we just want to see what's going on.

Erness Wright-Irvin: Okay. Great. Welcome.

Chris Alfonso: Chris Alfonso, I live in Jefferson Parish in Metairie, and I'm just a concerned citizen, wanting to see what the Corps is doing on [Inaudible].

Erness Wright-Irvin: Okay. Great. One other person [Inaudible].

Carlton Dufrechou: Carlton Dufrechou, I'm a resident of [Inaudible].

Erness Wright-Irvin: Thank you. Orleans, do we have any residents of Orleans Parish? Okay. [Inaudible]

Clement Cole: My name is Clement Cole, same issues as the other people.

Erness Wright-Irvin: Okay. Mr. Cole. Thank you for being here [Inaudible].

Male speaker: [Inaudible] the issue about relative risk in New Orleans [Inaudible] flood gate and levees.

Erness Wright-Irvin: Thank you. Yes, sir?

Matt Rota: I'm Matt Rota, I work for the Gulf Restoration Network, I'm a resident of Orleans Parish but I have concerns with the impacts in all of the Parishes and I've been involved in this process from the beginning. So, I want to make sure that all the human impacts are properly [documented] as important.

Erness Wright-Irvin: Someone else, just three people in here introduced themselves? Yes.

Barry Kohl: I'm Barry Kohl, I'm from Orleans Parish, and I'm here representing the Sierra Club and the Louisiana Audubon Council. I'm very interested in the huge impact [Inaudible].

Erness Wright-Irvin: Good, we need your voice here. Great. Residents of Plaquemines Parish? Anyone here who has lived in Plaquemines Parish so can bring some of this information back in terms of your contacts and those in Plaquemines Parish?

Male speaker: [Inaudible]

Erness Wright-Irvin: Good. Thank you.

[Laughter]

Erness Wright-Irvin: You've raised your hand for all three Parishes thus far, thank you. St. Bernard Parish, anyone here, resident of St. Bernard Parish or working in the interest in St. Bernard Parish?

Male speaker: [Inaudible]

[Laughter]

Erness Wright-Irvin: St. Charles Parish? It must be the Parish we have the meeting in.

Male engineer: Yes.

Erness Wright-Irvin: It must be. So, this probably will not be the last time we will talk about this but we wanted to make sure that we did have this meeting and really address all five Parishes whether there are concerns specific to the Parish or there are issues that affect all five Parishes in the region. So, without further adieu, I want to go over the process today. Oh, we have people that didn't raise their hand, pick any of those, and I'm not going to leave you out. Yes, sir?

Male speaker: [Inaudible]

[Laughter]

Erness Wright-Irvin: [Inaudible] Do we have anyone else?

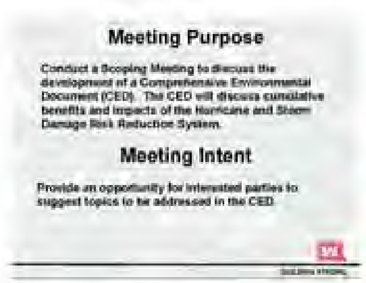
Female speaker: [Inaudible]

Erness Wright-Irvin: [Inaudible] Welcome. Someone else, the gentleman that just came in.

Male speaker: [Inaudible]

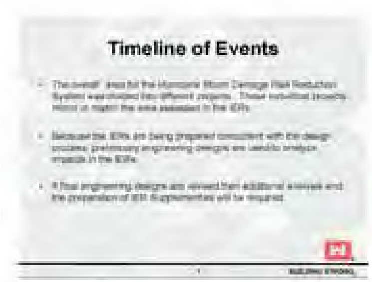
[Laughter]

Erness Wright-Irvin: [Inaudible] we have people who are here who have followed these issues since the beginning, just by raising your hand so we know. Okay. So, it's going to be your job to help in interpreting, if others have questions about what they're hearing, they'll be directed to Beth Nord but also to help in interpreting because you really want to have in depth questions tonight. And, how many people here who are members of the Corps? [Inaudible] So, we have folks here who can answer other questions after the meeting. Okay. I'd like at this time to turn it over to the presentation from Ms. Beth Nord. Before she begins, I'll be looking at the audience, if your body language tells me that you have a significant question and you are just utterly confused by what has happened, I may stop and say, "There's a question on your face, would you like to ask?" Because this is where we want to have all your questions answered today because in order to have this kind of Comprehensive Environmental Document we need to integrate all of those answers to you. After the meeting, after the presentation is over, there'll be several questions I will ask the group, not overall questions for clarity but what are the things that resonated with you, what critical gap areas that were not addressed, and what is your recommendation? I will make note of those key points that you make here. The meeting is being recorded so we'll have that, and we want to make sure that you see that we're listening and it's not only recorded, it will be posted on the Web site so they're giving you some visual [Inaudible] we actually heard it. So, at this point in time, I'd like to turn it over to Miss Nord.

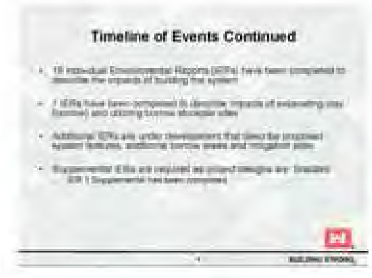


Beth Nord: Okay. Thank you. Thank everybody for coming. The piece that I'm going to do right now is I'm just going to go over a little background information that's really going to lead up t o the meat and bones of what this meeting is about which is getting input from the audience. So, some of you are probably very familiar with the National Environmental Policy Act process, very familiar with the Individual

Environmental Report documents and what goes into them but I'm going to give some background information for the benefit of those folks that, perhaps, haven't reviewed any of our IER documents or are not very familiar with how the alternative arrangement differ from the traditional standard NEPA process. So, if it seems like I'm talking a lot I'm just trying to get everybody, maybe, on the same level for understanding about what the IER's contain so that when you have your ideas about what you want to see in this Comprehensive Environmental Document you know what's already out there. Again, we're going to be talking about the Comprehensive Environmental Document, and the purpose of this meeting is a scoping meeting to discuss what you all think should go into that document. And, after I'm done talking about the pieces and parts, you guys are going to have the opportunity to suggest topics that are going to go in this document. So, again, I'm going to try to give you some background information and hopefully it's going to get people to a place where they know what's already been addressed individually in these IER's and we also identified some gaps that we are aware of but we're looking for more feedback from the audience when I'm done with what I'm talking about here.



Okay. So, a lot of you already know about the timeline of events but I'll briefly go over. In 2005 we had hurricanes that caused significant impacts to the local hurricane system. As a result of that there was the need to move forward with repairs, additional construction activities, and implementing alternative arrangements. The need for the alternative arrangements or the reason why we went forward to get to them was to get to the construction phase faster, to get to repairs done faster but we did not forget that we needed to assess impacts and address how we were affecting all the areas that we look at during a NEPA process. So, the justification for going to this alternative arrangement is to reduce the potential for having another event like we experienced, to reduce that potential by moving to construction quickly. One of the things that we did is we looked at the overall project which is the Hurricane Protection System and we broke the area down into smaller projects which we identify as IER's here or that parallel the IER's, the Individual Environmental Reports. So, the whole project is this larger area here but we started [Inaudible] impact by these smaller pieces which are the IER documents. So, if you guys received the meeting notice, you can see listed on that each of these numbers, what particular area the IER is, what the title of the IER is or will be. The blue indicates IER's that have been completed. The red indicates IER's that are under development. When we started this process, a lot of the engineering was not final on some of this work but to accelerate getting environmental compliance done, accelerate being able to go to construction, we completed these IER's. Since then, some design criteria has changed, some changes have occurred. So, you can see we have what are called IERS's which are Supplemental and that addresses changes to the proposed action since we completed an original Individual Environmental Report. We have a lot of these to complete, we have some areas where we're seeing changes and you can see those in red. As we move through this process we anticipate there are going to be more changes



so right now we're looking at the likelihood that there's going to be an IER-16S or a supplement to that project. In other areas it's very likely that there's going to be additional changes as engineering design criteria changes, the footprint of the project may change, we may need to shift the levee to accommodate that footprint change. So, this process is really happening on a continual basis and it's just something to be aware of. Again, the overall project is the combination of all these areas that we define as IERs, as part of the alternate arrangement process we've broke down the overall project into smaller pieces. And, again, that was to allow design to go forward in some areas where it was maybe a simpler piece like the levee versus structure versus a flood wall to allow environmental compliance to proceed so that construction could proceed faster.

Erness Wright-Irvin: I think we have some additional copies of that document on the table [Inaudible] if you need one, raise your hand, and we'll [Inaudible]. Questions?

Male speaker: Yes, what are the dash-marked areas, the diagonal?

Beth Nord: [Inaudible] IER 16, it was not constructed this far so I guess that is a new area.

Male engineer: It was not a designated holder as we originally started out.

Male speaker: [Inaudible]

Male engineer: Yeah.

Beth Nord: Yes.

Male speaker: Okay.

Male engineer: So, like I can see, there's a dash there because that's where we did the disposal of the dredged material is out in that area. The IER16, the Western Tie-in, that area, there was no levee there at all previously.

Male speaker: So, [Inaudible]

Male engineer: The other one is actually, we need to fix that we haven't fixed the map, which was the earliest design we had and that's not what we're building today. That was the original one that [Inaudible] that's not what we're building.

Male speaker: So, can you explain why they dashed-out the IER 11 [Inaudible]?

Male engineer: Because that's where we disposed of the dredged material.

Male speaker: Okay.

Male engineer: We were trying to use dredged material beneficially to fill-in these areas. What's the acreage?

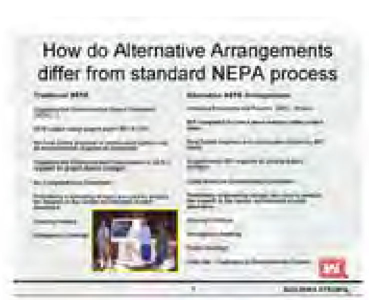
Female engineer: 205 acres would be used beneficially.

Male engineer: 205 acres that we [Inaudible]

Beth Nord: Okay. Again, this is kind of repetitive for you but individual reports matched or mirror the area that was [Inaudible]. But, again, here's the IER area, here's the area that we just talked about [Inaudible]. Another point, as we said before, the final engineering designs have been revised and so we will need to prepare IER Supplements. The changes in design will most likely change some of the footprint which is causing some kind of significant change to the project and you're bringing in additional [Inaudible] which could mean additional impacts if it's a wetland area. Like I said, that just kind of repeats some of the stuff we've already talked about before.

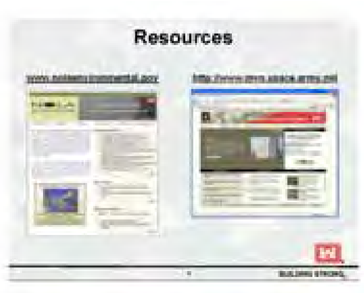
This is basically, the first two bullets talk about how many IER's have been done and they talk about how many IER's have been done for borrow. That's basically what you see on this card here, that's where we are today. If you look next to the IER numbers you can see the general location, Caernarvon Flood Wall, Inner Harbor Navigation Canal, Western Tie-in, so we've gotten a lot of these documents done. And, then supplemental IER's are required as projected designs change and we already completed one Supplemental and that was for IERS 1. We have other supplements that are underway, and again, because engineering design criteria have changed in some places we're anticipating that we're going to have more supplements come down the line.

Okay. So, why were the alternative arrangements implemented? Basically, because we needed to do things quickly, we needed to try to move forward instead of trying to design this overall very large project and wait to start construction on any one little piece of the project, we split it up into smaller pieces which the IER's reflect those smaller pieces, and we're trying to get the environmental done quickly so that we can expedite planning, construction, you know, fixing the system, improving the flood wall.



Okay. How are the alternate arrangements different from the standard NEPA process? This will show you traditional NEPA on one side and then alternative arrangements on the other, the names of the documents are a little different, Environmental Impact Statement versus an Individual Environmental Report, the fact that there is such a thing as a Comprehensive Environmental Document under the traditional process we would not require that. Under traditional NEPA the Environmental Impact Statement would cover the entire project area so when I'm talking about IER's they are a little smaller pieces. For the IER process we are doing individual reports for smaller projects within the overall system. So, if you're familiar with

Westbank and Vicinity projects and you look at the IER map, again, here, in our traditional NEPA process we would assess all these impacts together which means if we met any challenges with doing that NEPA document we would not have moved forward on construction and individual pieces waiting for all of them to be completed. So, again, that's different than the traditional NEPA process which every little project will be covered. Preliminary engineering design is to analyze impact with the IER process, it's the same. Some of the other differences are over on this side, where the left side is dedicated to the IER process, we have a lot more public meetings than we would in traditional NEPA process, we have a lot more scoping meetings, we have regular, if they're not monthly, close to monthly interagency meetings. So, there's a lot more interaction with this alternative arrangement process than there is under standard NEPA.



Here are some of the resources that are available. If you want to find out in more detail about the alternative arrangement process you can find it at our www.nolaenvironmental.gov Web site. If you want to find the IER's, if you haven't looked at any of the IER's, they're all on the site, all the ones that have been completed are on the site. There's a lot of additional related environmental information also on the website, the Coordination Act Reports that the Fish and Wildlife Service prepares for each IER, the public notices for the 404(B)-1 evaluation. So, there's a ton of information on every single one of these projects that we've already completed the environmental piece of it on this Web site. And, if you are not familiar with it, I encourage you to go in and look and go through it because you're going to find a lot of background information on these environmental impacts and how we've assessed them on these Web sites.

Female speaker: I have a question.

Beth Nord: Sure.

Female speaker: On behalf of the residents who might not be here, if someone does not have access to the Internet and can't pull this up, where would they go to get an IER for their particular area?

Beth Nord: They would contact us and we would send them a hard copy.

I'm just giving you background on what the IER's already contain. If you've reviewed these, if you're very familiar with NEPA, this is going to be all old news to you. The impacts that are analyzed in, basically, each of the individuals IER's that we've prepared today, here's all of the biological categories, terrestrial habitat, aquatic habitat, wetland, threatened and endangered species, recreation resources, air quality, water quality. And, then more human impacts, displacement of population and housing, HTRW, environmental justice, transportation effects. So, these are the types of impacts that we have assessed on an individual project level. The purposes of the Comprehensive Environmental Document or what we need to do in the CED is to roll-up those total impacts and address additional areas that are maybe not addressed in adequate detail.

Here are some data gaps that we're aware of, transportation, mitigation, air emission, and then just cumulative impacts just means the overreaching combined impact.

Male speaker: Overall of everybody, not just the Corps.

Beth Nord: Right. So, of impacts in the area, and that is definitely, cumulative impact, is definitely challenging, air emissions is definitely challenging. We've been working on transportation impacts with a transportation report and the contract and that's a lot to get your arms around as well. So, all of these pieces that we already acknowledge as data gaps, they're going to be challenges for us to work on those as well just because they're huge, they're a huge impact. So, that was my introduction, that was kind of my attempt to give you a little bit of background on what's out there and available in the individual reports. And, this is the time where we want to move to the next stage which is probably the most important stage and get feedback from you all on, you know, issues, topics that you would like to see in the comprehensive report.

Erness Wright-Irvin: Okay. Thank you. Are there any questions of clarity about what she just presented?

Male speaker: Yes. I have one.

Erness Wright-Irvin: [Inaudible]

Male speaker: Everything I've heard is from the media, newspapers, television, whatnot. I understand the Corps is working on a 100-year plan, [Inaudible] there's also the 500-year. So, all your IER's based on 100 they ought to be appropriated to build the 500-year plan.

Male engineer: Correct. Our authority, right now from congress, is to build a 100-year system at 1% and that's what we're moving for. We're fully-funded with $14.8 billion and that's what the IER's are on record to cover. We've recently completed a report called the Louisiana Coastal Protection Restoration, we call it LACPR, that is at headquarters now being reviewed, it will move forward today, that's with the Secretary of the Army and all of congress, that's a technical report, the congress had directed us to write that as the 500-year event. There are pieces and parts of that or the whole thing that congress can direct us then to study and/or fund and move forward with. That would be, we would have new environmental documents that would need to be looked at because, obviously, the impact is going to be much bigger.

Male speaker: [Inaudible]

Male engineer: Hmm?

Male speaker: Which would delay that if you have to go for 500-year?

Male engineer: Not delay, I mean, we're going to get the 100-year in place, and our goal is 2011. That will be…

Male speaker: But, if congress says to do a 500-year plan then you've got to start all over again.

Male engineer: Correct. We'll have to do new studies, the footprints will get bigger, we may even look at completely different types of systems here, I mean, you see that already in what we did here. Under the, pre-Katrina project, we had 27-miles of parallel protection, that was obviously one of the big lessons learned. We now have a 3-mile levee that has a pump station and base here, that's a lesson learned. If we move into a category-5, the LACPR report, we may apply other ones because those levees are going to be much bigger.

Male speaker: By the same token, I also understand that there are some groups that want the Corps to drain to the river not the lake.

Male engineer: Correct.

Male speaker: Now, that's going to be, if that goes to congress, that's another thing that's going to delay their progress and work.

Male engineer: Well, right now, we're waiting. We've approved IER-5 which is the three Outfall Pump Stations. We do not have a signed agreement for that project at the moment, it is not going forward, we're still pushing that, we're still working for it. What you're referring to is Option 2A which some of the others want. We can actually build the pump station at 17th Street and the other Outfall Canals in such a manner that would allow those options to be built if congress gives us the authority and gives us the funding to do that. So, at the moment, we don't look at that as a delay, we're still working with our partners to [Inaudible] to try and make that happen, to try and move forward with that and to be able to integrate that with any future authority that comes out.

Male speaker: If you have to change the pumps, my house backs up; by the way I should have raised my hand for Jefferson Parish.

Erness Wright-Irvin: Okay.

Male speaker: Because, my house is in Orleans and my garage is in Jefferson.

[Laughter]

Male speaker: My house backs up to 17th Street.

Male engineer: You must have some interesting tax bills.

Male speaker: If you have to change, I understand, you're going to have to change the pumps in the 17th Street.

Male engineer: No, sir.

Male speaker: No?

Male engineer: No. With what we have planned, what we have permitted today, we can build…

Male engineer: [Inaudible]

Male speaker: Yeah. Right, but permanent.

Male engineer: Yeah, they'll be…

Male engineer: The temporary pump stations, they have a short lifespan but permanent pumps that we planned on, that we've approved at this point would stay in place with Option 2 or 2A.

Male speaker: Why, just out of curiosity, why would you put something in you know you're going to change later? Why would you put pumps for one consideration [Inaudible]?

Male engineer: Right after Katrina, we put in the temporary ones because we needed to get that 100-year system in as quickly as possible, the protection [Inaudible] so we went in and put in that temporary system, it was built as a temporary system running at that time. But, we needed to do that or we needed to completely re-build all three Outfall Canals immediately [Inaudible] we knew that the safest way to do that was at the mouth. That was less work, get rid of the parallel protection, and that's what we're doing.

Beth Nord: Any additional questions? Yes, sir?

Male speaker: Yes. Jefferson Parish has objecting or concerns about the borrow pits, borrow sources, and pits open. Is that a concern? Should we worry about that, that they're getting all the clay borrowed and the possibility that Jefferson Parish, and perhaps others, will object to detention of that borrow for the levees?

Male engineer: We have contingencies for everything that we're doing, we have backups for that, typical Army, we always have a plan for the plan. In this case, you know, we've permitted over or we've authorized over 75 million in order to borrow, government furnished, contractor furnished, we're working on supply contract, it's a plan. In fact, if a government furnished borrow site is not available, the ones we wanted, the Parish, and the Levee District to acquire for us, we're moving to contractor furnished. There are implications that come with that, cost implications, more travel on some of the roads but we're going to go to the contractor furnished borrow method if we can't acquire those sites. There may be other government furnished sites that are outside of Jefferson Parish, we're going to make it work.

Beth Nord: Another question?

Male speaker: In the Federal Registry it mentions that there will be external engineering peer reviewed of the proposed levees and flood walls, flood [Inaudible] in the IERs and will be made available as soon as the draft CED is available. Will external engineering peer review comments be included? How is that worked into the CED process because it mentions it will be available no later than the publication of the draft of the CED.

Male engineer: It's actually, for the most part, available now. Almost every one of these projects that are going into construction have an External Peer Review done on it, in most cases we're trying to publish that onto the Web site when it comes out.

Male speaker: I haven't seen any for each individual project.

Male engineer: I don't think they've done one for every single levee job but they took several of them that were typical and they've done it for the flood walls, they've done it for the bigger systems like ICS, and the Inner Harbor Navigation Canal [Inaudible], the GIWW West Closure Complex had one. I believe the West Closure Complex is still going on at the moment.

Male speaker: And, those reports are on the Web site?

Male engineer: As we're getting them we're trying to put them up there, when they're finalized.

Male speaker: What's on there now?

Male engineer: I believe there is a couple, I don't know 100%, I need to check, I know we were trying to do that as we got a hold of them but I can't tell you that, you know, every single one that has been done so far is up there. If you're asking if there will be one big one, there won't be, just pieces and parts [Inaudible].

Male speaker: [Inaudible]

Male engineer: Nothing that would require moving or altering the plan in any major way. We, obviously, have a lot of the local comment, you know, people looking at what's being done near their houses or backyards. People outside the system, we've had a lot of comments from, people obviously, they want to change what's there. But, there's nothing that would severely question what's being done there today.

Male speaker: On the Peer Review, are those, that's the Army Corps of Engineers, peers of the district or is this…

Male engineer: No, it's an external, we actually go to another Corps district who then goes to an outside company [Inaudible] actually hires outside people for that process and those people come in and do a full look at it.

Beth Nord: Okay. Is there anything? Yes, ma'am?

Female speaker: [Inaudible]?

Male engineer: There'll be more Supplementals, I don't know how many for sure yet. You know, this was supplemental to the IERS-1A, there'll be more. It's going to happen, it's just going to change. In the typical NEPA process this is done during the feasibility study level, but even then, I mean, prior to Katrina we had the Environmental Impact Statement ready for the Westbank, there were at least two supplemental environmental impacts written after that, and I think there's been around 18 environmental assessments that have been written. So, even under the normal process there are changes and you have to account for those when writing the jobs.

Male speaker: [Inaudible] we will still have the opportunity to ask questions that will be responded to?

[Inaudible/ Multiple speakers]

Male engineer: No, we'll be interacting [Inaudible]. Sir, you have a question, back in the back?

Erness Wright-Irvin: And, we have, well, [Inaudible], anyway, we have a couple of people join us, you know, after we finish this we want to ask if you are residents of any one of these Parishes please introduce yourself and indicate your Parish, and then you can ask your question.

Male speaker: [Inaudible]

Erness Wright-Irvin: You have a question?

Male speaker: Yeah, I have been going through IER [Inaudible] talked about the direct impact [Inaudible] do you have any idea how, you know, businesses and residents who live [Inaudible].

Erness Wright-Irvin: Well, good.

[Inaudible /Multiple speakers]

LTC Mark Jernigan: My name is Lieutenant Colonel Mark Jernigan, I'm the Deputy District Engineer here, and we have a very robust small business program here within the district. The whole program, right now, we call it over a billion dollars of work just directly with small businesses. What I would recommend is, the first place, to look for, you know, what's coming out as far as jobs, is our Web site, I think that was flashed up early in the presentation. The other thing I would recommend is to talk with our Deputy for Small Businesses, Ned Foley, who can kind of give you his perspective on what's available and also kind of work with the Small Business Administration to set up. Depending on what's out there [Inaudible].

Male engineer: Does that answer all your questions? Okay.

Erness Wright-Irvin: If you can put the slide up that lists the impact, there were two slides that list the areas of impact. So, the IERs have really dealt with all of these impacts thus far and there's another slide that has additional impacts. So, I guess, I'd like start the questions by asking, your area of concern. Yes?

Male speaker: Well, I will say that it was good to see that in your opening slide in terms of risk reduction you, at least on the PowerPoint, moved away from talking about the 100-year storm, you talked about the 1 percent chance in any given year. We regress back to your prior discussion, which is inevitable I guess, but at least in the PowerPoint, I hope that was the intention, you did talk about the 100-year study.

Male engineer: Right.

Male speaker: … and about the 1 percent. To me that raises other problems [Inaudible].

Male engineer: It is the 1 percent, and we try and do that, unfortunately, [Inaudible] heard more about the 100-year and so it kind of got locked in that but it is a 1 percent, it's a 1 percent chance of having a storm surge of a certain size in any given year, and that is a key piece of that. It's not that you're going to have a strong year and then for the next 99 years you're not going to have one of these.

Male speaker: [Inaudible]

Erness Wright-Irvin: All right. Anything else that you heard that you really liked and said, "Yeah, that's good."? Okay. So, what I'd like to do is move to one of the areas of concern, one of the things that has been left out and has not been addressed that really needs to be covered is the Comprehensive Environmental Document scope. And, the gentleman raised a question about what's the economic impact [Inaudible] to his community, and that's something that I've looked at as an area of concern. Are there others? And, I'm just showing, these are the ones that have been addressed thus far but those have been addressed in each individual area. Is that correct?

Male engineer: Correct.

Erness Wright-Irvin: Okay. Can we show the other slide because there's another slide that talks about additional ones? So, all these are also in the individual report, what's the possible impact or the displacement of population, and housing, and employment, and industry, and all those other things?

Male speaker: What about, I think that a very important [Inaudible]

Erness Wright-Irvin: Okay. What I'd like to know is, in order to answer this gentleman's question, is one of the things that are currently addressed in the IER [Inaudible]

Male engineer: We did look at Environmental Justice in every document and we do try to look at it not only for the IER project but on a cumulative scale. Obviously, it's something that we will look at in the CED in more detail as a wrap-up of how the whole system functions. We feel we've done a pretty good job. Everybody's pretty much treated the same. We do hear good comments, we've been to a lot of meetings, and we have had 128 public meetings so far. And, there are people that believe they've been left out or, or not treated as fairly but we do look at Environmental Justice on every one of these documents.

Erness Wright-Irvin: Okay. But, in the Comprehensive Environmental Document, if I'm hearing the [Inaudible], that there are issues raised around Environmental Justice that need to be addressed, because they don't believe it's addressed in the individual impact area. So, you know, a lot of this [Inaudible] issues that we might not get and this is a chance to surface them. So, if there's some nuances that you want to make sure are addressed in this Comprehensive

Document, can you talk a little bit more, [Inaudible] those certain areas or concern there are addressed. Just so we can make sure we have the concern [Inaudible].

Male engineer: That is why [Inaudible]

Erness Wright-Irvin: Okay.

Male speaker: On the Environmental Justice [Inaudible] I think one of the concerns that has been raised is that certain people are getting protection before other people, and so I think the timing of all the IER's and the timing of the construction is compared to what neighborhoods are getting [Inaudible].

Erness Wright-Irvin: The timing of the activity?

Male speaker: Yeah. It's just, who's getting their protection first? [Inaudible] or are we saying they were in the IER's therefore they don't need to be in [Inaudible].

Male engineer: No, no, our intent is to incorporate. We're not going to repeat everything we've written but we're going to bridge together this system. So, we've talked about the pieces and parts now we're going to bring these and the other ones and anything else in as a system and talk about it as a whole. What would impact the Wildlife and Fisheries overall not just an IER, we don't need to rehash everything, somebody is going to read the IER and pick up what happened in St. Charles Parish. And, the CED is not just for hurricanes, it's going to pull in, how these projects interact with Louisiana Coastal Area. How it works with the closure of the MRGO, it's a system-wide look at it.

Male engineer: Does that help? Okay.

Erness Wright-Irvin: Any other… yes?

Male speaker: A couple areas that I think [Inaudible] one of them is public safety during construction. [Inaudible] borrow pits are government furnished they don't have to abide by [Inaudible] especially in St. Bernard Parish.

Male engineer: I will say that safety is our number one priority, especially during construction on any of them. Lowering the risk overall, safety is a big one.

Erness Wright-Irvin: All right. Gentleman, in the back.

Male speaker: [Inaudible] most fragile, who is the most at risk? I haven't heard anybody in four years talk about old people, I'm sorry, elderly [Inaudible].

Erness Wright-Irvin: So, the impact on the insurance [Inaudible] entire region.

Male speaker: Yes. And, I'm going to a neighborhood [Inaudible] where does this all relate to the National Flood Insurance [Inaudible]?

Male engineer: I will say that this work is directly linked to the National Flood Insurance Program. FEMA will look at what the system is when it's complete in 2011 and the rates will be adjusted according to what's in place.

Erness Wright-Irvin: I think that issue [Inaudible]

Male engineer: Yes.

Erness Wright-Irvin: [Inaudible] Yes, sir?

Male speaker: [Inaudible].

Erness Wright-Irvin: All right.

Male speaker: [Inaudible] so, the question that probably we also are trying to find out [Inaudible]

Erness Wright-Irvin: Okay. [Inaudible 53:32 – 53:36 Speaking too low]

Male speaker: Yes.

Erness Wright-Irvin: Okay. Does someone else want to speak a little bit more about this issue in terms of, again, any nuances about this issue in terms of, not just individual areas but the impact on the entire region that you really want the Corps to kind of build into to make sure they're addressed? Any other ideas around this particular area? Yes, sir?

Male speaker: Contaminated sediment issues. There has been contaminated materials found in Algiers Canal, and I'd like to see some more information in the Comprehensive Document that looks at the contaminated sediment in the entire area and areas around the industrial sites, and how the Corps is going to avoid using those contaminated sediments.

Erness Wright-Irvin: Excellent point. Good. Thank you. Any other issues?

Male speaker: Well, this gets back to the insurance issue and it gets back to my earlier question about this terminology of the 1 percent risk in any given year which, again, I think it's an improvement over the 100-year flood but I'm thinking from a layman's point of view and what they read in the paper. I think there's still a lot of confusion and bad news about what this 1 percent in any given year really means, and I think it would be helpful to give a layman's explanation somewhere how you arrived at that 1 percent and [Inaudible]. One percent that they'll be flooding above the base flood elevation, I think that needs to be clarified. Or, if I'm wrong about that, what is the 1 percent how does the [Inaudible]

Male engineer: One percent, since Katrina they ran what they call a sweep of storms, they ran 152 storm events, made-up. Previous to Katrina they actually used real storm events [Inaudible]. So, they took 152 storms, ran them in different sizes, strengths, wherever they overtopped or had an impact, that became the 100-year elevation, the 1 percent elevation. So, that's why you see different elevations around the system. So, you may have a storm that comes in from the west that may have driven you to have a 15-foot levee but if that same storm came in from the east maybe it was only, well in some cases, it may be a 29-foot levee and that's why you see differences throughout.

Male speaker: [Inaudible].

Male engineer: Well, that will be your base flood elevation adopted by FEMA inside that protected area. That won't be 29-feet, it will be something much lower inside the risk reduction system.

Male speaker: Right.

Male engineer: Now, you will have a base flood elevation that's in other Parishes or outside the system that will be much higher because they're not in they're not in the system right now.

Male speaker: But, that 1 percent is based on previous storms [Inaudible].

Male engineer: No, it's based on this slate of 152 storms in specific areas so that elevation, there's a 1 percent chance that there will be a storm bigger than that elevation. So, if you have a 15-foot there's a 1 percent chance that you'll have something bigger than 15-foot.

Erness Wright-Irvin: [Inaudible] flooding in the area or a 1 percent chance of being hit in that area by the storm?

Male engineer: One percent chance of flooding.

Male speaker: [Inaudible]

Male engineer: Something above that 15-foot, whatever that elevation is that's set for that levee.

Male speaker: [Inaudible]

Male engineer: Right. There are different elevations throughout the system.

Erness Wright-Irvin: [Inaudible] 1 percent chance that there will be flooding.

Male engineer: Right.

Erness Wright-Irvin: [Inaudible]

Male speaker: [Inaudible]

Male engineer: Overtopping, there's a chance that you'll have a storm that's bigger than that, whatever it's built to.

Male speaker: Well, the follow-up to that is that, you know, we've had Katrina, obviously, we've had Betsy within a relatively short period of time, and I think there's needs to be a layman's explanation that is this 1 percent chance going to be. One percent in 10 years, are we likely to have as much as Katrina's storm in 10 years as we are in two years? I mean, there's the sense that the 1 percent is just a, you know, [Inaudible] every year [Inaudible] future. And, I think that's deceptive, it's deceptive in some ways in talking about the 100-year storm but folks think that we had Katrina and that we're not going to get another Katrina or even another Betsy for another 100 years.

Male engineer: Right.

Male speaker: So, it's deceptive in the terminology used and people are thinking, you know, [Inaudible] choices about where to live.

Male engineer: And, that's exactly why we're trying to get away from saying the 100-year, that's why we want to say the 1 percent.

Male speaker: [Inaudible] 1 percent has its own problems [Inaudible] if I can follow-up on that. Is it your position then that in 2011 [Inaudible] the entire city is going to be at an equal 1 percent risk, the entire area west of Highway 11?

Male engineer: That is our goal. Everything [Inaudible] inside of that map in 2011, our goal, is to have the risk reduced to everyone in that area.

Male speaker: To the 1 percent.

Male engineer: To meet that 1 percent.

Male speaker: Okay. So that no neighborhood is going to be at a higher risk than any other neighborhood [Inaudible].

Male engineer: Correct. That's our goal, that's our operational goal.

Erness Wright-Irvin: [Inaudible] so by 2011 then throughout the whole area west of, what did you say, I-10, that all of those areas will be protected? Is that what you're saying? So, they will be protected from flooding [Inaudible].

Male engineer: We're saying that everything that you see that's inside the levee system, our operational goal is to have that completely protected by 2011. So, everybody inside of that would have the same level of risk reduction. It doesn't mean you're not going to flood, there's always going to be a risk, and that's why we're calling it the risk reduction system. You have to look at the risk.

Male speaker: To clarify, then that 1 percent is outside the levee? [Inaudible].

Male engineer: There's a 1 percent chance that, that levee, once it's built, will be overtopped.

Male speaker: Okay.

Erness Wright-Irvin: In any given year.

Male speaker: And, that 1 percent doesn't, you know, take into account failures for the levee [Inaudible].

Male engineer: It's a new elevation, it's the 1 percent elevation. We've established that height based on that whole slate of storms, whatever that height is, there's a 1 percent chance that it would be overtopped in any given year.

Male speaker: So, it's just a comparison of levee height versus what [Inaudible].

Male engineer: Right. First off, the system is not the same height, you know, this gate here is being built, if I remember right, to 16 ft but the levees around it are 14 which is a harder structure. You have things over here, this is going to 24 to 26 ft, and that's because the storms come in different ways, bigger.

Male speaker: But, [Inaudible].

Male engineer: Well, there's a resiliency factor built into all of these. That's one of the reasons you see a lot of talks about graphs and armoring and stuff because the resiliency allows a certain amount of overtopping on these levees.

Male speaker: Over topping before that ever gets to the top levee. So considering, considering what?

Male engineer: We're designing this to stand-up to the water to the top of the levee, that's the design criteria.

Erness Wright-Irvin: So, just to make sure I understand, your point is that in addition to addressing the terminology of a 1 percent storm that perhaps the Comprehensive Environmental Document should also speak to the [Inaudible].

Male speaker: The safety factor.

Male engineer: The factor of safety.

Erness Wright-Irvin: [Inaudible]

Male engineer: That's what we call the factor of safety is what we call it.

Erness Wright-Irvin: Okay.

Male speaker: One thing that has already been spoken about, in another meeting, would be whether the Corps would allow [Inaudible]. After I bought my home which was two years ago and it was something like 24 percent or 26 percent chance of flooding within a thirty year mortgage and I think to myself that's supposed to be way more than 1 percent, way more than 100-year protection. I think that is a higher number and [Inaudible]. So, I think that's just one that in exploring that and trying to explain that, I think that's one way that at least spoke to me.

Erness Wright-Irvin: The percentage of risk…

Male speaker: Yeah.

Erness Wright-Irvin: … during a 30-year period?

Male speaker: Yeah. [Inaudible] or every…

Male engineer: Yes.

Male speaker: … 25 years, or…

Male engineer: It's a cumulative statistic.

[Inaudible/Multiple speakers]

Male engineer: [Inaudible]

Male speaker: [Inaudible]

Male engineer: That's a great idea.

Male speaker: You wouldn't have to do it system wide but I think an example, if you were in this area [Inaudible].

Male engineer: That's a great idea. I mean, this is a partnership, the public is as much a partner in this as we are. So, we're buying down your risk under what we can do. As the public, you have the ability to buy your risk down even lower. That's a great idea.

Erness Wright-Irvin: Just so I capture it, can you restate it?

Male speaker: The idea that you describe how the individual homeowner can elevate his or her own [Inaudible] and achieve a level of risk reduction [Inaudible].

Male engineer: If we could do that under a section on risk, risk reduction or something.

Erness Wright-Irvin: Thank you. Sir?

Male speaker: I think the question that [Inaudible] so when people are asking a question on the 1 percent and we know that [Inaudible] so people, I guess, are [Inaudible] we're looking at, I guess, the worst scenario and basically how to come in between what is the worst scenario and how we can, you know, some kind [Inaudible]. If we build dams [Inaudible] basic tests on this wall every 10 years or every 5 years just to make sure that when we get something that, you know, there's [Inaudible]

Male engineer: We do have [Inaudible], you're talking about operation and maintenance and inspection and that, we do have a very active program with that, which goes throughout the project life. And, that will definitely continue in conjunction with our non-federal sponsors, the levee districts, and the state. But, that's something we can talk about, operations and maintenance process, we can lay that out.

Male speaker: I'd like a section on induced development included.

Erness Wright-Irvin: Okay.

Male speaker: Induced development.

Erness Wright-Irvin: Okay. [Inaudible]

Male speaker: Several of the levees are going to impound wetlands and once a levee is there then people can build and get FEMA flood insurance so it actually attracts people to go into areas that are low. And, the area IER 16 is one point, and I just want to see how that's going to be treated, whether they're going to be getting conservation easements to protect the land and prevent people from coming into harms way or whether there's going to be induced development in the area and that's going to be considered just part of the process. It specifically mentions that the Corps will analyze indirect impacts due to altered hydrology or induced development. The result upon the actions taken by the Corps of Engineers and that, in part, was supposed to be in the CED.

Erness Wright-Irvin: Great point. Yes, sir?

Male speaker: One question before I go. This doesn't have to do with the IERs. I see on the map that you have the Inner Harbor Navigation Canal Surge Barrier. And, that brings up the point that I seem to remember that there was some discussions about something similar to that as in Holland and a lake somewhere up there. Is that still a viable situation?

Male engineer: That is crossing somewhere north of Slidell. That is something discussed in the Louisiana Coastal Area Protection has as a potential option. Not in this. [Inaudible] If Congress gives us authority to move forward with a study. It's a very expensive proposition.

Male speaker: I can imagine. Alright. Thank you.

Erness Wright-Irvin: Thank you for coming. Are there additional comments and issues that need to be addressed by someone who hasn't spoken yet?

Male speaker: There was a lot of controversy about a flood wall being built down in Plaquemines Parish that would seal off the lower [Inaudible].

Male engineer: Mm-hmm.

Male speaker: What's the status of that?

Male engineer: This is IER 13, all along here, we're having a public meeting September 19th at Belle Chasse High School at to talk more about that.

Male speaker: No decision has been made on that, yet?

Male engineer: There's no decision made. What the process is after the Sept. 19th workshop, we will come back, we will pick a proposed action. We'll announce our proposed action at that point. We will put out an addendum for public review and after that, any public comments, Colonel Lee will review them and he'll make a decision.

Male speaker: [Inaudible]

Male engineer: Congress can change tomorrow, change that idea.

Male speaker: [Inaudible]

[Inaudible / Multiple speakers]

Male speaker: I have an interesting question because the coastal restoration in the state of Louisiana [Inaudible] really hasn't done that much to stop the erosion and to take back the land that's being washed out [Inaudible]. And, what I'm interested in knowing is, has the Corps considered this coastline that was there 50 years ago acting as a speed bump to the influence of water coming onshore as well as cutting down the amount [Inaudible]? If that coastline continues to erode, what does that do to the 1 percent [Inaudible]?

Male engineer: That's actually something that a good portion of what the CED, the system, that will be addressed. So, that's a good point.

Male speaker: [Inaudible] include coastal restoration…

Male engineer: [Inaudible]

Male speaker: … and the effect that if it doesn't occur what it's going to do to the topping of the lakes.

Male engineer: It would discuss that, yeah. And we're going to maintain a 1 percent storm elevation for the next 50 years in conjunction with the state.

Male speaker: [Inaudible]

Male engineer: It would always…

Male speaker: … [Inaudible].

Male engineer: Right.

Male speaker: Can't keep up.

Male engineer: Well, I mean, right now we're projecting that and that's what we're working towards.

Male speaker: [Inaudible] and so I think…

Erness Wright-Irvin: Longer than one or two generations.

Male speaker: … yeah, so I would like it looked at beyond the 50-year period. Another thing that I would like to discuss that I don't think I saw up there was water quality impacts both storm runoff, from induced development, and from more restricted drainage. [Inaudible]

Male engineer: Are you talking mainly about storm water?

Male speaker: Talking mainly about storm water but, again, [Inaudible] not only storm water but construction storm water, regular storm water, and impacts to [Inaudible]

Male engineer: So, you're basically talking about the cumulative growth of the area, it's really more so than the hurricane system but what's going to happen…

Male speaker: [Inaudible] the more people are going to live there [Inaudible] once we get a better hurricane protection system in place.

Erness Wright-Irvin: Thank you. Yes, sir?

Male speaker: I don't want to jump around too much but going back to the [Inaudible]

Erness Wright-Irvin: I sure hope we got all of that on that [Inaudible] transcribing it. We hope that captured [Inaudible]

Male speaker: [Inaudible]

Male engineer: Yeah, we don't want [Inaudible]

Male speaker: [Inaudible]

Male engineer: No, no, absolutely not.

Male speaker: [Inaudible]

Erness Wright-Irvin: Okay. Yes, sir?

Male speaker: I'd like to see the incomplete or unavailable data that included in the CED that was unavailable at the time the Colonel had signed the IER.

Erness Wright-Irvin: You want to speak a little bit more about that?

Male speaker: Well, there were several IER's that were incomplete, the data was not available at the time the document was produced and signed by the Colonel, and it states that that's suppose to be included in the CED.

Erness Wright-Irvin: Okay.

Male engineer: We have data gaps.

Male speaker: Data gaps of information, incomplete data.

Male engineer: Okay.

Male speaker: So, I want to be sure that that's on the list.

Erness Wright-Irvin: Are there some specific data gaps that you have a concern on, I think that was mentioned [Inaudible]

Male speaker: I do.

Erness Wright-Irvin: Okay.

Male speaker: In IER 12, there are significant data gaps there in the Bayou aux Carpes area. It had to do with all [Inaudible], it had to do with baseline studies, various arrangements on whether or not the areas going to be flooded or not, none of that was included in the IER. I want to see that included in the Comprehensive CED.

Erness Wright-Irvin: Great. Thank you. Another comment?

Male speaker: Just for clarification on the benefits expected, the sheet from the storm reduction system [Inaudible]. I'm looking specifically at this map here where one of the most vulnerable areas is still on the Intracoastal Waterway, and I want to clarify. Is it your expectation by 2011 you're going to achieve the elevations that are shown in those green rectangles? Right now they're showing, basically that we have eight to 10-foot additional elevation along the Intracoastal Waterway within a two-year period, right now they're showing basically [Inaudible/Multiple speakers]

Male engineer: You mean the Inner Harbor Navigational Canal itself?

Male speaker: I'm assuming that these boxes here, assume they relate to the Intracoastal Waterway levee. It's difficult to know because if they don't point directly to a particular area, along the Intracoastal Waterway which among the most vulnerable areas that affects all the New Orleans East, it's showing that we need about an eight to 10-foot additional elevation by 2011 to meet both the 100-year storm requirements. So, the question is, are you expecting to meet those elevations…?

Male engineer: We're building a barrier here, now. So, there's no work really being planned here beyond what's there today because your 1 percent storm is here and here, it's not going to delay this. The system that's there today will stay in place.

Male speaker: [Inaudible]

Male engineer: It's redundant. It's a multiple line of defense.

Male speaker: [Inaudible] what do those three sets of boxes relate to? [Inaudible]

Male engineer: Right.

Male speaker: Do those relate [Inaudible]

Male engineer: The blue number…

Male speaker: … on the Intracoastal Waterway?

Male engineer: The blue number is what the elevation was pre-Katrina.

[Inaudible / Multiple speakers]

Male engineer: We're on schedule, we're moving forward to meet that operation goal.

[Inaudible / Multiple speakers]

Male engineer: I don't know for sure, there aren't arrows on there.

[Inaudible / Multiple speakers]

Erness Wright-Irvin: Any other? Yes?

Male speaker: It says that the CED has to include a former mitigation plan. I'd like to see that included and discussed in detail, mitigation for the entire project area.

Erness Wright-Irvin: A detail of the [Inaudible]

Male speaker: Yeah. Since this is a cumulative…

Erness Wright-Irvin: Right.

Male speaker: … document, we need to look at the cumulative mitigation and the plan, the actual plan is supposed to be included as part of the document.

Erness Wright-Irvin: Thank you. Yes, ma'am?

Female speaker: [Inaudible / Multiple speakers] has the Corps reached out to the Federal Highway Administration for transportation impacts [Inaudible]?

Male engineer: We've reached out to multiple [Inaudible], Federal Highway has been one of the people we've conducted, our primary contact has been the Louisiana Department of Transportation and Development as far the road, and also all the local governments, we had the big transportation workshop here in just a couple weeks ago, we had a lot of the public works directors here to talk about the impacts. We're going to put 50 million miles, as we move forward, we're going to do 50 million miles worth of travel with trucks in that area.

Female speaker: [Inaudible]

Male engineer: Yes, I did. Mike Stack was here, he's the Regional Administrator with them, he brought up submerged roads, he brought up they've got three to four hundred million dollars worth of funded work that's coming on just in the next couple years. He had a number of ideas, and that's what the idea is of cumulative [Inaudible]. We're going to work with them closely on transportation but it's also part of what we'll roll-up in the transportation cumulative impact analysis.

Erness Wright-Irvin: So, submerged roads will also be included?

Male engineer: [Inaudible]

Erness Wright-Irvin: [Inaudible] Okay. Yes, sir?

Male speaker: [Inaudible]

Male engineer: We don't really have a firm, you know, this is the kick-off meeting, we're going to try to move forward fairly quickly, you know. Mr. Cole just brought up, you know, you've got to look at the mitigation plan so there's a lot of pieces and parts to it. The CED will not necessarily be the final document on this, you know, because this is an ongoing project, I mean, they'll be work that goes on for quite a number of year with this. Our intent is to maybe have a Supplemental for that document to make sure that we capture and put out the information.

Erness Wright-Irvin: So, just like the IER's, the Comprehensive Document will also have supplemental?

Male engineer: We could have a CED-S.

Erness Wright-Irvin: Okay. Yes, sir?

Male speaker: I didn't [Inaudible / Multiple speakers] within the federal highway impact. Does that include also the impacts of all trucks going down all the local streets building the levees and the impacts on the streets, the highways, the quantification of those impacts should be included in the cumulative CED because that is a direct result of the project itself and there are impacts on the human environment [Inaudible] as well as impact on infrastructure. So, that should be included.

Erness Wright-Irvin: Okay.

Male speaker: We've heard that the number of truck and the period time it's enormous in terms of usage of the streets and access to the levees for bringing in borrow, and I just want to see that included as the comprehensive way.

Erness Wright-Irvin: The infrastructure impact to the environment.

Male speaker: I would suggest with that, making sure, [Inaudible] and working with the local Parishes, local communities to make sure that the improvements that are going to be made afterwards are fit within local neighborhood master plans, things like that, that have been developing all throughout the residential areas since Katrina [Inaudible] input as to how they want these roads to look like after the [Inaudible].

Ken Holder: I'm Ken Holder, I'm the Public Affairs Officer, I think what Jim referred to, we held a meeting with everybody from the transportation community, state, local, we have all of them, and that's something we're going to monitor as we go through this process checking very seriously. As we went through what the contracts are, they've obviously got [Inaudible] by what the state and local guidelines are but we have actually had a pretty productive session with them where they kind of gave us feedback on, what we needed to give them so [Inaudible].

Male speaker: [Inaudible]

Male engineer: Yeah, we have talked about [Inaudible] as well, right now we're working through the [Inaudible]

Male speaker: [Inaudible]

Male engineer: Let me add one thing to that. Now that we're in construction and we've done 128 IER-type meetings, we just recently did two and I think we have another one coming up tomorrow night that are construction meetings. So, as we actually are moving in and awarding a contract, we're going to that neighborhood, or as close to it, and telling them, "Look, we're starting construction in your area, here's what to expect." And, we'll obviously have some discussions with the transportation at that level also.

Male speaker: [Inaudible]

Male engineer: Okay.

Erness Wright-Irvin: That's a great point, if you could bring those, I know [Inaudible]. Yes, sir?

Male speaker: You mentioned mitigation. Is there discussion of the mitigation…

Male engineer: As far as…

[Inaudible / Multiple speakers]

Male engineer: No. What I said when I said mitigation, what I meant is make sure we interacted, that's a bad use of the word, what I meant was, interacted with the Parish governments and [Inaudible], make sure that we did what they wanted us to do, sort of, not mitigate as far as cost goes but as far as impact goes so we would follow in their plans. But, not like you're thinking [Inaudible].

Male speaker: You mean, if you use local streets for the trucks…

Male engineer: We'll abide by whatever…

Male speaker: … I was here during and after Katrina, I saw all the damage done to our local streets by all the trucks that were going through day after day after day for months. What happens? Does the local sponsor, the Parishes absorb all those costs to repairing the streets and infrastructure?

Male engineer: [Inaudible]

Male speaker: There's no money for that.

Male engineer: What we said and what we've encouraged the state and the locals to do is to reach out to the federal highways or wherever to start. The trucks that we're looking at are going [Inaudible] all the local laws, all the state laws. You know, they're paying their taxes to use that road so that burden to repair or replace those roads is on the local government or the state.

Male speaker: But, there's going to be an acceleration of impacts…

Male engineer: Right.

Male speaker: … because of the number of trucks and the period of time in which they're all traveling on the streets.

Male engineer: And, what we've done is when we had the transportation workshop we discussed that and we've encouraged them to go ahead and start the conversation now with the normal funding for it, it's a federal highway transportation step, the places where they would normally get their money, start those conversations today so they're ready to start moving that money into the system come 2011 when things are winding down.

Male engineer: And, didn't some of the Parishes say that they had a work plan for after we finish?

Male engineer: I know [Inaudible]…

Male engineer: That's what I mean.

Male engineer: … and, one of the things we're working with them is, can we put off some of their work so that they don't repair a road and then we go and drive, you know…

Male engineer: Exactly.

Male engineer: … 100,000 trucks down it.

Male engineer: Of course.

Male engineer: So, we're trying [Inaudible]

Male speaker: We haven't seen our streets fixed since Katrina and there are still major potholes that were formed by all the trucks that were going down the streets, and that is an impact of the project. I just want to be sure that it is addressed, and you know, that should be addressed in the cumulative CED if it is going to be repaired through other sources of money then that should be in there so that the public that reads the CED will know that that's going to be compensated for and everything is going to be fixed one way or the other.

Male engineer: Right. Our intent is to have a discussion on that in the CED. You're always going to see [Inaudible] happen near the end of this month and that's going to show you the impacts or what we know of the impacts at the moment.

Erness Wright-Irvin: [Inaudible] addressed all their issues and that's what we want. This is the first meeting, the kick-off? But, there may be others so if you're thinking about one of those things that need to be in the Comprehensive Document. Yes, sir?

Male speaker: Will the list of issues and concerns raised tonight be compiled and put on the Web site?

Male engineer: Yes. And, one of the things that you had said early on is that you are going to post the recording but I don't think that's true, we're going to post the transcript. Right?

Male engineer: Right.

Erness Wright-Irvin: So, what about the [Inaudible].

Male engineer: I want to make sure [Inaudible / Multiple speakers]…

Erness Wright-Irvin: I'm sorry, we are [Inaudible / Multiple speakers]…

Male engineer: I believe that there is a link [Inaudible].

[Inaudible / Multiple speakers]

Male engineer: … since I didn't take notes on everything…

Male engineer: Yeah, sure. We'll [Inaudible]

Male engineer: Okay.

Erness Wright-Irvin: Any other comments? Yes, sir?

Male speaker: [Inaudible]

Erness Wright-Irvin: So, issues of local government compensation regarding the impact [Inaudible] election to go on and to change local officials [Inaudible] allocate money.

Male engineer: There are numerous, we use the word mitigation very general sometimes, we probably get carried away with it, but a lot of when you hear us say mitigation, we're talking about mitigating for wetlands. Right now we're looking at about 5,000 acres of unavoidable impacts to wetlands that will be mitigated. There are other issues, you know, we're looking at the transportation, a lot of the transportation may fall back as a responsibility to the locals, and that's why we're working with them now to try and encourage them to go after the funding sources and that so they're ready to move into that next phase as soon as we're complete in lowering the risk.

Erness Wright-Irvin: Thank you so much.

Male speaker: I'd like to ask Gib a couple questions in regard to the public involvement in the CED. It says that the availability of the draft CED, there's a 60-day review period.

Male engineer: Correct.

Male speaker: That's correct?

Male engineer: Mm-hmm.

Male speaker: And, all comments will be appropriately addressed in the final CED?

Male engineer: Mm-hmm.

Male speaker: And, then they'll be a 30-day public review period for the final CED?

Male engineer: Mm-hmm.

Male speaker: Correct?

Male engineer: Yes.

[Inaudible / Multiple speakers]

Gib Owen: When we wrote that there would be a Comprehensive Environment Document piece we basically mirrored the EIS process on that one so you have the 60-day and you address all the comments, there's a final [Inaudible]

Male speaker: What does it mean by appropriately address?

Male engineer: We will do our best to answer your questions. Whatever we can answer in regards to your question. I mean, it could be a lengthy response.

Male engineer: Comment noted.

Male engineer: It could be comment noted. We see a lot of those. If you have a supplement to the CED which he said might happen then the process is triggered again, you go to a new draft, supplement which comes out, another 60-day review period, and then another final on that.

Gib Owen: And, if we did get from that, we would probably engage the public to see if we're going to follow that, I mean, for every single supplement or something. Hopefully, we're not going to have a lot of those but there probably will be some, at least one or so. We can look at that. Our intent would be to follow what we have written there in that process.

Male speaker: I would be real interested to see responses to our comments.

Male engineer: Oh, yeah, absolutely. We understand that.

Erness Wright-Irvin: Any other comments either on what was already talked about or any new issues that have environmental impact? Yes, sir?

Male speaker: Yes, on the Web site, is there a timeline that the public can look at and see how they're doing? I am looking at the last comment here number seven. In 2009, 3.2 billion is what is being awarded. How much in 2010, how much in 2011?

Male engineer: [Inaudible] I don't think we've got to that level yet.

[Inaudible]

Male engineer: I guess, just a follow-up question. What information would be useful for you to follow progress? Are we talking dollars awarded, are we talking contracts [Inaudible]?

Male speaker: Just…

Male engineer: Percentage complete?

Male speaker: [Inaudible] red and yellow and green.

[Inaudible / Multiple speakers]

Male engineer: We're going green and we're going to do everything we can to keep it green.

Male speaker: I have a procedural question. There are a lot of folks that couldn't be here tonight representing various organizations who've been involved in [Inaudible]. If they want to send in comments or concerns regarding to the scoping…

Male engineer: Mm-hmm.

Male speaker: … of the CED, will the Corps accept those?

Male engineer: Absolutely.

Male speaker: And, up to what sort of date?

Male engineer: Throughout the process.

Male speaker: Okay.

Male engineer: Scoping is an ongoing process.

Male speaker: Okay.

[Inaudible / Multiple speakers]

Male speaker: I just wanted to make sure it applied in this process.

Male engineer: There's many ways to comment, there's a drop down there you can actually put a comment in [Inaudible] it comes directly to me. They can write it, they can call.

Male speaker: Okay. Send a letter in?

Male engineer: Yeah. [Inaudible]

Erness Wright-Irvin: The message we want to get out, I know there's someone from the media here, the message we want to get out is that this is not the final meeting, if people have additional comments and concerns about this Comprehensive Document, send them in.

Male speaker: Just kind of one more over riding thought about how the traffic impacts are arrived at and back to the 1 percent storm. In my mind there's still a question about how is this tested. [Inaudible] a predictor of the future when it comes to determining the strength and quantity of the storms that are expected and in turn affect that 1 percent? And, again, it's getting back to the fact that you're basing 1 percent on previous storms and all on testing.

Male engineer: No. That was pre-Katrina. Pre-Katrina we looked at past storms, now we look at the slate of 152 storms that are a wide, wide variety.

Male speaker: But, those are past storms.

Male engineer: No, they're new computer generated storms.

Male speaker: [Inaudible].

Male engineer: Mm-hmm.

Erness Wright-Irvin: Is there a map in there or something that can show.

Male engineer: This is what we did to look at the 1 percent. Each one of those represents a different storm, different sizes, different speeds, different categories of wind, they were all brought in by computer modeling of the system to predict that 1 percent. It's based on Katrina. Those storms are more than likely in here as one of the 152 storms.

Male speaker: [Inaudible].

Male engineer: I've done the modeling and I'm not a hydrologist so careful [Inaudible]. They are looking at sea level rise, they are looking at the science in all the designs and that's why you're going to see a design that's built today, 20 years from now it's going to be a little higher, 30 years it's going to be a little higher. It's going to account for sea level rise, it's going to account for subsidence.

Male speaker: Is it going to account for increase in storm intensity? So 100-year storms happening more often?

Male engineer: Well, frequency isn't going to change that elevation.

Male speaker: But, if you have more intensity then the likelihood of 100-year storm is more likely and now we're getting terminology crazy but if, you know, a storm that wouldn't have been 100-year storm 50 years ago, but in 50 years that will be a 100-year storm.

Male engineer: Right. I don't know.

Male speaker: [Inaudible]

Male engineer: Right. I don't know on that.

Male speaker: You mentioned earlier about the Cat-5 process. I know there were meetings over in St. Tammany Parish, where they're concerned about the barrier in at the Rigolets and closing the shaft and continuing the barrier all the way into the present hurricane system which we're working on. What happens if you go to and Congress authorizes the city being protected to a Cat-5 hurricane? And, what happens to the existing levees that were built to the pre-Katrina standards? You go in and you elevate all the levees around New Orleans to the Cat-5 so that it would withstand a storm that occurs once every 500 years?

Male engineer: If Congress and the President gave us authority to move forward with a higher level, a 500-year event or whatever, we'd be back looking at all the reasonable alternatives; it could be raising what's in place, it could be building something brand new. That's what I was saying earlier is we've evolved since Katrina, we had parallel protection, we're looking to get away from that. So, you can look at it, even if we built something here to block surge coming in you're still going to have something here, it may not need to be so high, or maybe just maintained what it is today.

Male speaker: But, if the idea was to protect against, instead of a 100-year storm, a 500-year storm which means the levees have to be elevated to, say, 30, 40 feet, as the Cat-5 levee is suppose to be which goes along the coast, in earlier workshops that was discussed. Then, you'd have to modify all the levees that would be completed after this process because they would not meet a Cat-5 hurricane standard so if it was authorized and money appropriated then we could see this whole process going over again elevating all the levees and putting in larger flood gates and bigger walls all around the city.

Male engineer: Essentially.

Male speaker: … where they would…

Male engineer: That's what I'm saying, you could essentially look at all reasonable alternatives as demonstrated here. You know, NEPA, you know, the thing that we would do. So potentially, higher levees would go here. You could end up with a new barrier system here and these levees not being touched from what they are today, you know that would happen. You might look on the Westbank, you might increase the height there or you might have some new layer or new line outside of that. You know that Donaldsonville to the Gulf project could potentially be selected but we haven't picked a plan yet. South of there that might be raised. If congress said tomorrow, "You have authority." It doesn't mean that what's there today will be raised. We would look at all the reasonable alternatives through NEPA and come up with that proposed action.

Erness Wright-Irvin: Thank you. I think we have exhausted the group tonight in terms of getting all of your comments and your questions. I'd like to ask before you leave and before we formally adjourn, we do have a public meeting evaluation but for those of you who do not write, we've got a lot of people who write, but those of you who don't, if we were to do this particular type of meeting better. Again, this kick-off meeting again on subject one scoping meeting again, is there something that you would recommend we would change to make it better? What would make this particular type of meeting better? Yes, sir?

Male speaker: [Inaudible] There are questions here that [Inaudible] that I thought they could have been done [Inaudible] so basically we're planning ahead here [Inaudible].

Erness Wright-Irvin: Okay. Thank you. Someone else? What could we have done better? [Inaudible low] Thank you for addressing your comments tonight and advising the Corps because we're making decisions that are going to affect our children. So, thank you so much for meeting as a group.

Male engineer: Thank you very much for coming, on behalf of Colonel Lee, we really appreciate your participation.

APPENDIX to SCOPING REPORT

Comprehensive Environmental Document
Greater New Orleans Hurricane and Storm Damage Risk Reduction System

Southeast Louisiana

Responses to Comments and Questions

TABLE OF CONTENTS

TABLES

1 INTRODUCTION

The following are questions extracted from the public scoping meetings held in April and March 2007. There have been over 70 public meetings since March 2007 and they will continue through the planning process. Since 2007 the CEMVN has continued progress on the design and construction of the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (GNOHSDRRS) to meet the goal of completing the system by 2011.

Informational responses provided in the following contain the most recent information available at the time of this report. The CEMVN has created websites that are continually updated to provide the interested public with the most up-to-date information regarding the progress of the GNOHSDRRS. These websites provide a great deal of additional information as well as additional links and can be viewed at the following addresses:

- http://www.mvn.usace.army.mil/hps2
- http://www.nolaenvironmental.gov

2 CONCEPTUAL PROJECT DESIGN/DESIGN STANDARDS

2.1 MEETING 1

Why isn't the St. Charles levee system part of the West Bank and Vicinity Project?

St. Charles Parish Alignment: Donaldsonville to the Gulf project may be redundant system, but that has been allowed in other places; so why not with the local St. Charles levee alignment?

Was it the State of Louisiana's decision to keep the St. Charles alignment out of the West Bank?

In St. Charles Parish we need a levee. St. Charles Parish started building this levee up to the Corps' standard; why won't the Corps allow us to continue this levee? Why can't the Corps try to help us get it authorized? We are spending every dime we have; why can't we get more help?

Response #1

St. Charles Parish President V.J. St. Pierre Jr. said the parish should abandon attempts to build a west bank protection levee on its own, saying the first phase of the proposed 12-mile structure isn't up to current standards set by the Army Corps of Engineers. St. Pierre said Monday that he wants the parish to focus on acquiring rights of way for the proposed Donaldsonville-to-the-Gulf levee, which could follow the same route as the parish's planned levee (note: in June 2012, the Donaldsonville, Louisiana to the Gulf of Mexico Feasibility Study was terminated due to low benefit-to-cost ratios for all levee alternatives studied). The parish has spent more than $10 million on its levee project since 1990. A three-mile segment, stretching eastward from the Paradis Canal just south of existing neighborhoods, is about 85 percent complete.

Completing the St. Charles levee at post-Hurricane Katrina prices could cost $100 million, about the size of the parish's annual budget, he said. "I'm pretty confident that if St. Charles Parish is going to have a levee, that's the levee we're going to have, the Corps levee," St. Pierre told the Parish Council. The route for the massive Federal levee is scheduled to be chosen in October, and two of the three alternative routes closely track the parish's levee alignment. The Federal project is designed to protect parishes between Bayou Lafourche and Jefferson Parish from storm surge. For years, parish officials said they hoped that by forging ahead with the project on its own, the parish's expenses would count toward a local match for the project.

But St. Pierre told the Parish Council that new standards could make that work useless. "Why spend all of this money, then a year or two from now, when the alignment is picked (for Donaldsonville to the Gulf, which in June 2012, the Donaldsonville, Louisiana to the Gulf of Mexico Feasibility Study was terminated due to low benefit-to-cost ratios for all levee alternatives studied), they are just going to tear out all of the levee we built, tear out any pump stations we put in and tear out all the control structures that we put in the Paradis Canal," he told the Parish Council on Monday. "I think it's a waste of taxpayers' money."

Levees built by the Corps are built with dense clay trucked in from approved sites, including the Bonnet Carre′ Spillway. But the Lafourche Basin Levee

District, which is building the levee for the parish, is dredging material along the route of the current site to form the levee. St. Pierre said he doubts the "mucky" soil will meet Corps' standards (*Parish urged to halt levee build*, Wednesday, August 06, 2008, by Matt Scallan, http://www.nola.com/news/t-p/riverparishes).

Will this be integrated into other Federal programs such as those designed to protect Barataria and Terrebonne environmental protection project?

Response #2
Concurrent with the preparation of the Individual Environmental Reports (IERs), CEMVN is proceeding with the preparation of a series of traditional National Environmental Policy Act (NEPA) reports (Environmental Assessments (EA)/Findings of No Significant Impacts (FONSI) and Environmental Impacts Statements (EIS)/Records of Decision (ROD)) in support of other authorized hurricane protection projects throughout southeast Louisiana.

Specifically, these NEPA documents pertain to, but are not limited to, the New Orleans to Venice Hurricane Protection Project, Plaquemines Parish non-Federal Levee Project, Grand Isle Federal Levee Project, Grand Isle non-Federal Levee System, Larose to Golden Meadow Hurricane Protection Project, and Terrebonne Parish non-Federal Levee Project. In addition to these IERs and the traditional NEPA documents discussed above, CEMVN will produce a single Comprehensive Environmental Document (CED) to describe the decisions made in all of the environmental documents on a system-wide scale and analyze the relationship of the proposed actions covered in these documents with each other and other reasonably foreseeable projects. The draft CED will include a discussion of how the individual IERs are integrated into a systematic planning effort, identify any new information associated with long term operations and maintenance of the approved actions analyzed in the IERs, and analyze any indirect impacts due to altered hydrology or induced development, overall cumulative impacts, and final mitigation plans. The draft CED will include a similar discussion of the traditional NEPA documents. Additionally, the draft CED will contain updated information for any IER or IER addendum that had incomplete or unavailable data at the time that the Decision Record for the IER was signed.

When will the 100-year elevations be known?

Response #3
100 Year Design Elevations
The CEMVN issued an updated map of the GNOHSDRRS 100-year elevations in June 2008. The map and subsequent updates may be viewed and downloaded at http://www.mvn.usace.army.mil/hps2

2.2 MEETING 2

In connection to the planning process of the Harvey Canal Sector Gate, it seems it would be similar to the engineering of the 17th St. Canal in that water is allowed to come all the way up and then is funneled between a narrow waterway, potentially causing more problems than putting a gate further south to catch both the Harvey and the Algiers Canal. What was the thought process in duplicating what could turn out to be a potential problem again, and it would seem as though further south where the two canals join would be a smaller area to deal with and the cost would be less?
Did anyone think of a temporary fix to the floodwalls? [question refers to Harvey Canal]

Response #4

Harvey Canal Sector Gate

The Harvey Canal Floodgate, which was operational in August 2007, is a major surge protection feature located in the Harvey Canal at Lapalco Boulevard. This floodgate provides a closure across the canal to elevation 11 feet, and provides hurricane surge protection to residents and businesses north of the gate. This structure also utilizes pumping capabilities to maintain safe water elevations in the canal above the gate.

The Harvey Canal Sector Gate is designed to prevent hurricane storm surge from entering the Harvey Canal north of the floodgate at the Lapalco Bridge, while still allowing forced drainage of stormwater from the Cousins Pump Station. In the event that storm surge would threaten the canal, the gate could be closed within minutes to protect the area north of the gate from that surge. Pumping capacity combined with storage between the Harvey Lock and the Harvey Floodgate would allow the Harvey Pump Station to continue to pump rainfall runoff during a tropical event after the Harvey Floodgate is closed.

Algiers and Harvey Canals

The majority of the levees along the Algiers Canal have been raised to 9 feet; however, some settlement has occurred. Additional levee lifts and improvements would be required to achieve the 100-year level of protection.

A floodgate, pump station, and permanent bypass channel in the Gulf Intracoastal Waterway (GIWW) below the confluence of the Algiers and Harvey Canals to the 100-year level of protection is recommended The new pump station would have a capacity to pump 20,000 cubic feet per second (cfs), equal to the capacity of the existing pump stations. The alternatives are currently undergoing an engineering analysis and environmental compliance review. These structures would remove the parallel protection (levees) and floodwalls of the Harvey and Algiers Canals as the first lines of defense from storm surge, and would eliminate the need to raise all levees and structures to 100-year elevations. Final selection is expected in 2009 and construction is anticipated to begin in 2009. The project alternatives will be documented in IER #12.

Probably going to go ahead and put in sector gate and the walls will stay for some length of time? [question refers to the Company Canal floodwall]

What was the purpose of the Barge Gate Company Canal south of Lapalco Boulevard?

Could you please go through the alternatives of the Company Canal? Discuss the impacts to the harbor of each alternative, the benefits and disruptions to the harbor?

Response #5

Company Canal

The recommended alternative for the Company Canal includes a permanent sector gate and an earthen closure. The alternatives are currently undergoing an engineering analysis and environmental compliance review. A barge gate, which was installed at Company Canal, was an interim measure. If a storm surge threatens the vulnerable floodwalls of the canal, the barge gate can be closed, thereby taking these floodwalls out of the first line of defense against storm surge. Project alternatives have been documented in the draft IER #17 that was released for public comment on November 03, 2008.

Why all the alternatives? Why not just get started and put the hurricane protection into act in our area? We already have our development line set, so why not just get started and stop pretending?

What is wrong with the original plan?

Response #6
Alternative Arrangements and NEPA
CEMVN implemented Alternative Arrangements on 13 March 2007, under the provisions of the CEQ 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 system and the 100-year level of the GNOHSDRRS.

NEPA requires that in analyzing alternatives to the proposed action, a Federal agency consider an alternative of "No Action." Likewise, Section 73 of the Water Resources Development Act (WRDA) of 1974 (PL 93-251) requires Federal agencies to give consideration to non-structural measures to reduce or prevent flood damage. In addition to these mandated alternatives, a range of reasonable alternatives was formulated through input by the CEMVN Project Delivery Team, Value Engineering Team, engineering and design consultants, as well as local government, the public, and resource agencies. The action alternatives formulated are comprised of alternative alignments for each flood protection corridor. Within each of these alignment alternatives, several scales were considered to encompass various flood protection design alternatives that could be utilized within that alignment.

The Decision Record for *Individual Environmental Report #14 Westwego to Harvey Levee Jefferson Parish, Louisiana* was signed by the District Commander on August 26, 2008. The Decision Record for *Individual Environmental Report # 15 Lake Cataouatche Levee Jefferson Parish, Louisiana* was signed by the District Commander on June 12, 2008.

IER #16 - Western Terminus Levee, Jefferson Parish, Louisiana and *IER #17 - Company Canal Floodwall, Jefferson Parish, Louisiana* are currently in preparation.

2.3 MEETING 3

Do you project you will get the levees to the 17 feet as our neighbors sometime in the near future?

Response #7
IER #1 Schedule
The Decision Record for *IER #1 Lake Pontchartrain and Vicinity, La Branche Wetlands Levee, St. Charles Parish, Louisiana* was signed by the District Commander on June 9, 2008.

The proposed action (preferred alternative) would provide 100-year level of protection for St. Charles Parish. The elevations of the existing levees, floodwalls, structures, and gates within the LPV projects would be raised to a height of +16 feet to +18 feet, with the exception of the floodwall under Interstate 310, which would be rebuilt to a height of +13.5 to +15.5 feet. Construction of the project would begin in 2009. Depending on the project section, construction would last between 9 and 29 months (Table 2-1).

Table 2-1. Projected Construction Schedule

Project Section	Expected Duration
LPV03d levee	9 months
LPV04 and LPV05 levee	26 to 29 months
LPV 06-floodwalls and gate	16 to 19 months
LPV 07-drainage structures	16 to 19 months

2.4 MEETING 4

Yes, I was wondering if you put this gate up over here by Harvey, is that going to create a flooding backflow that will come on down towards Gretna and Algiers? What will happen once that gate goes in?

Response #8
See Response #4: ***Harvey Canal Sector Gate***, and Response #5: ***Company Canal***.

Are the levees behind it along the Intracoastal Waterway; are they sufficient to contain any water that would come back through that area?

Response #9
See Response #4: ***Algiers and Harvey Canals***.

If a storm surge comes up the Mississippi River again will the Algiers Lock hold?

Response #10
See Response #4: ***Algiers and Harvey Canals***.

Has armoring been repaired where barges flipped over and cracked armoring?

Response #11
See Response #4: ***Algiers and Harvey Canals***.

I have a question for when they consider the different locks like when they put on Harvey or Algiers or a bigger one through 404 area. When they compared the modeling, the search modeling for all the different cases and what is the difference? How much benefit would it bring to close it off there? How much less you would have to increase the levees behind it?

Response #12
See Response #4: ***Algiers and Harvey Canals***

I want to go back to the Mississippi River. This gentleman lives on one side of the canal and we live on the other. We did have a barge, as I have commented before, and they took it off and it damaged our levee. They put some riprap there and that is all we have on that. We would like to know if is going to be repaired and we would like it to be repaired and brought to at least to a Category 3. How long do you think it will be for that?

Response #13
See Response #4: ***Algiers and Harvey Canals***.

Talking about the Algiers and Hero Canals. I know you said they have about 8 feet and raise them to 10 is that correct? You say both of those will be the 100-year by raising a 1.5 or 2 feet or what ever? Seems like if a surge comes in from the south we are going 16 feet on the wall for the Harvey Canal and 10 feet levee in the Algiers is that going to be enough? On the a eastern side of the Algiers Canal I believe you indicated the height of the levees was for most part 9.5 except from Belle Chase to the Hero Canal, was that it? What is the final target height of the levees on that side of the canal?

<u>Response #14</u>
Canal Heights
Pre-Katrina and current levee heights range between +7.9 and +9.5 feet NAVD 88. The 100-year elevation is +10.5 feet NAVD 88. The elevation would be raised to +14 feet to account for subsidence and sea level rise (see 100-Year Design Map at http://www.mvn.usace.army.mil/hps2/).

So that I understand, if you have water at any one height it seems as though the differential heights of the levees would not do you any good because the water would come over the lowest area of the levees. So at what point in the future would all the levees be at essentially the same height?

<u>Response #15</u>
Levee Heights
CEMVN takes a comprehensive approach and looks at the performance of the entire system. Uneven heights do not result in more or less flooding at any other point in the system. It is possible to have levees very close to one another that may have different heights but that will provide the same level of protection. Protection is not based solely on the height of the levee; the slope of the levee is also important in preventing flooding. Designs are based on calculations that involve still water levels, storm surge, and wave run-up. These factors must be considered at each site so that the resulting levee or floodwall is built not only to the correct height but also has the right shape, and slope for its location.

Say if a Hurricane Katrina were to come west of the West Bank, say if it came around Lake Salvador maybe to the left to the west of Lake Salvador. How much water do you think would we have south of Lapalco, around Gretna, Harvey?

So in your studies are you looking into if this thing comes to the west are they going to have 10 or 15 or 20 feet of water? Do you figure that out in your studies?

If a Category 3 storm surge could come up the Lake Salvador area through the Barataria Bay, what kind of protection do we have this year and next year from withstanding that surge?

When you get to the 100-year level will that stand a Category 3?

<u>Response #16</u>
Risk Depth Maps
Risk depth maps depicting modeled (see Response #17, Computer Models) 1-percent chance flood water depths for the pre-Katrina, June 2007, and with 100-year protection can be found at CEMVN's website. These maps can be viewed at the parish level and depict potential flood risk depths with various pumping scenarios. (see Risk Depth Maps at http://www.mvn.usace.army.mil/hps2/)

When you calculated the design that would be the 100-year level, were you considering the possibility of the wetlands disappearing within 10 years? Will that make a difference if they are gone?

<u>Response #17</u>
Computer Models
Computer generated models of 152 different hurricanes with a wide variety of paths, forward speeds, rainfall volumes, intensities, and physical size (radius) were analyzed. Powerful supercomputers calculated the conditions that would result from these theoretical storms. These data allowed CEMVN to estimate the amount of surge and waves that would be produced by various storms and use this information as the basis for determining the structural specifications required for the HSDRRS to provide a 100-year level of protection. The elevation or height of the structures being designed and built considered a number of other factors besides the surge and wave levels. For example, expected sea level rise, settlement and subsidence of structures, and possible increases in storm severity or frequencies were all factored into the final design of the structures.

Weather forecasters typically use the Saffir-Simpson scale to describe hurricanes. The Saffir-Simpson scale labels a hurricane according to its wind speed at any given time (Category 1, 2, etc.) and predicts storm surge based on that alone. Over the last quarter-century, hurricane surge has been assumed to be primarily a function of maximum storm wind speed. More recent research has shown, however, that wind speed alone cannot reliably describe surge. For example, according to the Saffir-Simpson Scale, Hurricane Katrina was a Category 3 storm at landfall. Category 3 storms are described on this scale as generating storm surge 9 to 12 feet above normal, yet Katrina generated nearly 20 feet of surge. Hurricane Katrina produced 5 more feet of storm surge than did Hurricane Camille, which was a Category 5 storm at landfall according to the Saffir-Simpson scale.

As a result of these findings, hurricane risk reduction planning is now based on a more comprehensive view of the storm and its characteristics, including size, strength, and track, all of which have a significant impact on storm surge. Knowing the category of a hurricane is important to understand how dangerous it is, especially to know how much wind damage it can cause. Knowing the category alone is not enough information to tell us the threat we have from the dangerous storm surge hurricanes produce. The larger of two hurricanes of equal intensity has more storm surge potential.

2.5 MEETING 5

On the back levee protection system why isn't there a level of redundancy built into the storm system to keep us from being swamped a second time? Why isn't that being considered as part of the overall plan?

Okay, with that being said why isn't that being looked at right now to go up to the 28 feet and armoring those levees to give us the maximum protection for St. Bernard Parish? [question refers to MRGO levees]

<u>Response #18</u>
40 Arpent Levee
Raising the 40 Arpent Levee is considered in the State Master Plan which states, "This measure will increase the height of the 40 Arpent Levee in St. Bernard in

conjunction with the Lake Pontchartrain Barrier Plan in order to reduce the risk to targeted assets from storm surges originating in Lake Borgne. It will provide a second line of defense from storm surges originating in Lake Borgne for concentrated and strategic assets in Metropolitan New Orleans and upper St. Bernard Parish. The 40 Arpent Levee is approximately 20 miles long and separates the urban areas of St. Bernard Parish from the Central Wetlands and extends from the Intracoastal Canal on the west to Caernarvon-Verret on the east, where it will tie into the Lake Pontchartrain Barrier Plan levee". The 40 Arpent Levee is also being evaluated by CEMVN as an alternative alignment for the 100-year level of protection improvements.

It is the intent of the CEMVN to employ an integrated, comprehensive, and systems-based approach to hurricane and storm damage reduction in raising the entire GNOHSDRRS to the 100-year level of protection. The proposed action is intended to work in conjunction with other projects within the GNOHSDRRS to provide the 100-year level of protection, which is necessary to achieve the certification required for participation in the National Flood Insurance Program.

Well there were some right [talking about sheet piling] there at Caernarvon, that first 2,000 feet were all sheet pilings. How deep did they go down in the ground? Because I just look at that and say why do you want to build it higher? If you have to you just add a little piece on the top of it and weld it right into place, because I think that's strong enough. But, I see right there you cut the east bank down and put some concrete like a driveway along the edge. What is that for? Wouldn't it be far better and far cheaper just to weld a piece of that corrugated material going up another 5 or 6 feet?

On this LPV 148, did that levee sink or does it have to be raised?

You got a sheet metal wall about 16 feet high? [question refers to Poydras levee]

On the LPV reaches that you have proposed, was it ever taken into consideration to have some temporary armoring in there since the Corps owns its own mat laying divisions? I was just curious, as lightweight concrete mat, was that ever considered as part of a temporary solution until you get the levee height that you needed?

I own a manufacturing plant, a big ship yard there at Caernarvon. I saw just now on your drawing that you made the statement that you may put the levee on the west bank of the Caernarvon Canal. Is that correct?

Response #19
Caernarvon Canal
Alternative alignments are currently being evaluated. The west bank of the canal is one of the alternatives being evaluated. The Caernarvon Canal floodwall alternatives will be evaluated in IER #9.

Now are you going to do any protection for Plaquemines Parish on down the Mississippi River up on the East Bank?

Response #20
The back levee from Phoenix to Bohemia will be raised to the authorized level. This levee and pump station are presently in the design phase.

2.6 MEETING 7

What are our options? Is there a possibility of a pump station to pump it out of the Algiers Canal, and if the river's up where else do we go with that water? [question refers to locks being closed and what to do with water during storm]

> ***Response #21***
> See Response #4: ***Algiers and Harvey Canals***.

Is there any reason you do not build a beach head?

> ***Response #22***
> Both the State Master Plan and the Draft Louisiana Coastal Protection and Restoration (LACPR) Technical Report consider barrier island, barrier headland, and ridge restoration and multiple lines of defense alternatives.

My home backs up to the levee right south of the of the bridge and so am I correct in saying that the levees are going to be raised at least 1 to 2 feet regardless of any of these other sector gates being built?

> ***Response #23***
> See Response #14: ***Canal Heights***.

I am trying to look at it from the standpoint exactly what is being proposed. Now, it would come straight across the Intracoastal and straight into the ditch… (speaker not clear)? [discussion was about the 404c area]

Before you get to Hero Canal also would a gate be that far south?

> ***Response #24***
> See Response #4: ***Algiers and Harvey Canals***.

What I am saying is if the floodgate was south of Hero Canal and the Intracoastal and then the levee would go straight across to that section on that area you are protecting. Wouldn't that solve a lot of problems with the canal elevations? Hasn't that been looked at?

> ***Response #25***
> See Response #4: ***Algiers and Harvey Canals***.

Okay, one other question that I have, you keep making reference to the 100-year, what is the elevation, the 100-year? You keep making the reference 9.5 feet. I know that's not the 100-year elevation.

> ***Response #26***
> See Response #14: ***Canal Heights***.

What will the elevation be? [question refers to building a levee between Hero Canal and Belle Chasse Highway]

> ***Response #27***
> Several alternatives for the Hero Canal to Oakville levee are currently being evaluated, and will be documented in IER #13.

On the Hero Canal and the Algiers Canal, a storm passes west of us; you think one foot of build up is going to be enough to protect anything around here? Are you talking about building up that Algiers Canal Levee, the Hero Canal Levee, 1 or 2 feet? If a storm comes west of us, do you think that is really going to protect us just 1 or 2 feet of a build up?

Response #28
See Response #15: ***Levee Heights*** and Response #16: ***Risk Depth Maps*** and Response #17: ***Computer Models***.

I live in Algiers and I just want to ask if armoring is being planned for any of these levees?

Response #29
See Response #4: ***Algiers and Harvey Canals***, Response #14 ***Canal Heights***, and Response #15, ***Levee Heights.***

I know you are doing a lot of work in this area but my question is to you, will our levees be able to protect us from, not a slow-moving 3 but a regular 3 hurricane before the hurricane season comes here and if not, in what part are we vulnerable?

Response #30
See Response #16: ***Risk Depth Maps*** and Response #17, ***Computer Models***.

Do the other sector gate options, there were a couple of other options at the foot of the Algiers Canal, do they not involve that special area?

Response #31
See Response #4: ***Algiers and Harvey Canals***.

In November 2008, the CEMVN requested that the Environmental Protection Agency (EPA) consider approving a modification that would allow the construction of a segment of the HSDRRS along the northeastern property boundary of the 404(c) area. CEMVN has been working closely with EPA, and other Federal and state agencies to arrive at the least environmentally damaging alternative that lowers the risk of storm surge to the greatest number of people in the area. CEMVN will not make a decision on this portion of the proposed action until the EPA makes a determination on a modification to the Bayou aux Carpes 404(c) area. The requested modification would impact no more than 9.6 acres of the 404(c) area along the west bank of the GIWW. The modification is being evaluated in IER #12. (http://www.nolaenvironmental.gov/nola_public_data/projects/usace_levee/docs/original/ModificationLetterToEPA4Oct08.pdf)

Response #32
See Response #97: ***Bayou aux Carpes 404(c) Area***

On the south end of the parish like Venice, Buras, or Port Sulphur did you all ever consider a structure in a levee, that if it ever got inundated again, we could open up the structure and allow water to flow out quicker, and when the level gets to a certain elevation then close it up and then start our pump stations?

Response #33
Ring Levees/Spillways
The LACPR Technical Report (http://www.lacpr.usace.army.mil) considers Ring Levees/Spillways in lower Plaquemines Parish. This option evaluates spillways in combination with ring levees in multiple locations in Plaquemines Parish. The spillway concept was envisioned to reduce hurricane surge in the New Orleans area and Plaquemines Parish by degrading sections of the existing Plaquemines Parish levees to allow storm surge transfer between Breton Sound and Barataria Bay areas. Highway bridges would be constructed over degraded levee reaches. The spillway concept was modeled; however, results were inconclusive. The spillway concept appears to have some merit but further study is required.

Back to the Harvey Canal, that sector gate at Lapalco, would you consider closing that before the flood walls are built on the east side?

Response #34
Gate Closure
During Hurricane Gustav the gates were closed for 108 hours; pumping lasted 30 hours, with a peak pump flow of 750 cfs. During Hurricane Ike, the gates were closed for 112 hours; pumping lasted 32 hours, with a peak pump flow of 600 cfs.

And what about the east side with the overtopping levees?

Moving back to those levees that are on the east side of the Harvey Canal, that is not a continuous levee system is it?

Response #35
See Response # 35: ***Harvey Canal Floodwalls***

The parish levee just south of Hero Canal, with what I think you referred to as Ollie Levee, two questions; what is the condition of that existing levee as far as condition and elevation? And the other follow-up question, I have heard some talk and read some articles that may be a Federal levee at some point in time in the near future instead of a parish levee?

Response #36
Non-Federal Levees, Plaquemines Parish
[Federal Register: February 26, 2007 (Volume 72, Number 37)] From the Federal Register Online via GPO Access [wais.access.gpo.gov]

Intent To Prepare Supplement III to the Final Environmental Impact Statement, New Orleans to Venice, LA, Hurricane Protection Project: Incorporation of Non-Federal Levees From Oakville to St. Jude, Plaquemines Parish, LA.

CEMVN, is initiating this study under the authority of Public Law 109-234, Title II, Chapter 3, Flood Control and Coastal Emergencies, page 38 (120 STAT.454-455), hereinafter ``4th Supplemental'', provides: ``For an additional amount for `Flood Control and Coastal Emergencies', as authorized by section 5 of the Act of August 18, 1941 (33 U.S.C. 701n), for necessary expenses relating to the consequences of Hurricane Katrina and other hurricanes, $3,145,024,000, to remain available until expended: Provided, that the Secretary of the Army is directed to use the funds appropriated under this heading to modify, at full Federal expense, authorized projects in southeast Louisiana to provide hurricane and storm damage reduction and flood damage reduction in the greater New Orleans and surrounding areas; $215,000,000 shall be used to replace or modify certain non-Federal levees in Plaquemines Parish to incorporate the levees into the existing New Orleans to Venice Hurricane Protection Project."

Questions concerning the Supplemental Environmental Impact Statement (SEIS) should be addressed to Mr. Alan W. Bennett at: U.S. Army Corps of Engineers, PM-RS, P.O. Box 60267, New Orleans, LA 70160-0267, phone (504) 862-2516, fax number (504) 862-2088 or by e-mail at alan.w.bennett@mvn02.usace.army.mil

2.7 MEETING 8

The question on the foreshore protection, you're going to dredge in there to do the ramp?

Response #37
Riprap foreshore protection along Lake Pontchartrain (as described in EIRs # 6 and 7) would be raised to reduce erosion and wave impact on the new protection system. It is anticipated that riprap would be transported to the Lake Pontchartrain shoreline by barge and placed from equipment stationed on barges in the lake and from trucks and equipment accessing the foreshore protection from the shoreline. To provide barge access, channels would be dredged in Lake Pontchartrain perpendicular to the shoreline. Channel dimensions would be approximately 10 feet deep, 100 feet wide at the channel bottom and vary in length depending on the particular construction. Dredged materials (tailings) would be placed within a 178-foot wide area located on one side of and parallel to the dredged channel. The width of the channel and dredge material placement area would create a 400-foot wide footprint, which includes the 100-foot wide channel (140-foot wide top width), the 178-foot wide dredged material stock pile and the space between the stock pile and channel. Channels parallel with the shore to place riprap would also be required for the Lakefront to Michoud Canal (IER #7) project. After construction activities have been completed, dredged materials for the access channels would be used to backfill the dredged channels.

What is going to happen at Lincoln Beach?

Response #38
The LPV 107 reach of the Citrus Lakefront Levee project (IER #6) would replace existing I-wall and earthen levee with an earthen levee with an elevation that would not settle below net grade of approximately +13.5 feet NAVD 88 along a new alignment. The existing levee and floodwall alignment would be shifted approximately 12 feet south (further away from the Norfolk Southern Railroad embankment), aligning 1,472 linear feet of new levee with the LPV 106 alignment. The earthen levee would be constructed with the appropriate side slopes with a mechanically stabilized earth wall along Hayne Boulevard. Improvements to subgrade soils below the new levee would be accomplished through deep soil mixing. The existing floodgate would be replaced with a new floodgate for access to the Lincoln Beach area. Access to Lincoln Beach would not be altered.

2.8 MEETING 9

Regarding both reaches 2 and 3, when you talked about I-walls and T-walls, does that include that small portion of the levees on both sides of the Orleans Canal between the lake and the recently built structure? So you would replace those existing I-walls with T-walls? Because the levee along the lakefront doesn't have any I-walls does it?

Response #39
All earthen levees have been repaired to the 100-year level and the remaining work is for the hardened structures. Table 2-2 lists the currently preferred alternatives, as of November 2008, for the New Orleans lakefront levees and floodwalls. The IER#4 for this project is expected to be released in draft for public review in early 2009.

Table 2-2. Currently Preferred Alternatives for the New Orleans lakefront levees and floodwalls

LPV Project Reach	Reach Description	Reach Sub-segment	Preferred Alternative
101.02	17th St. Canal to Topaz St.	West end levee	Construct floodwall along existing levee
		Gate L-1A	Remove and replace existing gate
		Floodwall between gates L-1A and L-5	Retrofit/replace existing floodwall and gates
		Gate L-4 and floodwalls along lake	Realign the hurricane protection system and construct new floodwall and gate L-4A adjacent to Lake Marina Avenue
		East end levee	Construct floodwall along existing levee
103.01A1	Orleans Canal to London Ave.	Marconi Drive floodwall	Retrofit/replace
		Orleans Ave. Canal floodwall	Minor rehabilitation work along scour protection and transformer locations
		Bayou St. John and sector gate structure	Raise existing sector gate, and modify or replace existing floodwalls and levees
		Rail St. ramp	Construct new floodgate
		Lakeshore Dr. at London Ave. ramp	Construct new floodgate
104.01	London Ave. Canal to IHNC	Canal Blvd. ramp	Raise ramp
		Lakeshore Dr. ramps east/west of UNO	Raise ramps
		Pontchartrain Beach	Convert I-wall to L-wall on current alignment
		American Standard floodwall	Convert I-wall to L-wall; leave existing T-wall
		Leroy Johnson Dr. /Franklin Ave. ramp	Raise ramp
		Gate L-10	Remove gate and replace with levee
		Gate L-11	Modify or replace gate
104.02	London Ave. Canal to IHNC	Seabrook floodwall	Replace or modify floodwall or gates

I saw on one of the displays in the back of the room, something about a new breakwater on the lakefront. Was that just the breakwater he was mentioning in front of the pumping station outfalls, or something different?

Response #40
Breakwaters could be constructed in front of the 17th Street Canal and the Orleans Canal to provide protection for the new pump stations. The final pump station locations and pump station designs have not been selected. These will be described in IER #5.

Well, what I am leading to is the existing what we call seawall, steps that go down to the lake and what I have been told I guess unofficially is that is not part of the hurricane protection system. Is that correct? And now the new Southeast Louisiana Levee District says they are not responsible for it. What's going to become of it? We are all confused about why is it not a part of hurricane protection? About getting you guys to take responsibility for them?

> ***Response #41***
> There are discussions regarding the CEMVN becoming responsible for this seawall.

Where in the outflow canal plans do the existing walls with suspect foundation and soil conditions, where do they fit in this process? If you use London for example, you are doing things on the 17th, is this your operation? Is there a likelihood you may have to re-do T-walls not just the 400 some odd feet you have now, or yards? Unless your experiment shows a likelihood for failure?

> ***Response #42***
> See Table 2-2 in Response #37.

Has there been any consideration to leaving, at least the Orleans Canal, the temporary pumps? Safe water elevation, what is that for the Orleans Canal, four feet or what ever it is and from where? Where is it measured from, the bottom of the canal, from sea level?

> ***Response #43***
> London Avenue Canal's safe water elevation is the lowest and Orleans Avenue Canal's is highest. London Avenue Canal will always close first because the safe water elevation is 5 feet and 17th Street Canal's safe water elevation is 6 feet; CEMVN closes at 5 feet. At Orleans Avenue Canal the safe water elevation is 8 feet and CEMVN never closes it until 7 feet. When storm surge threatens to exceed the safe water level in a canal, CEMVN closes the gates and turns on the pumps.
>
> Safe water elevations are based on the North American Vertical Data 88 (NAVD 88); basically feet above mean sea level.

According to the *Times-Picayune* simulation, I'm not sure if it is right, but they said there is, or was, a notch in the levee on the Orleans Canal on the east side, right in front of the pumping station along side Marconi Drive, and that there was significant water that came over that notch in the flood. Is that correct? Did a lot of water come over there? Are there any plans to raise that or correct that?

> ***Response #44***
> See Table 2-2 in Response #37.

I would just like you to talk about the alternative of improving the parallel protection and the box culvert. Do those involve replacing the canals and can they involve replacing the canals or upgrading the canals and not having any second pumps or gates or anything blocking the existing drainage system? [the question refers to outfall canals] Wouldn't that be more or less what we have under Broad Street now? And when you say improving parallel protection, what does that mean? Repairing the existing levees and having the canal the way it was before the storm only with a better levee?

Response #45
See Table 2-2 in Response #37.
Parallel protection refers to levees and floodwalls along the drainage canals to prevent storm surge from overtopping the canal walls.

These guy's new pump or whatever, but you wouldn't have to upgrade too much, construct a whole lot of new facilities if the existing pumping facilities, you can pump all you want if you have a pipeline that doesn't do much and that's what were talking about is the pipelines for the outfall, right?

Response #46
The CEMVN is currently evaluating alternative pump station locations and designs.

Is it to keep things simpler and to keep it all one battlefront, is that what you are saying? No, but if you moved it to the front of the bayou instead of where it is.[this all had something to do with an existing structure at Bayou St. John]

Response #47
The CEMVN is currently evaluating alternative pump station locations and designs. These will be evaluated in IER #5

I have a question about Lakeshore Drive and the location of the flood gates that are proposed along Lakeshore Drive. Putting flood gates at Rail Street and Pratt Drive and Lakeshore Drive.

Response #48
See Table 2-2 in Response #37.

And along Lakeshore Drive you are raising those levee sections? It's all along Lakeshore Drive, those levee sections? Earthen levees? How high are you raising them? So the elevation right now is what? So you expect maybe 2 feet in some areas?

Response #49
All earthen levees have been repaired to the authorized level and the remaining work is for the hardened structures. The 100-year protection elevations along the lakefront range from +15 to +16 feet NAVD 88. Current elevations range from +15.4 to +19.5 feet NAVD 88.

I'm sorry I missed the location of the pumping station or what every may be proposed on the London Avenue Canal. So the location would go from some point in Lake Pontchartrain to what is that about a thousand feet south of … (speaker not clear, someone spoke over the top of him) Street? But you haven't decided where? Have you decided, I'm sure you haven't decided the size either? The capacity was 8,900? I saw in your slide either a pumping station or a pumping station acting as an entire area canal or what ever, flood basin or possibly a bypass pumping station, is that right? But you don't have an idea of the physical size that you are going to put in? Has anybody drawn anything like that? Could you show us renderings? What it might look like?

Response #50
The CEMVN is currently evaluating alternative pump station locations and designs. These will be evaluated in IER #5

The new permanent pump station at the London Avenue Canal as proposed would be approximately 350 feet long and 160 feet wide. The pump station would likely be primarily situated on the east canal bank. This provides for convenient connection of existing levees to the new pump station structure. The outfall canal levees and floodwalls north of the new pump station would be raised to the 100-year level of protection and connect and be continuous with the existing Lake Pontchartrain levee system.

3 PROJECT SCHEDULE

3.1 MEETING 1

How can environmental processes be sped up to complete this work?

See Response #6: ***Alternative Arrangements and NEPA***.

If the study finishes, when would these projects commence? Will all of these projects start in 2008?

Response #51
Project Completion
Under the Alternative Arrangements (see page 4) the various segments of the GNOHSDRRS are being evaluated in separate IERs, with the expectation that the simpler projects may commence prior to the more complicated projects. Consequently, projects would have varying starting and completion dates. The CEMVN is committed to completing the GNOHSDRRS by June 2011.

3.2 MEETING 2

What is the timeline for the determination as to whether or not the southern floodgate system would be put into place, 5yrs? 10 yrs?

Response #52
See Response #4*:* ***Algiers and Harvey Canals***.

Company Canal floodwall replacement: Is it due to defect in original design? What type of time frame would something like that occur in?

Response #53
See Response #4: ***Algiers and Harvey Canals***.

East side of Harvey Canal south of LaPalco: It has been 19 months since [the storm] and 250,000 people are vulnerable on that side of the canal. In 19 months I'd like to know, what has been done to protect those people?

Floodwalls East of the Harvey Canal: How long is thing going to take? Paper said the second phase can't even start until we have more money?

So we have no protection then what we had before hurricanes Katrina and Rita?

Response #54
Harvey Canal Floodwalls
In February 2008 the CEMVN awarded a contract to construct 8,300 feet of floodwall stretching south from the Harvey Canal Sector Gate at Lapalco Boulevard to the S-curve of Old Peters Road. The floodwall will be a T-wall type and will be built to elevation +14 feet.

In July 2008 the CEMVN awarded a contract for the construction of 1,155 linear feet of floodwall. This project will tie into the south end of the floodwall currently under construction south of Boomtown Casino. The reach will extend across the Hero Pump Station discharge channel and will follow Concord Road to Elmwood Marine. This contract includes the construction of fronting protection for the Hero Pump Station. Fronting protection is designed to protect interior drainage pump stations from storm surge and to prevent the back flow of water through the pumps, which is very important for public safety. T-walls will stretch the length of the reach, and will also include a pile supported inverted T-Wall constructed in front of the pump station. The pump station discharge pipes will be extended through this T-wall and will also be modified to include back-flow prevention.

Also in July 2008 the CEMVN awarded the final construction contract for the Harvey Canal in Jefferson Parish. The construction is for approximately 3,900 linear feet of floodwall tying into the floodwall currently under construction along Peters Road and running north past Boomtown Casino. It will complete this portion of the flood protection system along Peters Road from the Harvey Canal Floodgate complex on the northern end to the Hero Pump Station on the southern end. The T-walls will be built to an elevation +14 feet.

This project will provide a 100-year level of protection for an area which previously had no Federal protection. The public safety of residents and businesses in the Harvey area will increase significantly at completion of the Harvey Canal Floodwall projects.

To reduce the risk of storm surge, floodwalls along the Harvey Canal are under construction and should be complete in 2010. Currently, 3.1 of the 3.5 miles of floodwall are under construction with a completion date scheduled for August 2010. The fourth of five Harvey Canal floodwall contracts was awarded in July 2008. The remaining contract is scheduled for award in September 2008; designs are currently being finalized.

Harvey and Algiers canals levee and floodwalls will be evaluated in IER #12

Company Canal: April 28th my wife has a festival there. What is the time frame of the study and will the process be finished by April? It is the area with the survey markers. Will the survey markers, rods, be cleaned up before the festival on April 28th?

Response #55

The commenter was assured that the survey markers would be removed prior to the festival.

How long to complete Segnette?

Response #56

Lake Cataouatche Pump Station to Segnette State Park-Phase 1 was contracted in 2007. Lake Cataouatche Pump Station to Segnette State Park-Phase 2 is anticipated to be contracted in the third quarter of 2009. The Segnette State Park Floodwall is anticipated to be contracted in the first quarter of 2010. The CEMVN is committed to completing the hurricane protection system by 2011.

Contracting and Progress

Contracts and their progress may be viewed at the GNOHSDRRS website. http://www.mvn.usace.army.mil/hps/hps_contract_info.html

3.3 MEETING 3

I do have a question, considering that we have the Bonnet Carre′ Spillway at 23 feet on one side of St. Charles Parish, on the western portion, and the 17 foot Kenner Levee on the east side. I know the 100-year storm rates are going to come out pretty soon. Are we examining what we are going to need to increase that footprint and the mitigation of that footprint so it does not slow the project?

Response #57
Mitigation
CEMVN has assessed the impacts of the proposed action on significant resources in the proposed project area, including wetlands, fisheries, essential fish habitat, threatened and endangered species, cultural resources, recreational resources, aesthetic resources, air quality, noise, and transportation. These resources were addressed in IER #2 which was signed by the District Commander on July 18, 2008. Mitigation will be addressed in a separate IER.

All jurisdictional wetlands and non-jurisdictional bottomland hardwood forest impacts were assessed in cooperation with the U.S. Fish and Wildlife Service (USFWS) and CEMVN under NEPA, Fish and Wildlife Coordination Act, and Section 906 (b) WRDA 1986 requirements. The impacts for the proposed action are as follows:

- LPV 03b – loss of approximately 1.4 acres of wetland.
- LPV 04 and LPV 05 – 300 acres impacted by levee construction requiring mitigation.
- LPV 06 – less than 1 acre would be replaced.
- LPV 07b and LPV 07c – no net change in wetland acreage.
- LPV 07d and LPV 07e – no wetlands impacted.

A mitigation IER will be prepared documenting and compiling the unavoidable impacts discussed in each IER. The mitigation IER will implement compensatory mitigation as early as possible. All mitigation activities will be consistent with standards and policies established in the Clean Water Act Section 404 and the appropriate USACE policies and regulations governing this activity.

The USFWS reviewed the proposed action to see if it would affect any threatened and endangered species, or their critical habitat. The USFWS concurred with the CEMVN in a letter dated 8 April 2008, that the proposed action would not have adverse impacts on threatened and endangered species.

NOAA National Marine Fisheries Service (NMFS) was sent the CEMVN's determination on the effects the proposed action would have on threatened and endangered species on 24 March 2008. No threatened and endangered species, or their critical habitat under NMFS jurisdiction would be impacted with construction of the proposed action.

The Louisiana Department of Natural Resources reviewed the proposed action for consistency with the Louisiana Coastal Resources Program (LCRP). The proposed action was found to be consistent with the LCRP, as per a letter dated 21 April 2008.

Well, considering that, are you looking at the possibility of the three pumps that may be coming with the justification of the feasibility study within maybe the next 10 months?

Response #58
Pump stations were addressed in IER #15, which was signed by the District Commander on June 12, 2008.

3.4 MEETING 4

I want to go back to the Mississippi River. This gentleman lives on one side of the canal and we live on the other. We did have a barge as I have commented before and they took it off and it damaged our levee. They put some riprap there and that is all we have on that. We would like to know if it is going to be repaired? We would like it to be repaired and brought to at least a Category 3. How long do you think it will be for that?

> ***Response #59***
> The USACE inspected levees in the fall of 2006 so that any necessary repairs could be completed by the 2007 high water season.

3.5 MEETING 5

When you do all this work, which one do you do first?

What are they looking at in terms of completion of the 100-year hurricane protection project as it protects St. Bernard Parish, because I don’t think everyone knows that?

> ***Response #60***
> Under the Alternative Arrangements (see Response #6) the various segments of the GNOHSDRRS are being evaluated in separate IERs, with the expectations that the simpler projects may commence prior to the more complicated projects. Consequently, projects would have varying starting and completion dates. The CEMVN is committed to completing the GNOHSDRRS by June 2011.

So my question is, if Congress authorized that, do you think that project would be separate and apart? I am talking about raising the 40 Arpent to some level of protection. Would it have its own legs would it be separate and apart from the rest of the IHNC project that has the completion time table of 2010, 2011, 2012 or do you think it would just be folded into this project? [question refers to non-Federal levee]

> ***Response #61***
> See Response #18: ***40 Arpent Levee***.

So that part being simpler and easier and not quite as high could foreseeable hopefully come sooner than the longer bigger project? [question again refers to non-Federal levee]

> ***Response #62***
> See Response #18: ***40 Arpent Levee***.

Simply put, it is in a much easier accessible area and it makes a lot of sense, its easy to maintain, its not subsiding quite as much as the Mississippi River Gulf Outlet (MRGO) levee is, and as a citizen living here I would like to know is that going to be a reality or what is your time frame for completing this? [question refers to back levee, the 40 Arpent]

> ***Response #63***
> See Response #18: ***40 Arpent Levee***.

At one meeting I thought you all said it was going to be the first project in design or worked on? [question refers to LPV 148]

Response #64
LPV 148 Chalmette Loop Levee- Verret to Caernarvon
The recommended alternative is to construct a T-wall on top of the existing levee to an elevation of +26.5 feet. Design is expected to be completed in June 2009 with construction contracted in January 2009 and project completion by 2011. This levee reach will be evaluated in IER #10.

Where was the NEPA study for the pumps on the 17th and London Avenue and Orleans Canal? It didn't take 14 months to get that done did it? Was that suspended?

Response #65
These were necessary emergency repairs. During Hurricane Katrina, breaches occurred at the 17th Street and London Avenue Canals when water and waves pushing against the outside (flood side) of the floodwalls (I-walls) caused the walls to shift, essentially splitting each levee into two pieces. Material on the protected side of the levee was unable to withstand the pressure from the forces opposite the floodwall and gave way, allowing water, intensified by the force of the waves, to spill into the protected areas. CEMVN repaired and improved all canals beyond pre-Katrina risk reduction levels before the start of the 2006 hurricane season.

I go over and work in New Orleans down at the Claiborne Bridge, that wall you constructed on, is that wall finished?

Response #66
Yes, the T-wall construction on the east bank of the Inner Harbor Navigation Canal (IHNC) has been completed.

3.6 MEETING 7

Your original schedule on the Corps website, and I have been looking at the Corps' website, indicated the third quarter of this year for that portion to start. Is that delayed now? [question refers to late 2007 that the WBV 09, which is the levee on the north side of the Hero Canal to the Belle Chasse Highway]

Response #67
Several alternatives for the Hero Canal to Oakville levee are currently being evaluated in IER #13.

When can we expect to have this east of the Harvey Canal Floodwall project and the Algiers Levee? When is that supposed to be finished?

Response #68
See Response #52: ***Harvey Canal Floodwalls***.

3.7 MEETING 8

What time periods are we talking about from the environmental until we see some activity on something being built or designed on these various projects? How about the levee work? Okay, but is the design going on right now or does once you finish your environmental you say okay let's start drawing? But as a contractor when, when should I start looking for this so I can bid on it?

Response #69
See Response #54: ***Contracting and Progress***.

Your various other projects in particular the other areas you have up on the board here. Has your time frame stayed the same? Are we looking at 2008, 2009?

Response #70
See Response #54: ***Contracting and Progress***.

Is there anyone here with the Corps that knows anything that is going on with Lake Cataouatche? Right now it has just been postponed again. It's been put out three times for bid. Is there anyone that knows what's going on with that project?

Response #71
See Response #54: ***Contracting and Progress***.

3.8 MEETING 9

Closing off Bayou St. John is a huge issue. So, we definitely want input when that's being considered. Here is a question. When is the bid, I can't remember the term, it's not bid, proposal, I forget the term of art, but when is that going to be let?

Response #72
See Response #54: ***Contracting and Progress***.

Are all of the projects going to be undertaken at the same time? When are they going be bid?

Response #73
See Response #54: ***Contracting and Progress***.

Individual Environmental Reports (IERs)
Although the IERs will be prepared concurrently, their durations to completion vary, depending in part on the complexity of the proposed actions and their associated impacts to the environment. Those projects analyzed within a given IER can proceed to design and construction once the IER is finalized; this involves releasing the draft IER for a 30-day public review period, addressing all substantive comments received on the IER, and preparing a final decision by the CEMVN Commander determining the alternative to be constructed.

Most IERs are expected to be completed towards the end of 2008, with construction of projects beginning in 2009. Status of IERs may be located on the CEMVN information page www.nolaenvironmental.gov.
As of December 5, 2008 the Decision Records for the following IERs have been signed by the CEMVN Commander.

Table 3-1. 2008 IER Decision Records

IER	Title	Decision Record Signed
1	LaBranche Wetlands Levee, St. Charles Parish	June 9, 2008
2	West Return Floodwall Jefferson, St. Charles Parish	July 18, 2008
3	Lakefront Levee Jefferson Parish	July 25, 2008
11 Tier 1	Inner Harbor Navigation Canal Navigable Floodgates, Orleans and St. Bernard Parishes:	March 14, 2008
11 Tier 2	Improved Protection on the Inner Harbor Navigation Canal Orleans and St. Bernard Parishes, Louisiana, IER #11 Tier 2 Borgne.	October 21, 2008
14	Westwego to Harvey Levee Jefferson Parish, Louisiana	August 26, 2008
15	Lake Cataouatche Levee, Jefferson Parish, Louisiana	June 12, 2008
18	Borrow, Government Furnished, Multiple sites	February 22, 2008
19	Borrow, Pre-Approved Contractor Furnished, Multiple sites	February 16, 2008
22	Government Furnished Borrow Material #2, Jefferson and Plaquemines Parishes	May 30, 2008
23	Pre-Approved Contractor Furnished Borrow Material, St. Bernard, St. Charles, Plaquemines Parishes, LA, and Hancock County, MS	May 8, 2008
26	Pre-Approved Contractor Furnished Borrow Material #3, Jefferson, Plaquemines, and St. John the Baptist Parishes, Louisiana, and Hancock County, Mississippi	October 20, 2008

Decision Records signed as of December 5, 2008

4 MISCELLANEOUS

4.1 MEETING 1

Borrow pits: Can you discuss the borrow process, particularly expropriated property processes?

Response #74

CEMVN's mission is to ensure the safety of the people of south Louisiana and protect the infrastructure. In order to do this, large quantities of borrow material are needed. Current estimates place the amount of borrow required at 160 million cubic yards. CEMVN is investigating borrow sources from all over the New Orleans Metropolitan area and from other states. Additionally, three avenues to obtain borrow material are being pursued: Government Furnished (GF) (Government acquires rights to property), Pre-Approved Contractor Furnished (CF) (landowner and construction contractor work in partnership to provide borrow material), and Supply Contract (SC) (corporation delivers borrow material to a designated location for use by construction contractor). Government furnished borrow areas would be acquired by the Government at a fair market value based upon best and future use of the property.

Borrow is discussed in IERs #18, 19, 22, 23, 24, 25, and 26. Additional information on the borrow process may be found at http://www.mvn.usace.army.mil/HPS/borrow_pits_home.htm.

Property Acquisition and Payment of Property

Only the minimum amount of real estate required for the levee projects will be acquired. If the property needed includes a house, CEMVN will acquire the house. Payment for property used for Federal projects is governed by the Fifth Amendment of the U.S. Constitution which states "…nor shall private property be taken for public use, without just compensation." Just compensation is fixed at the fair market value for the land as of the date the property was given to use for use of the project unless Congress has given specific authority to do otherwise. Since both the effective date of taking and the start of the projects happened after Katrina, payment is based upon post-Katrina property values, therefore payments are fixed by law.

Uniform Relocation Assistance and Real Property Acquisition Policies Act (URA)

The URA was enacted by Congress to ensure the fair and equitable treatment of homeowners and tenants whose homes are taken for public projects. To determine the limits of relocation assistance benefits available to the displaced homeowners and tenants, CEMVN bases its assessment upon a value averaging for three "like" houses in the same type of neighborhood, if possible. Under URA legislation, affected homeowners are entitled to certain remedial benefits over and above the payment they receive as just compensation under the Fifth Amendment. These benefits include, a replacement housing payment intended to enable homeowners to buy a home that is comparable to the home that was acquired by CEMVN when combined with the money that is received from CEMVN as just compensation. The replacement housing payment generally is the amount by which the cost of a comparable, decent, safe, and sanitary replacement home exceeds the cost of the home acquired. Displaced homeowners are guaranteed a comparable, decent, safe, and sanitary home. Accordingly, the URA can provide additional benefits to those homeowners whose residences are acquired. These benefits will be determined on a case by case basis, considering the availability of "comparable, decent…" homes in southeast Louisiana. With both the just compensation and URA, homeowners whose property is acquired for use by the CEMVN will see parity between what they receive and what they would have received had the just compensation been based upon pre-Katrina values. In other words, they will be in a similar house, with a similar mortgage for a similar length of time.

4.2 MEETING 2

What about the barrier islands being the first defense against the surge? What about bringing the barrier islands up to an elevation of 30 to 35 feet above sea level? What about getting the barrier islands commercialized and raising them up high enough? What about building an island where you need it?

Response #75
Barrier Islands
The goal of the Louisiana Coastal Area (LCA) Plan (USACE 2004. Louisiana Coastal Area (LCA), Louisiana Ecosystem Restoration Study. November 2004 Final Volume 1: LCA Study - Main Report. http://www.lca.gov) is to reverse the current trend of degradation of the coastal ecosystem. The plan maximizes the use of restoration strategies that reintroduce historic flows of river water, nutrients, and sediment to coastal wetlands, and that maintain the structural integrity of the coastal ecosystem.

The LCA Plan recommended 10 additional critical near-term restoration features throughout coastal Louisiana for further studies, in anticipation that such features may be subsequently recommended for future Congressional authorization. Barrier island restoration was included in these critical near-term restoration features.

Louisiana's coastal wetlands and barrier island systems enhance protection of an internationally significant commercial-industrial complex from the destructive forces of storm driven waves and tides. Barrier islands serve as natural storm protective buffers and provide protection and limit erosion of Louisiana's coastal wetlands, bays, and estuaries, by reducing wave energies at the margins of coastal wetlands. In addition, barrier islands limit storm surge heights and retard saltwater intrusion.

Barrier island systems, composed primarily of barrier shorelines (beaches), headlands, and islands, are the remnant geomorphic structures in the latter phases of deltaic abandonment. Although this barrier island system was a continuous shoreline system in 1853, today it consists of five main islands. They are located principally in the Deltaic Plain and include the Chandeleur, Plaquemines, Bayou Lafourche, and Isles Dernieres barrier systems.

Louisiana's barrier island systems are experiencing some of the highest land loss rates in the Nation, particularly the Plaquemines, Bayou Lafourche, and Isles Dernieres systems. While the deterioration of barrier island systems is a natural feature of the deltaic cycle, historically their loss was offset with the creation of a barrier island system in another portion of the Deltaic Plain; a function of river switching and the subsequent delta abandonment phase. Today, there is not another barrier island system "waiting in the wings" to replace those that are being lost.

Without action, barrier island systems would continue to erode and, in many cases, disappear by 2050. Marine influences and tropical storm events would be the primary factors affecting land loss of the barrier island systems. As this land loss trend continues, hydrologic connections between the Gulf and interior areas would increase and exacerbate land loss and conversion of habitat type within the interior wetland communities. Without the protective buffer provided by the barrier island systems, interior wetlands would be at an increased risk to severe damage from tropical storm events. In addition, critical habitats for threatened and endangered species and essential and diverse habitats for many terrestrial and aquatic organisms would continue to diminish.

Barrier island restoration, through placement of sand from offshore sources or the Mississippi River, could sustain these geomorphic structures, which would provide additional protection from hurricane storm surges and protect the ecology of estuarine bays and marshes by reducing gulf influences, as well as protect Nationally important water bird nesting areas. Identification of sand resources to support the coast wide restoration of Louisiana's barrier islands and back-barrier marshes requires finding large volumes of high-quality sand and developing cost-effective delivery systems to move these materials.

The Barataria Basin Barrier Shoreline Restoration Project is one of three barrier island projects in the LCA Plan. All three of these barrier island projects are important; however, the Barataria Barrier Shoreline Restoration is considered critical due to the greatly degraded state of this shoreline and its key role in protecting and preserving larger inland wetland areas and bays.

The Barataria Basin Barrier Island Restoration feature addresses critical ecological needs and would sustain essential geomorphic features for the protection of Louisiana’s coastal wetlands and coastal infrastructure. The project is synergistic with future restoration by maintaining or restoring the integrity of Louisiana’s coastline, upon which all future coastal restoration is dependent. The design and operation of the feature would maintain the opportunity for and support the development of large-scale, long-range comprehensive coastal restoration. The feature would also support the opportunity for resolution of scientific and technical uncertainties through incorporation of demonstration features and/or adaptive management.

Continuing erosion of wetlands and barrier islands reduces the natural buffer separating communities from the Gulf of Mexico. As these buffers disappear, communities will face a choice of building higher and stronger structural defenses; relocating to areas with lower risks; or continuing to live in areas under ever-increasing risk. As a result, the inclusion of some coastal restoration components in every alternative plan is fundamental to successful long-term risk reduction (USACE 2008. Draft LACPR Technical Report, February 2008 and Appendices at http://lacpr.usace.army.mil/)

The following two websites contain up-to-date information on the Federal and Louisiana’s coastal restoration activities, including barrier islands restoration.

- http://lacpr.usace.army.mil/
- http://www.lacoast.gov/cwppra/

Explain the difference between the I-wall and T-wall.

<u>Response #76</u>
I-Wall and T-Wall
CEMVN has a color brochure explaining the construction of floodwalls. It can be downloaded at http://www.mvn.usace.army.mil/hps/Status%20Report%20Newsletters/May%20_13_2008.pdf.

Two common types of floodwalls that are used to raise levee grades are the I-wall and the inverted T-wall. The I-wall is a vertical wall partially embedded in the levee crown. The stability of such walls depends upon the development of passive resistance from the soil. For stability reasons, I-walls rarely exceed 7 feet above the ground surface. One common method of constructing an I-wall is by combining sheet pile with a concrete cap. The lower part of the wall consists of a row of steel sheet pile that is driven into the levee embankment, and the upper part is a reinforced concrete section capping the steel sheet piling.

An inverted T-wall is a reinforced concrete wall whose members act as wide cantilever beams in resisting hydrostatic pressures acting against the wall. The inverted T-wall is used to make floodwall levee enlargements when walls higher than 7 feet are required.

Could you explain what IPET is?

<u>Response #77</u>
The Interagency Performance Evaluation Task Force (IPET)
IPET is a distinguished group of government, academic, and private sector scientists and engineers. IPET was created by the Chief of Engineers, U.S. Army Corps of Engineers, and the group's work was peer reviewed on a weekly basis by a distinguished External Review Panel of the American Society of Civil Engineers and independently reviewed by the National Research Council Committee on New Orleans Regional Hurricane Protection Projects. IPET applied some of the most sophisticated capabilities available in civil engineering to understand what happened during Katrina and why. Their purpose was not just to acquire new knowledge, but application of that knowledge to the repair and reconstitution of protection in New Orleans as well as improvement to engineering practice and policies. The results of much of the IPET work are largely already in the ground, having been transferred and applied prior to the formal completion of the final report. The bulk of the information and documents used or generated by the Task Force has been made available through a public web site (https://IPET.wes.army.mil).

There are nine volumes in the final report, designed to provide a detailed documentation of the technical analyses conducted and their associated findings. They are organized around major technical tasks that together provided an in-depth system-wide assessment of the behavior of the hurricane protection system and lessons learned that have been incorporated into the immediate repairs and are integrated into the continuing efforts to improve the system and assess approaches for higher levels of protection. The volumes and their individual focus areas are as follows:

- Volume I. Executive Summary and Overview – Summary of findings and lessons learned. Overview of IPET, the performance evaluation activities, and IPET reports.

- Volume II. Geodetic Vertical and Water Level Datums – Update of geodetic and water level references for the region and determination of accurate elevations for all critical structures.

- Volume III. The Hurricane Protection System – Documentation of the character of the GNOHSDRRS, including the design assumptions and criteria, as-built and maintained condition.

- Volume IV. The Storm – Documentation of the surge and wave environments created by Hurricane Katrina and the time-history and nature of the forces experienced by protection structures during the storm.

- Volume V. The Performance – Levees and Floodwalls – Documentation and assessment of the behavior of individual damaged structures and development of criteria for evaluation of undamaged sections. Provision of input to repairs and ongoing design and planning efforts.

- Volume VI. The Performance – Interior Drainage and Pumping – Assessment of the performance of the interior drainage and pumping systems with regard to extent and duration of flooding. This includes an examination of scenarios to understand system-wide performance.

- Volume VII. The Consequences – Determination of the economic, human safety and health, environmental, and social and cultural losses due to Katrina. Examination of scenarios to understand implications of losses and possible recovery paths on future risk is also described.

- Volume VIII. Engineering and Operational Risk and Reliability Analysis – Determination of the inherent risk for all parts of the system prior to and following Katrina. This includes the provision of capability for risk-based decision support for continuing improvement and development of hurricane protection.

- Volume IX. General Appendices – Documentation of information resources and management, program management, and communications.

4.3 MEETING 3

Considering the new elevations that are coming out in the 100-year protection, would that produce enough data to prevent Kenner from blocking off Highway 61, a hurricane access route during a hurricane event?

Response #78

Most of the truck traffic associated with the proposed action would use U.S. 61 (Airline Highway). The additional truck traffic could have a temporary impact on the level of service (LOS) for U.S. 61. After construction is complete, the proposed action would have no long-term impact on transportation. These transportation impacts are detailed in IER #1

4.4 MEETING 4

With all this work going on, is the National Flood Insurance Program considering a re-evaluation of the flood classifications on the West Bank?

<u>Response #79</u>
Advisory Base Flood Elevations
The Federal Emergency Management Agency (FEMA), working with the U.S. Army Corps of Engineers (USACE) storm surge modeling engineers, has issued maps and Guidance Documents of the Advisory Base Flood Elevations (ABFE) for the following local parishes: Jefferson, Orleans, Plaquemines, St. Bernard, and St. Charles. Information regarding advisory base flood elevations may be located on the FEMA website at http://www.fema.gov/hazard/flood/recoverydata/katrina.

The Flood Recovery Guidance issued for the Louisiana coastal parishes addresses the open coast. Given the complexities of assessing flood risk behind and near levees, additional work is underway to produce similar guidance for levee-protected areas and coastal areas outside and near levee systems. FEMA is coordinating with the USACE to develop Flood Recovery Guidance documents for those areas.

4.5 MEETING 5

Now is the Corps of Engineers going to dig them canals out? Are you guys going to go out and dig it up like it ought to be? Would there be a possibility to repayment of some of that money we spent on it?

So my last question is, so what do we do between now and 2010, 11, 12? Is there any comments you can tell the public for that?

<u>Response #80</u>
CEMVN completed the repair and restoration of 220 miles of floodwalls and levees by June 1, 2006. The New Orleans area now has the best flood protection in its history. Every day CEMVN is working to reduce risk. The CEMVN is committed to completing the 100-year protection by June 2011.

4.6 MEETING 7

Will the levees be certified, Federally certified, at the elevations they were agreed to?

<u>Response #81</u>
See Response #77: ***Advisory Base Flood Elevations***.

Will the interior of the levees be classified as non-flood or will they be classified flood? Does the Corps have any input on that determination or is it come into play on making when Congress comes in and says yes or no?

<u>Response #82</u>
See Response #77: ***Advisory Base Flood Elevations***.

4.7 MEETING 8

Have you looked at working with the railroads?

Response #83
CEMVN has investigated the potential for delivery of riprap for foreshore protection by rail. The alternative is being evaluated in IERs # 6 and 7.

4.8 MEETING 9

So there is a whole different hydrology? Normally in rainy season here, that water gets really high in those canals. So all that water would stay in the city of New Orleans? You would stop pumping? So that is the glue that holds everything together, that captain? [this was a discussion regarding pumping canals and responsibility of the Sewerage and Water Board]

When that gentleman there said he was going to meet with the levee board, a few seconds ago when you said we have to meet with the levee board, who are you talking about? That's the flood protection staff. Is that a flood asset or a non-flood asset? [discussion regarding jurisdiction of right-of-way]

Can we get into a conflict where the gates are shut, but the Sewerage and Water Board are under orders to keep draining the rest of city and the water then overtops the levees perhaps through this notch we were just talking about. What's to stop that from happening? Something similar happened between Orleans and Jefferson didn't it? [more discussion of pump operations]

Response #84
Pump Coordination
CEMVN and the Sewerage and Water Board have established a communication protocol, to control pumping rates. CEMVN and the Sewerage and Water Board conduct mock exercises to ensure the efficacy of their protocols and to improve the protocols as necessary.

5 PUBLIC INFORMATION/PUBLIC INVOLVEMENT

5.1 MEETING 1

Are the alternatives available somewhere for us to view?

5.2 MEETING 3

Did not receive any letters as elected officials like in other than the newspaper?

5.3 MEETING 4

Are you going to make the public aware of that? The public is not aware of how much water we could have here if it came west of the West Bank. [question was in reference to storm surge modeling scenarios]

(see

5.4 MEETING 5

Is there anything I can do at the plant over there to get you to move that thing on the other side and get you to put that gate down below? [not sure what this is in reference to]

Would there be a possibility to repayment of some of that money we spent on it? [in reference to recouping money he and other businesses spent on dredging out canal following Katrina]

Anything I can do to influence it I'd appreciate it. Alright? [in reference to recouping money he and other businesses spent on dredging out canal]

5.5 MEETING 8

I am concerned about a lot of the details you have not worked out, well so far and what I am curious about, what opportunities would I have to get further input as the specifics of some of this developed like Bayou St. John, Lincoln Beach, operation of the locks at Sea Brook, etc.?

5.6 MEETING 9

If I understand it right, your going through this process, once you come up with a final report, on the environmental impacts, the social impacts, blah, blah, blah, you are going to at that point ask for additional input or comment on the final report?

Mr. Copleck I see that there are names and websites for several other people, we don't have yours, may we have yours? [gave card and info to person]

Who makes that final decision? Can we meet with the local Commander? Who is the local Commander?

In December the Corps came up with a synopsis looking for alternative solutions to pumping stations at the lake, trying to be innovated and creative, and looking for interested parties to participate in receiving an RFP. Is that process just dead ended, because all I hear you talk about is pumping stations at the lake? Basically you are not going to look at the solution until the RFP is released? [this person had some patented pump that could pull water, and thought it would be better than the alternatives being discussed]

Can you submit comments? [question in reference to www.nolaenvironmental.gov website which did not yet exist]

Response #85
All of the IERs are being provided to the public for review. Meetings to exchange information with the public have been held throughout the Metropolitan Area since 2007.

NOLA Environmental Website
The NOLA Environmental website (www.nolaenvironmental.gov) has been created to share with the public the efforts being made by CEMVN and other Federal and state agencies in south Louisiana regarding the environmental compliance for proposed GNOHSDRRS projects. News releases, notices and schedules of meetings, audio files (mp3s) of select meetings, descriptions of projects, draft and final reports, regulatory compliance documents and projects' public comment periods are listed on the site. CEMVN sends out public notices in local and national newspapers, news releases (routinely picked up by television and newspapers in stories and scrolls), and mail notifications to stakeholders for each public meeting. CEMVN sends out e-mail notifications of the meetings to stakeholders who requested to be notified by this method. Public meetings will continue throughout the planning process.

CEMVN Public Affairs Office
The CEMVN Public Affairs Office website is www.mvn.usace.army.mil/pao/ You may also direct questions or comments to Maj. Timothy Kurgan, Public Affairs Chief, via telephone at (504) 862-2074 or send e-mail to Timothy.J.Kurgan@usace.army.mil. Send mail to New Orleans District Public Affairs Office, 7400 Leake Avenue, P.O. Box 60267, New Orleans, LA 70160-0267.

6 PROJECT FUNDING/PROCESS

6.1 MEETING 2

What do we have to do to try to push the issue forward so we can get something done? [question refers to Donaldsonville to Gulf project]

Response #86
Contact your representative.

Can any of the officials from Jefferson Parish consult with these people? [these people refers to Congress, still speaking about Donaldsonville to Gulf project, and in June 2012, the Donaldsonville, Louisiana to the Gulf of Mexico Feasibility Study was terminated due to low benefit-to-cost ratios for all levee alternatives studied]

Response #87
Contact your representative.

There are a lot of projects here. Is there enough money for all this stuff? How much money has already been appropriated from the Federal government level? How many of these can actually be done and how many are just pie-in-the-sky?

Response #88
See Response #96: ***The Authorization and Funding Process***

6.2 MEETING 5

What I understand from Congressman Melancon and Senator Landrieu, that the money has been appropriated in the 4th Supplemental to consider that armoring. Is that correct Chris? [question refers to armoring of the MRGO levee]

Response #89
The alternatives of the 1000-year level of protection improvements for MRGO are described in IER #10.

6.3 MEETING 7

Has Congress authorized any new gates? Do we have to receive authorization from Congress first to get that?

Response #90
See Response #94: ***The Authorization and Funding Process***

One more question on at east of the Harvey Canal. That $1.3 billion vetoed by the President, is that going to hold up finishing that floodwall?

Response #91
See Response #94: ***The Authorization and Funding Process***

What is set in stone for funding? You were talking about the $103 billion or something.

Response #92
See Response #94: ***The Authorization and Funding Process***

Of the five projects on Peters Road, you said one was for sure funded and the other four you were not sure?

Response #93
See Response #52: ***Harvey Canal Floodwalls.***

You speak about federalizing the levees from Oakville to St. Jude. In the 4th Supplemental, the $215 million that was allocated towards that project, you're saying that was language in the 4th Supplemental that directed the Corps to study whether or not those levees would be Federalized, or the language said they would be Federalized?

Response #94
See Response #34*: **Non-Federal Levees***.

So does it authorize you to study Federalized levees from Oakville to St. Jude? If it authorizes you, then are you just going through a Corps process to do so?

Response #95
See Response #34: ***Non-Federal Levees***.

Is there any money left from Supplemental 3?

Response #96
Since the time of this question, Congress has authorized up to the 6th Supplemental and provided the funding to complete the projects.

The Authorization and Funding Process
CEMVN's process for planning, designing and constructing hurricane and storm damage reduction system projects is requested by law and policy developed over many years. Projects must be both authorized and subsequently funded by Congressional action as approved and signed into law by the president of the United States.

CEMVN operates under three different sets of conditions. The first is the "traditional" civil works process that follows six steps and can take 3 to 5 years from the start of a request to the beginning of construction. The second process for getting Federal assistance occurs because of a manmade or natural disaster. These missions, which begin operation immediately after the disaster, are pre-approved by Congress through several Federal acts that are already in place.

The third process is the one that follows emergency missions. Federal assistance and funding is provided through supplemental appropriations recommended by the administration and approved by Congress. Since an obvious disaster does not require a reconnaissance study to justify Federal spending, this process skips those lengthy steps. Therefore, emergency supplemental funds are obtained more quickly than the normal civil works authorization process. Emergency supplemental appropriations are used for specifically designated purposes and CEMVN cannot deviate from Congress' authorization without their approval.

The Flood Control Act of 1965 (PL 89-298) as amended, authorizes 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 Lake Pontchartrain and Vicinity, Louisiana Project was amended by the WRDAs of 1974, 1986, 1990, 1992, 1996 and 2000. The 3rd Supplemental Appropriations Act (PL 109-148) authorizes accelerated completion of the project and restoration of project features to design elevations at 100 percent Federal cost.

The 4th Supplemental Appropriations Act authorizes construction of a 100 -year level of protection, the replacement or reinforcement of floodwalls, the construction of permanent closures at the outfall canals, the improvement of the IHNC and the construction of levee armoring at critical locations.

The West Bank and Vicinity project was authorized under two WRDAs. The Westwego to Harvey Canal Hurricane Protection Project was authorized by the WRDA of 1986 (PL 99-662). The WRDA of 1996 (PL 104-303) modified the project and added the Lake Cataouatche Project and the East of Harvey Canal Project. WRDA, 1999 (PL 106-53) combined the three projects into one project under the current name. The Department of Defense, Emergency Supplemental Appropriations to Address Hurricanes in the Gulf of Mexico and Pandemic Influenza Act, 2006 (3rd Supplemental -PL 109-148) appropriated funds to restore and repair portions of the levee already built, and to accelerate completion of the unconstructed portions of the project. An additional Emergency Supplemental Appropriation for Defense, the Global War on Terror, and Hurricane Recovery (4th Supplemental -PL 109-234) appropriated funds to raise levee heights where necessary and otherwise enhance the existing project to provide the levels of protection necessary to achieve the certification required for participation in the National Flood Insurance Program under the base flood elevations, to armor critical elements of the system, and to reinforce or replace floodwalls, as necessary.

The 5th Supplemental, so named because it is the fifth bill to provide emergency funds for CEMVN after Hurricanes Katrina and Rita, was signed by President Bush on June 1, 2007. It authorized supplemental funding for additional improvements to the GNOHSDRRS. The specific provisions in the 5th Supplemental for the New Orleans area are: $1.3 billion for expenditure of 100 percent Federal funds for the acceleration of completion of the Lake Pontchartrain & Vicinity and the West Bank & Vicinity projects, and $25.3 million in cost-shared Federal monies for the Southeast Urban Flood Control Project.

On June 30, 2008 Congress signed into law the 6th Emergency Supplemental bill. This bill provides $5.7 billion in funding for the GNOHSDRRS. When added to the already appropriated $7.1 billion, the total Federal commitment adds up to $12.8 billion. The Federal portion of the GNOHSDRRS is now fully funded. CEMVN, together with its partners and stakeholders, is dedicated to providing 100-year level of protection by June 2011.

7 ENVIRONMENTAL CONCERNS

7.1 MEETING 2

Do we supersede animals and trees for people? Shouldn't it be obvious people come first?

> ***Response #97***
> IERs describe impacts of the proposed actions on the human and natural environment.

Could environmentalists file an injunction, sue, and stop everything? Is there no way to get past that?

> ***Response #98***
> Lawsuits are possible

7.2 MEETING 7

The problems that we may come across as far as that area to the 404? Under the NEPA process cumulative impacts are considered, how do you treat the inside wooded areas of drained fastlands? If all the properties within the levee system are already under pump is that a negative towards the impacts or do you count that as something the project could enhance when developed even though it is already under pump? If it doesn't have a wetland determination then how do you look at it? Do you go out and determine whether it is wetlands or not before?

Response #99
Environmental
Wetlands
Section 404 of the Clean Water Act requires that anyone interested in depositing dredged or fill material into "waters of the United States, including wetlands," must receive authorization for such activities. CEMVN has been assigned responsibility for administering the Section 404 permitting process. Activities in wetlands for which evaluations may be required include, but are not limited to:

- Placement of fill material;
- Ditching activities when the excavated material is sidecast;
- Levee and dike construction;
- Mechanized land clearing;
- Land leveling;
- Most road construction; and
- Dam construction.

CEMVN uses three characteristics of wetlands when making wetland determinations: vegetation, soil, and hydrology. Unless an area has been altered or is a rare natural situation, indicators of all three characteristics must be present during some portion of the growing season for an area to be a wetland.

404(c)
The Clean Water Act authorizes the CEMVN (Section 404(a)) or an approved state (Section 404(h)) to issue permits for discharges of dredged or fill material at specified sites in waters of the United States. Section 404(c), however, authorizes EPA to restrict, prohibit, deny, or withdraw the use of an area as a disposal site for dredged or fill material if the discharge will have unacceptable adverse effects

on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas.

Bayou aux Carpes 404(c) Area

In the 1970s, the Audubon Society and other community groups were actively working to protect a 3,000 acre cypress-tupelo swamp in Louisiana called Bayou aux Carpes that eventually became the Nation's fourth and largest 404(c) area. The 3,200 acre wetlands area is owned by the Federal government is included within the Barataria Preserve of the Jean Lafitte National Historical Park and Preserve. The Bayou aux Carpes Clean Water Act 404(c) area is subject to a 1985 USEPA Clean Water Act Section 404(c) action that, with three specific exceptions, prohibited the discharge of dredge or fill material in the area. Therefore, no dredge or fill material may be placed in the Bayou aux Carpes Section 404(c) area without a Modification of the Bayou aux Carpes Clean Water Act Section 404(c) Final Determination.

Information regarding the Bayou aux Capres 404(c) area can be found at http://www.nolaenvironmental.gov/projects/usace_levee/IER.aspx?IERID=12

8 DONALDSONVILLE TO GULF PROJECT

8.1 MEETING 1

Update on Donaldsonville to the Gulf? How can environmental processes be sped up to complete this work?

When will we get the Donaldson to the Gulf levee?

8.2 MEETING 2

Donaldsville to Gulf Project that goes through Larose to Barataria. Will the levee be put into effect?

8.3 MEETING 7

Can you tell us the status of the Barataria Basin Levee? I know that is not what we are here to talk about, but that levee would give us a second line of defense or a first line of defense against a hurricane coming up the Barataria Basin. Is that levee project even off the ground or is it still being talked about?

Response #100
Donaldsonville to Gulf Project
The project is currently in its feasibility study phase, during which various alternatives to reducing storm surge are being examined, the adequacy of the existing drainage system is being assessed, and cultural, environmental, and recreational issues are being identified. The next major steps will be the preparation of a feasibility report (based on the results of the study) and an EIS. The EIS will be made available to the public for review and comment.

The entire basin from Donaldsonville to the Gulf has been modeled and the hurricane models have been completed. The draft report is expected to be completed at the end of 2008. The hydraulic analyses to determine the hurricane levee heights are complete and the results will be reviewed by the Independent Technical Review and Peer Review teams. The interior drainage, salinity, and sediment analyses for the existing and future conditions are ongoing. Designers have completed the analysis that determined the hurricane levee heights for various storm events, width and number of gates and openings that are required in each hurricane levee system for navigation and environmental purposes. In the early part of November 2007, the sponsors awarded a contract for geotechnical, levee, and structure designs. Currently, the focus is on environmental measures for the entire basin and on the economic analyses. When a hurricane levee system is selected, public meetings will be scheduled throughout the study area to inform the public, public officials, and special interest groups about the results of the investigation to date.

Note: in June 2012, the Donaldsonville, Louisiana to the Gulf of Mexico Feasibility Study was terminated due to low benefit-to-cost ratios for all levee alternatives studied. Additional information and project updates may be accessed on the project website at http://www.mvn.usace.army.mil/pd/projectsList

9 PROJECT COSTS

9.1 MEETING 2

With 31 miles of levees and 18,000 linear feet of floodwalls, that's a lot of money. $56 million has already been spent for less than a mile of the first phase of the floodwalls east of the Harvey Canal. Shouldn't the money be better spent on a pump station further station and eliminating the huge layout of levees and walls?

Response #101
See Response #4: ***Algiers and Harvey Canals***.

Doesn't that create a situation of increased costs? The other gate is well under construction and floodwalls are being elevated on the east side of the Harvey Canal. Would it not be better to rethink the planning for flood protection and concentrate on something less expensive as oppose to duplicating it? You are going to do what you've already planed to do now and then come back and do it all over again further to the south at twice the cost.

Response #102
See Response #4: ***Algiers and Harvey Canals***.

9.2 MEETING 7

I know you all have done a lot of studies with pre-Katrina and post-Katrina costs and especially post-Katrina there have been a lot increase in material and labor costs. Are you still anticipating seeing those types of increases in the next two to three years with a materials and supplies that would further increase the cost of these projects? Or do you think it has kind of leveled out?

Response #103
Construction costs have stabilized and are more predictable.

10 STORM SURGE MODELING

10.1 MEETING 7

What kind of modeling are you doing to show if surge comes up the river, what is it going to take to overtop that river levee? [the questioner lives in Algiers]

10.2 MEETING 9

Have there been any computer models done, or anything like that to say that what the significance of having the gates would be as far as the water levels in Lake Pontchartrain? What have any of the models assumed? If we had gates at the MRGO and the Intracoastal, what difference would that have made in the surge? [also some commenting and questioning about gates at the Chef Menteur Pass and the Rigolets]

Response #104
Surge Modeling
CEMVN has worked with experts from FEMA, the National Oceanic & Atmospheric Administration (NOAA), the private sector and academia to develop a new process for estimating hurricane inundation probabilities. This process is called the Joint Probability Method with Optimal Sampling (JPM-OS). Data from hurricane storm events were used to calibrate the modeling tools and develop a storm set used in the JPM-OS analysis. In this case 152 storms, some historical, some not, were modeled. The new JPM-OS method was reviewed and approved by members of the ASCE as a method for estimating storm surge elevations.

Current Risk and Reliability
Performance Evaluation of the New Orleans and Southeast Louisiana Hurricane Protection System, Final Report of the Interagency Performance Evaluation Task Force, Volume VIII – Engineering and Operational Risk and Reliability Analysis (June 2008) is a highly technical report that, contains excellent graphics depicting modeled flooding risks associated with varying storm frequencies and pumping scenarios. The report can be downloaded from https://ipet.wes.army.mil. Flood risk maps can be viewed at http://www.mvn.usace.army.mil/hps.

Report Conclusions
The experience of Katrina proved that the risk to life and property in the New Orleans area before Katrina was high. The results of the risk analysis quantifies the extent of that risk to the pre-Katrina economy and population. The actual direct damages incurred due to the hurricane exceeded $28 billion and the loss of life was more than 1,200. These values correspond to potential damages and life loss values obtained by the risk analysis for less than a 100-year event if no pumping is available. While this conflicts somewhat with the estimated 300- to 400-year frequency of Katrina, it points to the severity of the risk in New Orleans and attests to the effectiveness of the evacuation prior to the hurricane in reducing the loss of life.

Examination of the three pumping scenarios shows the importance of the pumping system in reducing damages during the more frequent events, but also shows that the system was not capable of handling large inflow water volumes from overtopping or breaching during extreme events.

While the HPS [GNOHSDRRS] *has been repaired and improved dramatically over the pre-Katrina HPS, the risk associated with the June 2007 HPS to the area is still considered to be high for extreme events if the pre-Katrina potential* *consequences are used in the analysis. There are still areas of vulnerability along the IHNC and GIWW that amount to weak points in the system and limit the risk reduction in parts of Orleans Metro, New Orleans East, and St. Bernard. In addition, the unfinished West Bank HPS makes that area as vulnerable in the June 2007 analysis as it was before Katrina.*

The risks to life and property would be expected to be reduced if existing demographics and redevelopment values were used; however, the reduction would be due entirely to the reduced consequences of system failure and not due to the improvements to the system. In any case, the human and property losses to New Orleans are still considered to be high during extreme events similar to Katrina, and the most effective risk reduction measure remains to be implementation of an effective evacuation plan.

The analysis presented herein in Volume VIII was a prototype risk analysis that indicates the value of and need to consider risk in the planning of hurricane protection projects. The study also shows that all of the reliability of all of the components of a hurricane protection project play a role in the performance of the overall project and, therefore, the project must be looked at as a system if the risks are to be fully evaluated. The large uncertainty in this study, and in any analysis of a project of the magnitude of the New Orleans HPS, shows that the system must be continually monitored, maintained, and periodically reevaluated in order to identify potential weaknesses and gain understanding of the factors that affect uncertainty in the performance of the HPS. Part of the uncertainty associated with this study is due to the prototypical nature of the computational processes used and to the lack of a more sophisticated analysis tool. This uncertainty and the accuracy of future analyses can be improved by research and development of better tools.

11 MRGO DEAUTHORIZATION

11.1 MEETING 5

Does anybody here know anything about the closing of the MRGO at Bayou Loutre?

Are they ever going to plan to do it before 2010? [refers to closing the MRGO]

Response #105
Closing of the MRGO at Bayou La Loutre
Closing of the MRGO at Bayou La Loutre has been selected as the Recommended Plan for deauthorization of the deep-draft channel (U. S. Army Corps of Engineers New Orleans District November 2007 (Revised June 2008). Integrated Final Report to Congress and Legislative Environmental Impact Statement for the Mississippi River – Gulf Outlet Deep-Draft De-authorization Study.). Under the Recommended Plan, that portion of the MRGO channel from mile 60 at the southern bank of the GIWW to the Gulf of Mexico would be de-authorized for all navigation use. A portion of the MRGO channel (mile 66 to 60), the Michoud Canal Project, and the IHNC Lock Replacement Project would remain authorized. As part of the plan, a total closure structure would be built of rock downstream of the south ridge of Bayou La Loutre in St. Bernard Parish, Louisiana. The construction of the closure structure is expected to be completed by June 2009. The deauthorization description from the Report to Congress is:

> *At the time this report was being released for State and Agency review, the Water Resources Development Act of 2007 (WRDA 2007) became law expanding the scope of the study authority provided by Public Law 109-234 to include ecosystem restoration. In addition, pursuant to WRDA 2007 Section 7013, upon submission of the final report to Congress, the MRGO from the Gulf of Mexico to mile 60 at the southern bank of the GIWW is no longer authorized.*
>
> *The Recommended Plan calls for de-authorization of navigation on the MRGO from mile 60 at the southern bank of the GIWW to the Gulf of Mexico. This plan could produce environmental benefits through partial restoration of estuarine salinity gradients and tidal conditions. It also could prevent the loss of a significant percent of the 2,343 net acres of marsh expected to be lost with the future without de-authorization. Salinity stratification would be reduced north of the total closure structure which is anticipated to reduce salinity stratification in Lake Pontchartrain. This could improve the aquatic ecosystem in the lake.*
>
> *Congressional direction to prepare a deep-draft de-authorization plan for the MRGO also requires that the plan be fully consistent and integrated with the LACPR Plan. The future of the MRGO navigation channel is a key decision that affects directions on related projects in the area such as hurricane protection, ecosystem restoration, and navigation.*
>
> *Many citizens of Orleans and St. Bernard Parishes firmly believe that the Inland Reach of the MRGO serves as a storm surge pathway during hurricanes. A number of reports concluded that the Inland Reach of the MRGO contributes very little to flooding when the surrounding marshes are inundated. Reports also indicate that to prevent storm surge in Lake Borgne from reaching the IHNC or GIWW Reach of the MRGO, flow*

> *through the GIWW Reach of the channel must be dramatically reduced or eliminated. The USACE is actively planning, designing and building numerous upgrades and new system components to increase the level of hurricane protection for the entire area.*

The connectivity between Lake Borgne and the GIWW Reach of the MRGO and IHNC is being addressed through efforts to provide comprehensive hurricane and storm protection through the Lake Pontchartrain and Vicinity Hurricane Protection project 100-year protection effort.

12 CONSTRUCTION IMPACTS ON NEIGHBORHOODS

12.1 MEETING 9

My house is the closest to the lake and there is a town home so we own the middle of the street to the other side of the levee including the levee and some of the building's foundations are on our property. We can't rebuild because we don't have access to the property, there is signs that say no trespassing, so it's inconceivable at this point they don't know if they are going to take our property or already built on our property. I guess we are wondering if you have any information on what the owners of Mariners Cove West have to look forward to?

I don't live at Mariners Cove West, but we have some property that is nearby in Mariners Cove. What are you all going to do with it? This meeting that you are going to organize, do you have an idea what you are going to tell Mariners Cove West residences?

> ***Response #106***
> ***CEMVN Public Affairs Office***
> The CEMVN Public Affairs Office website is www.mvn.usace.army.mil/pao/ You may also direct questions or comments to Maj. Timothy Kurgan, Public Affairs Chief, via telephone at (504) 862-2074 or send e-mail to Timothy.J.Kurgan@usace.army.mil. Send mail to New Orleans District Public Affairs Office, 7400 Leake Avenue, P.O. Box 60267, New Orleans, LA 70160-0267.

APPENDIX F
TRANSPORTATION REPORT

TRANSPORTATION REPORT FOR THE CONSTRUCTION OF THE 100-YEAR HURRICANE AND STORM DAMAGE RISK REDUCTION SYSTEM

US Army Corps of Engineers®

MARCH 2009

Summary

This document describes and characterizes the environmental impacts of alternatives for transporting the materials necessary to construct the 100-year Hurricane and Storm Damage Risk Reduction System (HSDRRS) for New Orleans, Louisiana. The analyses address the effects of using the public highways, railways, and waterways to supply earthen borrow, structural steel (e.g., sheetpile, pipe pile, H-pile), ready-mix concrete, concrete pile, aggregate, and rock to over 100 different construction projects for the Lake Pontchartrain and Vicinity and West Bank and Vicinity Projects. These construction projects are scheduled for completion by 2011 at a total cost of over $15 billion. The database of projects used to analyze effects contains 105 projects that include material quantities shown below in table S-1.

Table S-1. Major Materials Quantities

Material	Quantity	Units
Earthen Fill	29,616,300	cubic yards
Concrete	1,137,800	cubic yards
Aggregate	3,307,200	tons
Sheet Pile	16,915,000	square feet
H-Pile	9,753,900	linear feet
Pipe Pile	1,066,700	linear feet
Concrete Pile	792,100	linear feet
Rock	1,733,200	tons

The CEMVN is separately preparing a Comprehensive Environmental Document (CED) to address the overall cumulative impacts of construction and future operations and maintenance for the HSDRRS. This analysis is more limited in scope, but will support the CED.

Alternatives

Four transportation alternatives have been developed to provide a range of meaningfully different alternatives for assessing. They are maximum truck use, maximum barge use, maximum rail use, and the likely scenario identifying the actions most likely to occur.

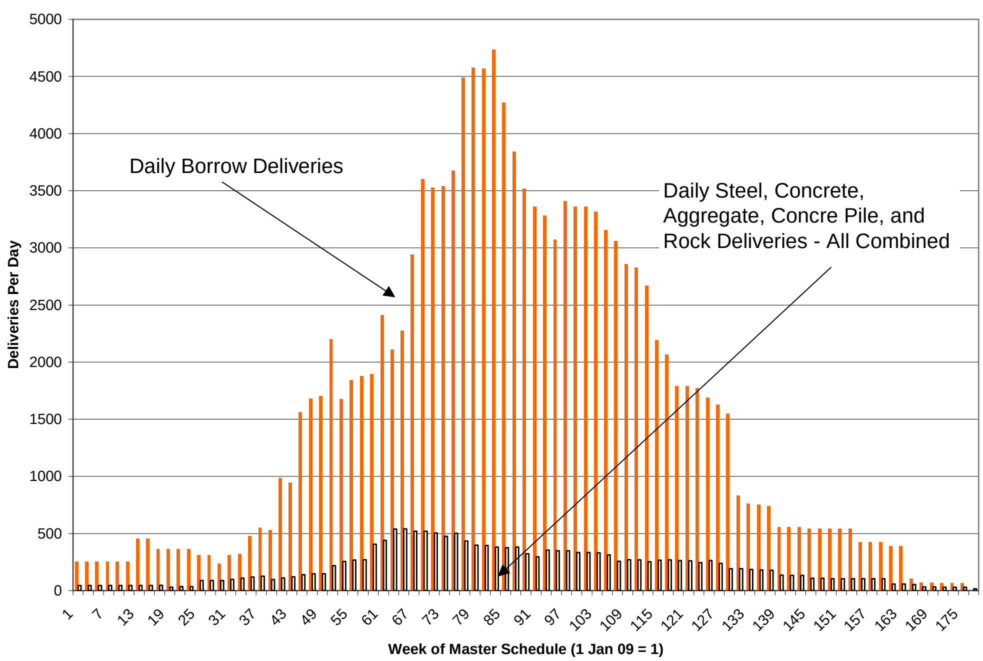
When considering the differences among the alternatives, it is important to note that the majority of all trips necessary to construct the HSRRS are for the transportation of borrow (earthen fill) and this material cannot be economically transported by rail or barge. Borrow can only be transported by truck because the source sites lack the infrastructure to accommodate the use of rail or barge and significant costs accrue when borrow is handled multiple times (the loading and unloading of material). For this reason, multiple modes of transportation (e.g., truck to rail to truck and truck to barge to truck) of borrow were not evaluated.

Figures S-1 through S-4 show truck deliveries per day for all project materials distributed across a master schedule,[1] beginning on 1 January 2009.[2] The figures consistently show daily borrow deliveries of:

- over 1,000 for 100 weeks;
- over 2,000 for 60 weeks;
- over 3,000 for 40 weeks; and
- over 4,000 for 10 weeks.

Most importantly, the figures show that differences in the number of trips between the four alternatives are negligible because the vast majority of trips are made for the delivery of borrow, which is transported exclusively by truck in each of the four alternatives.

Figure S-1 Truck Trips Distributed Across Schedule
Maximum Truck Scenario



[1]The master schedule was established based on CEMVN's milestone database as of July 2009.
[2]The period of analysis includes roughly 380 weeks. Construction at a select few sites began as early as July 2007, and the number trips associated with deliveries to those sites does not exceed 300 per day. Figures S-1 through S-4 show the trips beginning on 1 January 2009 and proceeding for 180 weeks.

Figure S-2 Truck Trips Distributed Across Schedule Maximum Barge Scenario

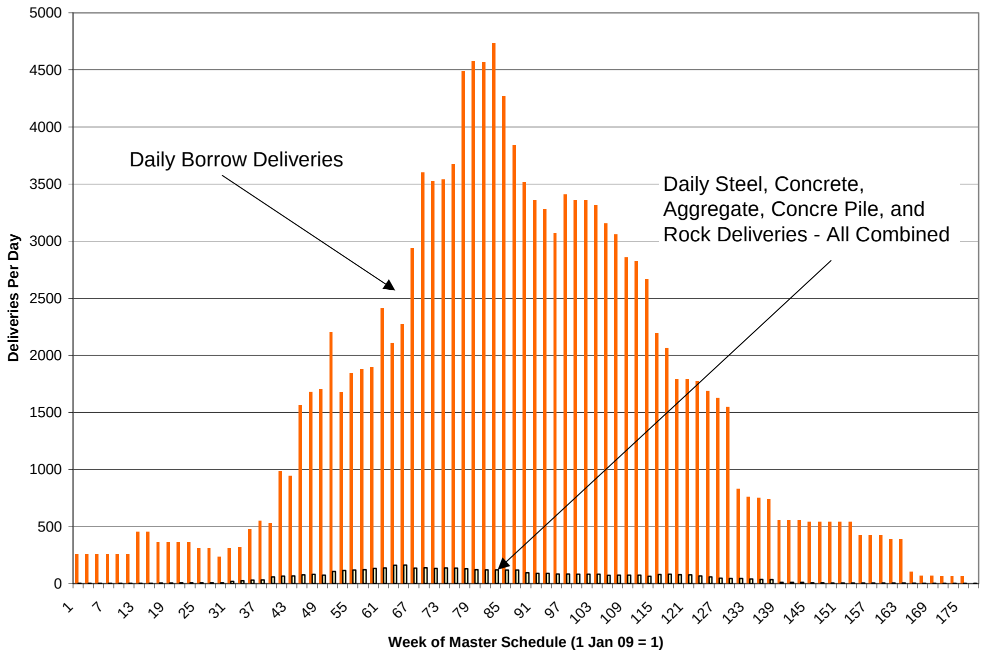


Figure S-3 Truck Trips Distributed Across Schedule Maximum Rail Scenario

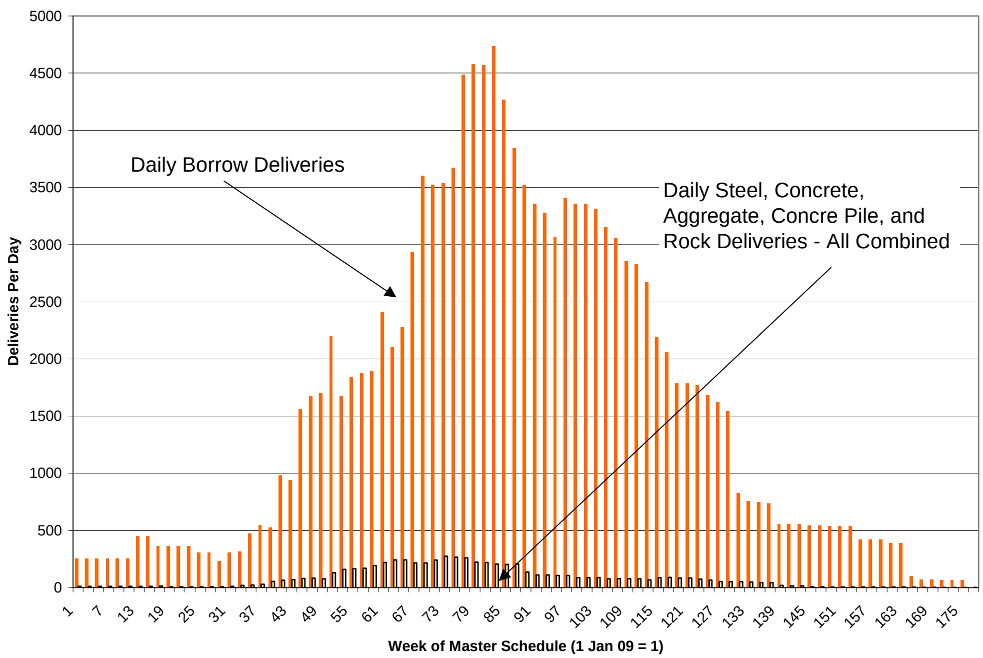
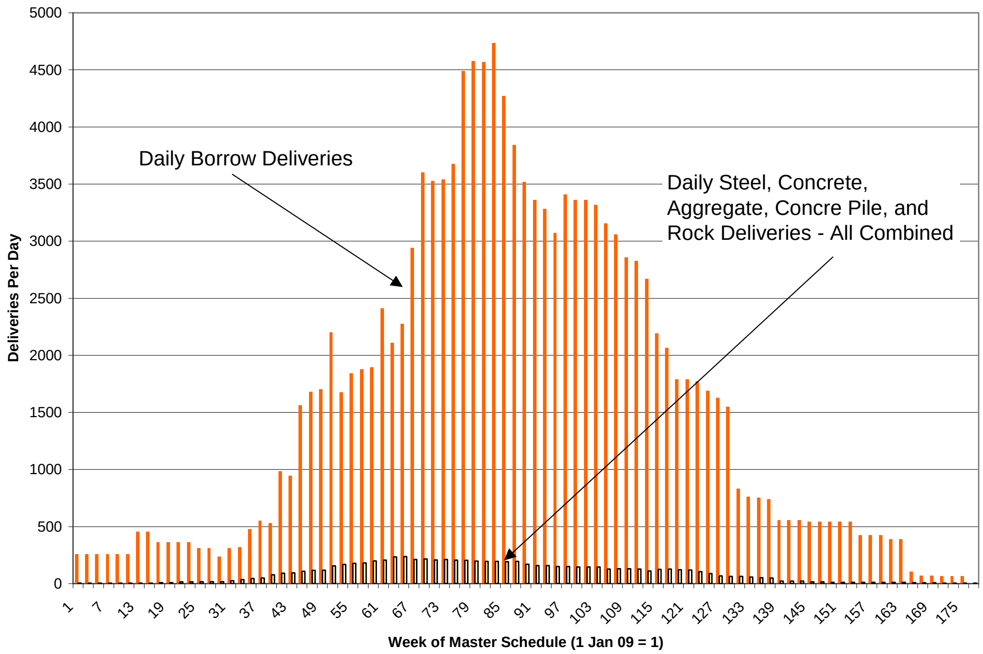


**Figure S-4 Truck Trips Distributed Across Schedule
Likely Scenario**



Assessment

Transportation impacts were evaluated by attaching the number of truck trips per day, over the course of each project construction, to each road segment traversed, by the route carrying materials, from the material origin to the roadway exit point, and returning to the origin. For each road segment used in each of the four alternative transportation scenarios, the number of trucks traversing each road segment during each week of the construction project was summed. This quantification provided the total number of trucks traversing any part of the transportation network at any time in the project schedule. This allows the estimation of the effects to traffic congestion, infrastructure degradation, accident risks, and diesel emissions.

Findings

The environmental consequences for transportation were modeled using materials quantities from ongoing construction designs in various stages of completion, with associated schedule changes, based on standardized truck, rail, and barge loading factors, and transported along unspecified routes to construction projects. This analysis depicts what the effects would be if there were no design or schedules changes after July 2009, and all of the simplifying assumptions described in this report were uniformly correct. Predicting traffic or road surface conditions on a particular segment of route, on a given day in the project schedule is not a realistic expectation from this analysis.

However, these limitations should not diminish the value of the analysis or the validity of the alternatives comparison. Each of the four alternatives (Max Truck, Max Barge, Max Rail, and Likely Scenario) is evaluated to compare the effects to traffic congestion, infrastructure degradation, accidents, and emissions. The similarities and limited differences between the alternatives are valuable for the consideration of transportation alternatives. There are slight differences in some of the metrics (e.g., truckloads) because of different rounding assumptions as the data were manipulated; this does not diminish the value of the assessment to decision makers.

Congestion

The alternative-specific transportation routes developed were parsed into approximately 8,000 route segments. These route segments, along with schedules for delivery and the demand-driven truck trips, formed the basis for the calculation of incremental changes to the Regional Planning Commission's Congestion Management Index. These changes provide a relative assessment of the predicted changes in traffic. Over 3 million separate changes in the CMI were calculated for the transportation route segments, for the six DOTD classes of roads in greater New Orleans, for each of the 380 weeks of the project analysis period, for each of the four alternatives, moving more than 2 million truckloads.

Table S-2 presents the maximum calculated change in the CMI for any of the 8,000 segments within the six DOTD road classifications. These data indicate no discernable difference between the alternatives with respect to the effects on congestion.

Table S-2. Alternative Comparison – Maximum Change in CMI

LADOTD Road Classification	Class Description	Max Truck	Max Barge	Max Rail	Likely Scenario
1	Interstate	0.007	0.007	0.007	0.007
2	Expressway	0.048	0.048	0.048	0.048
3	Principal Arterial	0.037	0.031	0.033	0.031
4	Minor Arterial	0.052	0.036	0.036	0.036
5	Urban Collector	0.000	0.000	0.000	0.000
8	Local Road	0.023	0.023	0.023	0.023

An additional method was used to increase the understanding and improve the communication of truck congestion resulting from materials delivery. This method was based on the need to identify individual, highly utilized roads for community-level planning and public awareness. A key component of the analysis was the establishment of truck traffic thresholds. The thresholds, shown in table S-3, were used as a proxy to suggest the level of truck traffic at which the roadway users and adjacent property owners would likely perceive an increase.

Table S-3. Truck Frequency Thresholds by Functional Road Class

Functional Road Class	Materials Transportation Trucks Per 12-Hour Workday	Truck Frequency
1	1,500	30 seconds
2	1,500	30 seconds
3	360	2 minutes
4	240	3 minutes
5	150	5 minutes
8	50	15 minutes

To better understand the overall effect on single roadways, multiple segments (of the 8,000 route segments) were dissolved into single road segments where both name and functional classification were shared. By consolidating segments in this fashion, the most impacted roads of each functional classification could be identified within the materials transportation routes. These roads were then examined to determine how many of the roads exceeded the functional-class specific traffic thresholds under each of the four alternatives. Table S-4 summarizes the number of roads, by functional classification, that are predicted to exceed the thresholds.

Table S-4. Numbers of Roads Exceeding Truck Frequency Thresholds by Functional Class and Alternative

DOTD Class	Maximum Truck	Maximum Barge	Maximum Rail	Likely	Used for Transport
1	0	0	0	0	6
2	0	0	0	0	6
3	7	6	7	6	35
4	19	12	13	12	44
5	10	8	8	8	17
8	41	32	35	32	62

Figure S-5 shows the roads included in the routing of project materials deliveries under the likely scenario. Figure S-6 shows the locations of roads that are expected to exceed frequency thresholds for the likely scenario.

Figure S-5. Road Network Used for Project Materials Delivery (Likely Scenario)

Figure S-6. Roads Exceeding Thresholds (Likely Scenario)

The following four tables (S-5 through S-8) identify the functional class-specific roads that exceed the truck frequency thresholds shown in table S-3. For the identified roads, the tables provide the number of months the threshold would be exceeded, the minimum number of trucks per day that triggered the first exceedance, the maximum number of trucks per day, and the average number of trucks per day. The roadways are sorted in descending order by the number of months the truck thresholds are exceeded. Roads listed in these tables are those predicted to be most affected by increases in truck traffic and the durations for which these effects are expected.

Table S-5. DOTD Road Class 3
Number of Days Threshold of 360 Material Delivery Trucks Per Day Exceeded

		Statistics for Days on Which Materials Delivery Truck Count Threshold is Exceeded		
Roadway	Number of Months Threshold Exceeded	Minimum Trucks per Day	Average Trucks per Day	Maximum Trucks per Day
US-90	15	360	1,064	2,252
Lapalco Boulevard	8	497	738	1,250
SR-39	7	372	445	457
US-61	6	383	458	640
SR-23	3	381	425	543
Walker Road	1	378	378	378

Table S-6. DOTD Road Class 4
Number of Days Threshold of 240 Material Delivery Trucks Per Day Exceeded

		Statistics for Days on Which Materials Delivery Truck Count Threshold is Exceeded		
Roadway	Number of Months Threshold Exceeded	Minimum Trucks per Day	Average Trucks per Day	Maximum Trucks per Day
US-61	25	251	840	2,570
US-11	16	287	659	1,043
US-90	16	289	661	1,047
Michoud Boulevard	16	287	657	1,039
SR-46	12	264	459	698
Bayou Road	9	240	267	298
Ames Boulevard	8	326	842	2,147
Westwood Drive	7	291	653	1,248
Engineers Road	5	269	270	273
SR-3134	3	349	349	349
SR-45	3	347	348	349
Lakeshore Drive	2	268	315	346

Table S-7. DOTD Road Class 5
Number of Days Threshold of 150 Material Delivery Trucks Per Day Exceeded

		Statistics for Days on Which Materials Delivery Truck Count Threshold is Exceeded		
Roadway	Months Threshold is Exceeded	Minimum Trucks per Day	Average Trucks per Day	Maximum Trucks per Day
SR-45	9	160	562	1,808
Bayou Road	9	240	267	298
Ames Boulevard	8	347	347	347
Westwood Drive	8	189	588	1,248
41st Street	3	190	190	190
Vintage Drive	3	190	190	190
Ames Boulevard	3	347	347	347
Barriere Road	2	382	382	382

Table S-8. DOTD Road Class 8
Number of Days Threshold of 50 Material Delivery Trucks Per Day Exceeded

Roadway	Months Threshold is Exceeded	Statistics for Days on Which Materials Delivery Truck Count Threshold is Exceeded: Minimum Trucks per Day	Average Trucks per Day	Maximum Trucks per Day
Kenner Avenue	29	76	612	2,146
SR-46	27	100	332	698
Live Oak Boulevard	25	127	555	1,676
Bayou Road	19	62	144	298
Walker Road	19	52	198	756
Vintage Drive	18	52	126	348
Lapalco Boulevard	12	60	422	1,248
Concord Road	11	60	104	153
Engineers Road	11	52	142	273
Victory Drive	11	85	432	1,188
Macarthur Avenue	10	52	58	69
Almonaster Avenue	9	108	108	108
SR-3134	8	52	174	349
Carrie Lane	8	50	172	347
Mildred Street	8	57	167	392
40th Street	7	52	109	174
Loyola Drive	7	52	109	174
Beta Street	7	92	92	92
Laroussini Street	7	92	92	92
North Street	7	92	92	92
South Street	7	92	92	92
Vic A Pitre Drive	7	92	92	92
Caryota Drive	7	54	122	190
David Drive	7	54	122	190
Barriere Road	6	57	159	375
SR-23	5	165	165	165
Nashville Avenue	4	50	61	94
Hickory Avenue	3	95	95	95

Infrastructure Degradation

The relatively small number of train and barge trips defined in the alternatives would not be expected to have any discernable effects to the rail or marine terminal infrastructure in greater New Orleans. Therefore, the discussion of the effects to infrastructure focused exclusively on the effects of truck transportation.

As show in table S-9, regardless of which alternative was implemented, between 1,100 and 1,300 lane miles of roadway within greater New Orleans would be traversed with between 2.19 and 2.35 million truck trips; the cost to infrastructure is estimated at between $550 and $650 million dollars for all of the alternatives. These similarities derive from the fact that the extent of truck transportation within greater New Orleans under each of the alternatives is substantially the same, because earthen fill accounts for more than 85-percent of all trips for each of the alternatives. There are no stark contrasts between the alternatives with respect to the number of lane miles potentially affected by the project within greater New Orleans.

Table S-9. Alternative Comparison – Infrastructure Degradation

LADOTD Road Classification	Class Description	Max Truck	Max Barge	Max Rail	Likely Scenario
1	Interstate	334.0	295.3	252.1	335.6
2	Expressway	64.9	48.7	44.7	64.3
3	Principal Arterial	459.5	414.4	418.0	481.5
4	Minor Arterial	312.6	303.2	307.5	311.3
5	Urban Collector	28.0	26.4	27.5	30.6
8	Local Road	57.6	55.1	58.7	57.7
Unknown	Unknown	10.6	10.4	8.3	10.6
Estimated Total Miles		1,267	1,154	1,117	1,292
Estimated Total Truckloads (millions)		2.4	2.2	2.3	2.2
Estimated Infrastructure Cost ($ millions)[3]		633.6	576.8	558.4	645.8

Transportation Risks

As show in table S-10, Maximum Truck reflects the greatest collective accident risk for all three types of accidents. This is because of the significantly larger distance of truck travel (150 million miles traveled vs. less than 70 million) required under the Maximum Truck alternative

[3] Cost of approximately $500,000 per lane mile based on cost per lane mile from the Submerged Road Program (RPC, 2009a).

when compared to the other three alternatives. The accident risks for the other three alternatives are substantially the same and primarily derive from the approximately 60-70 million miles of truck travel that is unavoidable. When transporting materials from remote locations to greater New Orleans by rail or barge, accident risks decrease.

Table S-10. Alternative Comparison - Projected Accidents

Mode	Estimated Miles Traveled	Projected Accidents		
		Property Damage Only	Injury Only	Fatality
Max Truck	150,426,000	230.2	76.9	3.1
Max Barge	60,395,160	111.1	31.3	1.3
Max Rail	62,030,650	104.6	34.5	2.0
Likely Scenario	68,943,520	106.2	35.1	1.4

Emissions

Table S-11 shows the estimated alternative-specific emissions. While the Max Truck alternative requires significantly more miles to be traveled, the per mile emissions from truck transportation are considerably less than emissions from tugboats or locomotives. Therefore, the alternatives that include the usage of barge or rail transportation have greater emissions of VOCs, NOx, CO, and PM than when truck transportation alone was assumed.

Table S-11. Comparison of the Alternatives – Diesel Emissions (tons)

Alternative	Miles (millions)	Gallons of Diesel (millions)	VOCs	NOx	CO_2	CO	$PM_{2.5}$	PM_{10}	SO_2	NH_3
Max Truck	150.4	23.4	76.8	1,393	265,362	371.0	27.9	30.3	2.5	4.4
Max Barge	60.4	25.6	166.4	3,957	278,718	433.5	73.3	79.7	335.8	1.8
Max Rail	62.0	17.3	98.0	2,046	192,379	328.5	44.7	47.6	94.4	1.8
Likely Scenario	68.9	22.3	131.9	3,062	244,557	373.5	57.1	62.0	*239.8	2.0

*No separate emission factor used for SO_2 for tug emissions. Reported as SO_x.

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1 Introduction

This document describes and characterizes the environmental impacts of alternatives for transporting the materials necessary to construct the 100-year Hurricane and Storm Damage Risk Reduction System (HSDRRS) for New Orleans, Louisiana. The analyses address the effects of using the public highways, railways, and waterways to supply earthen borrow, structural steel (e.g., sheetpile, pipe pile, H-pile), ready-mix concrete, concrete pile, aggregate, and rock to approximately 105 different construction projects for the Lake Pontchartrain and Vicinity and West Bank and Vicinity Projects. The magnitude of the construction effort, in conjunction with the schedule for completion, dictates the examination of the cumulative environmental consequences of transportation. Transportation decisions being made will be able to account for the environmental trade offs from changes to traffic congestion, diesel fuel use and emissions, infrastructure degradation, and accidents.

The construction-related negative effects resulting from providing the 100-year level of hurricane damage risk reduction for these projects may potentially represent the largest cumulative environmental consequences in the New Orleans region for the next 4 to 7 years. Cumulative impacts for the actions considered in all of the IERs will be incorporated into the CED. In order to construct the HSDRRS, substantial quantities of building materials need to be brought to and transported within greater New Orleans. Quantifying the cumulative environmental effects from the transportation of these materials to, and within, New Orleans is the focus of this study.

This analysis has been prepared with the engineering design reports for many of the projects not yet finalized. As such, the analysis of transportation effects has been performed prior to the completion of final design and is based on materials quantities estimated to construct the HSDRRS. Estimates were developed from design calculations, best professional judgment, and design reports completed for similar levee and floodwall alignments nearby. The description of the projects, materials, and transportation analysis does not represent a formal commitment to final design, equipment for use, vendors for supply of materials, or methods of construction, but gives an approximation of how the materials needed could be transported to the necessary construction projects.

1.1 Purpose and Need for Corps Action

On 29 August 2005, Hurricane Katrina caused major damage to the Federal and non-Federal flood control and Hurricane and Storm Damage Risk Reduction System (HSDRRS) in southeast Louisiana. Hurricane Rita followed this storm on 24 September 2005, and made landfall on the Louisiana-Texas state border, causing damage to the HSDRRS in southern Louisiana. Since the storms, the USACE has been working with state and local officials to restore the Federal and non-Federal flood control and HSDRRS projects and related works in the affected area.

To date, approximately 60 percent of the New Orleans population has returned to the area. Many residences and businesses are waiting to see positive improvements in the level of protection before returning to the area. A USACE goal of June 2011 has been set for completion of much of the work that will raise the level of protection in the New Orleans area to a new standard and provide a level of security to residents and businesses that will allow and encourage them to return to the area.

The purpose of the proposed action is to construct and maintain 100-year risk reduction for greater New Orleans within the Lake Pontchartrain and Vicinity (LPV) and West Bank and Vicinity (WBV) Projects. The proposed action results from a defined need to reduce flood risk and storm damage to residences, businesses, and other infrastructure from hurricanes (100-year storm events) and other high water events. The completed HSDRRS 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 LPV Project (IERs #1-11) extends approximately 125 miles in length from the La Branch Wetlands Levee in St. Charles Parish to the Inner Harbor Navigation Canal Floodgates in Orleans and St. Bernard Parishes. The LPV Project provides risk reduction to the East Bank of New Orleans. The WBV project, (IERs #12-17) extends approximately 66 miles in length from the Western Tie-in (IER #16) in St. Charles and Jefferson Parishes to the Hero Canal Levee and Eastern Terminus in Plaquemines Parish (IER #13).

1.2 Authority for the Projects

The authority for the proposed actions 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 that gave additional authority to the USACE to construct 100-year HSDRRS projects.

The LPV project was authorized under the Flood Control Act of 1965 (P.L. [Public Law] 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 WBV project was authorized under the WRDA, as cited previously. The Westwego to Harvey Canal Hurricane Protection Project was authorized by the WRDA of 1986. The WRDA of 1996 modified the project and added the Lake Cataouatche Project and the East of Harvey Canal Project. The WRDA 1999 (P.L. 106-53, Section 328) combined the three projects into one project under the current name.

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 authorized 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 H.R. 2206 (pg. 41-44) Title IV, Chapter 3, Flood Control and Coastal Emergencies, (5th Supplemental), General Provisions, Sec. 4302.

1.3 Requirement for Evaluation

The National Environmental Policy Act (NEPA) requires CEMVN to consider the environmental consequences of their major federal actions and to make informed decisions. One component of examining the consequences of decision-making is a consideration of the effects to the human environment from transportation of construction materials. When transportation is such a major component of a proposed action, the environmental impacts of such transport should be analyzed, even when CEMVN is not directly responsible for the transportation.

The CEQ regulations require that in preparing an EIS, an agency consider three types of impacts on the environment: direct, indirect, and cumulative. Indirect impacts are defined as those “which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable” (40 CFR §1508.8). A cumulative impact is defined as an “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. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR §1508.7).

This study quantifies the effects from transportation of large quantities of materials, over the same transportation routes, to and within greater New Orleans. These successive trips, through the same geographic areas, may result in cumulative effects on infrastructure, traffic congestion, air quality, and accident risks to the public.

Both NEPA and the CEQ regulations require that CEMVN consider and evaluate appropriate alternatives to proposed actions that will effect the environment. Section 102(2)(E) of NEPA provides that all agencies of the Federal Government shall “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.”

1.4 Cargo Capacity Assumptions

The dimensions of units used to transport freight vary widely within each of the three modes (rail, truck, and barge) of transportation evaluated in this report. In order to facilitate a meaningful cross-modal comparison, standard dimensions of the units used by each mode were defined. In comparing the modes, the capacity of the unit of transport were analyzed, not the average load. In this manner, all three modes could be evaluated on the same scale.

1.4.1 Truck Transport

The typical bulk commodity truck's body type, axle configuration, fuel, gross, tare, and cargo weight used in this study were developed based on interviews with various trucking entities and comparison to similar studies (e.g., MARAD, 2007). The typical truck for this study is a Heavy Duty Diesel Vehicle with a GVWR of 80,000 lbs providing 40,000 lbs (20 tons) of cargo weight for the transport of steel and concrete pile, 22.5 tons for the transport of rock and aggregate, and 14.5 cubic yards of borrow. The typical axle configuration is that of a typical tractor-trailer truck (i.e., an 18-wheeler) with a steering axle and two tandem axles, or five total axles.

1.4.2 Barge Transport

The most common dimension of shallow draft barges carrying dry bulk are approximately 200 feet long by 35 feet wide. The average cargo capacity for barges of approximately this size is approximately 1,757 short tons (MARAD, 2007), rounded down to 1,200 tons for use in this study in most cases. For direct delivery of rock and concrete pile to Lake Pontchartrain project sites, barges were assumed to be light loaded at 500 tons. The analysis also assumes that barges would not be transported singly by a tug, but would be part of a barge fleet where 10 barges (2 x 5) were moved per tug.

1.4.3 Rail Transport

There is significant variation in railroad carload capacities depending on the specific material being hauled. According to the Association of American Railroads, the average carload for coal was 112.5 tons in 2006 and general-purpose tank cars carry up to 125 tons (MARAD, 2007). For this study, the standard rail car load was assumed to be 110 tons. The standard train was assumed to consist of 100 railcars and three locomotives.

1.4.4 Comparison of Mode Capacity

The standard capacities for the various freight units, across all three modes of transportation are summarized in table 1-1. Table 1-2 provides a comparison of the carrying capacity of each mode of transportation. Table 1-3 provides the standard cargo capacity comparison when considering a shipping unit of a trainload or barge tow that includes multiple railcars or barges within the shipping event.

Table 1-1. Assumed Freight Unit Capacities

Freight Unit	Standard Cargo Capacity (Tons)
Highway – Truck Trailer	20, 22.5, 14.5 CY
Railroad – Single Rail Car	110
Riverine – Single Barge	1,200

Table 1-2. Number of Units Needed to Move 1,500 Tons of Material

Mode of Transport	Units Needed to Move 1,200 Tons of Material
Truck Trailer	60
Single Rail Car	11
Single Barge	1

Table 1-3. Standard Cargo Capacity Comparison

Mode of Transport	Configuration	Cargo Capacity (tons)
Truck Trailer	Single Tractor With Trailer	20, 22.5
Unit Train (multiple rail cars)	100 Railcars, 3 Locomotives	11,000
Barge Tow	10 Barge Tow (5 x 2)	12,000

1.5 Materials Delivery Assumptions

The primary objectives in the transportation and traffic impact analysis were to determine the logical path for delivering construction materials from the respective origins to the project sites (destinations) and assess the impact of this transportation. To assist in this analysis and assessment effort, the LaDOTD highway classification scheme and the Congestion Management Index data from the New Orleans Regional Planning Commission were mapped to the existing street data.

The determination of the logical path of travel required the identification of construction materials source locations (borrow pits, concrete plants, etc.) and locations where project vehicles would leave the roadway to gain access to the construction sites. GIS roadway routing software was used to determine the fastest round-trip route from each material source location to each project roadway exit point, except for borrow. Government-furnished borrow source location and roadway exit point locations were explicitly paired to link origins and destinations. Round-trip route paths were modeled such that routes using divided highways and one-way streets used separate street segments for return paths. Multiple material source locations were modeled for steel and concrete, thereby providing alternative source locations depending on the means of bringing these materials into the greater New Orleans area.

These alternative source locations include New Orleans marine terminals, rail yards, and I-10, if transported by barge, rail, or truck, respectively. From the list of all possible routes, the shortest route for each material to each roadway exit point for each transportation mode was selected as the most likely origin location to be used for each roadway exit point (destination). These most likely routes were matched to the materials used at each project to determine which routes would be presumed to transport materials to each project. This process of matching routes to project materials requirements was performed for all projects and all major materials.

The transportation and traffic impact assessment was conducted by attaching the number of truck trips per day over the course of each project's construction timeframe, to each road segment traversed by the route carrying each type of material from the origin to the destination and returning to the origin. For each road segment used, the number of trucks traversing each road segment during each week of the construction project was aggregated. This quantification provided the total number of trucks traversing any part of the transportation network at any time in the project schedule.[4] These values represent the added traffic load anticipated as a result of project construction.

[4] Construction start date and duration were established based on CEMVN's milestone database as of July, 2009.

2 Projects and Quantities

Sections 2.1 through 2.17 provide quantity estimates for material needed to construct the projects evaluated in all 17 IERs.

The database of projects used to analyze quantities, trips, and timing of trips contains 105 projects, which were analyzed in 17 IERs. In total, 105 projects account total materials quantities of:

Material	Quantity	Units
Earthen Fill	29,616,300	cubic yards
Concrete	1,137,800	cubic yards
Aggregate	3,307,200	tons
Sheet Pile	16,915,000	square feet
H-Pile	9,753,900	linear feet
Pipe Pile	1,066,700	linear feet
Concrete Pile	792,100	linear feet
Rock	1,733,200	tons

For each IER, seven separate tables provide details about the materials used to construct the HSDRRS. The tables reflect quantities data collected from design documents, project management reports, borrow tracking reports, milestone reports, and project management scheduling output.

Tables designated as “a” summarize the quantities and type of materials needed for each of the construction projects associated with that IER. For each project, the “a” tables show the quantities of earthen fill, concrete, aggregate, sheet pile, H-pile, pipe pile, concrete pile, and rock

Tables “b” through “g” provide the scheduled demand for each project’s earthen fill, steel, concrete, aggregate, concrete pile, and rock. Information on duration (in calendar days) and the expected Notice to Proceed (NTP) for each project is also included.

Tables “b” through “g” show demand separated into three equal time periods:

- first third;
- second third;
- and final third.

Separating a project demand schedule into thirds allows a more realistic depiction of the uneven demand for materials during construction. For example, during the first third of any earthen levee project, 10 percent of the earthen material required for construction is assumed to be delivered to the site. This assumption allows time for site preparation and earthwork prior to full-scale production of the earthen levee. Similar assumptions have been made for all other types of materials and projects.

The assumed proportions of materials required for construction during each project third is shown below.

Material	First Third	Second Third	Final Third
Borrow	10%	70%	20%
Steel	100%	0%	0%
Concrete	20%	40%	40%
Aggregate	20%	40%	40%
Concrete Pile	100%	0%	0%
Rock	0%	0%	100%

Note that the data shown for steel in the "c" tables, and concrete pile in the "f" tables do not match the data for quantities shown in the "a" tables. Steel is shown in the "a" tables in square feet for sheet pile, and linear feet for H-pile and pipe pile. Similarly, concrete pile is shown in the "a" tables in linear feet. This is because the quantities shown in the "a" tables are taken from design documents, and provide a traceable link to the data sources. Tables "b" through "f" show materials after any necessary conversion to tons for truckloads.

2.1 IER #1 - La Branche Wetlands Levee, St. Charles Parish, Louisiana

The proposed actions for IER #1 include 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. Details of the proposed action are available in the Final IER at www.nolaenvironmental.gov. Individual contracts included in IER 1 are listed below, and figure 2-1 provides an overview of the projects.

LPV03d.2	Airport Runway 10 Levee - Phase 2
LPV04.1	St. Charles Levee - Reach 1A, 1B & 2A - Phase 1
LPV04.2A	Levee - Reach 1A - Phase 2
LPV04.2B	Levee - Reach 1B - Phase 2
LPV05.2A	Levee - Reach 2A - Phase 2
LPV05.2B	Levee - Reach 2B - Phase 2
LPV06a.2	Bayou Trepagnier Complex Floodwall
LPV06e.2	Floodwall Under I-310 - Phase 2
LPV06f.2	Canadian National Railroad Gate
LPV07b.2	Cross Bayou Drainage Structure Tie-ins - Phase 2
LPV07c.2	St. Rose Drainage Structure - Phase 2
LPV07d.2	Almeidia / Walker Drainage Structure - Phase 2

Figure 2-1. IER #1 Project Area

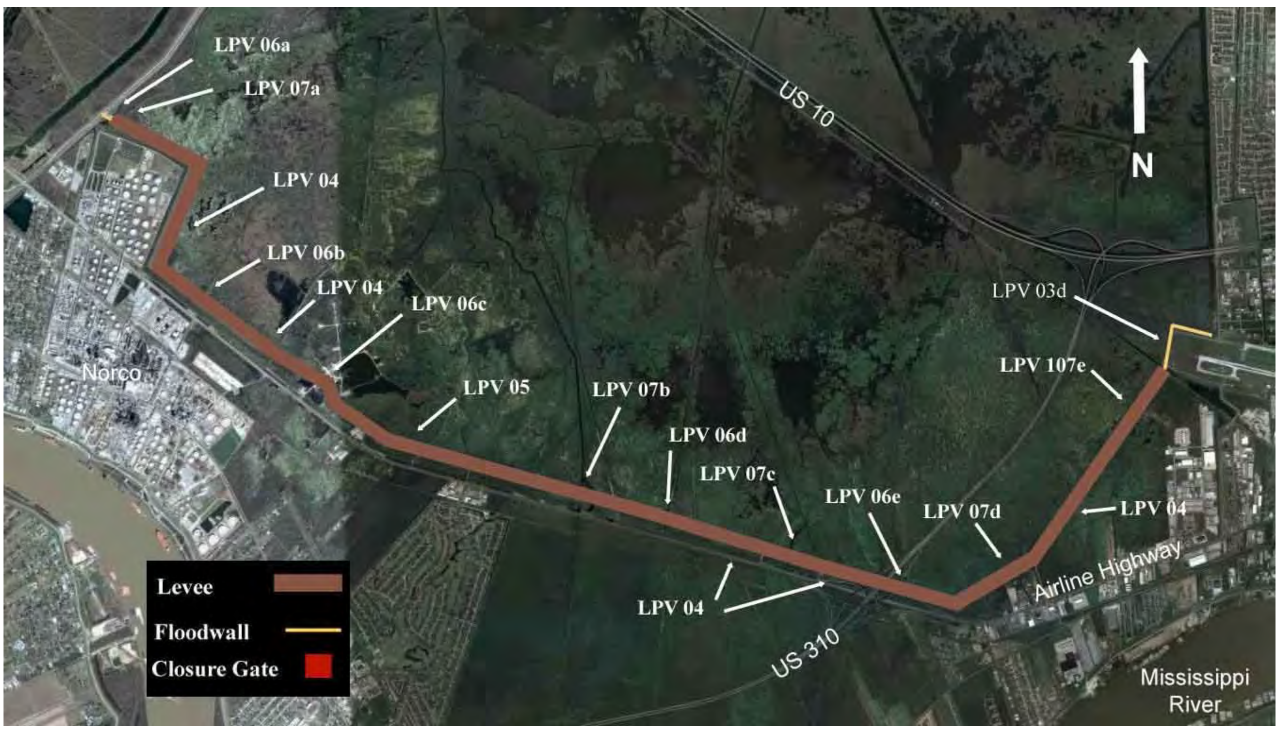

Table 2-1a. Materials Quantities for Construction Reaches in IER #1

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
LPV03d.2	202,000			500				
LPV04.1	1,312,000							
LPV04.2A	408,000							
LPV04.2B	620,000							
LPV05.2A	440,000							
LPV05.2B	1,200,000							
LPV06a.2	10,000	4,800	7,300	127,100	72,300			
LPV06e.2		14,300	21,600	54,800	41,600	2,200		
LPV06f.2	14,000	1,000	1,500	36,600	12,000			
LPV07b.2		1,900	2,800	37,300	38,300	4,100		
LPV07c.2	180,000	1,800	2,800	41,200	34,700	3,700		
LPV07d.2	20,000	1,800	2,800	37,300	32,400	5,600		

Table 2-1b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #1

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV03d.2	200	Feb-10	20,200	300	141,400	2,120	40,400	610
LPV04.1	730	Jul-07	131,200	540	918,400	3,770	262,400	1,080
LPV04.2A	420	Sep-09	40,800	290	285,600	2,040	81,600	580
LPV04.2B	420	Oct-09	62,000	440	434,000	3,100	124,000	890
LPV05.2A	420	Nov-09	44,000	310	308,000	2,200	88,000	630
LPV05.2B	530	Sep-09	120,000	680	840,000	4,750	240,000	1,360
LPV06a.2	310	Sep-09	1,000	LT10	7,000	70	2,000	20
LPV06e.2	390	Nov-09						
LPV06f.2	370	Jan-10	1,400	10	9,800	80	2,800	20
LPV07b.2	510	Dec-09						
LPV07c.2	500	Jan-10	18,000	110	126,000	760	36,000	220
LPV07d.2	270	Aug-09	2,000	20	14,000	160	4,000	40

Table 2-1c. Steel Demand (Tons) by Project Period in IER #1

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV03d.2	200	Feb-10	10	LT10				
LPV04.1	730	Jul-07						
LPV04.2A	420	Sep-09						
LPV04.2B	420	Oct-09						
LPV05.2A	420	Nov-09						
LPV05.2B	530	Sep-09						
LPV06a.2	310	Sep-09	5,760	60				
LPV06e.2	390	Nov-09	3,090	20				
LPV06f.2	370	Jan-10	1,260	10				
LPV07b.2	510	Dec-09	2,700	20				
LPV07c.2	500	Jan-10	2,600	20				
LPV07d.2	270	Aug-09	2,540	30				

Table 2-1d. Concrete Demand (Cubic Yards) by Project Period in IER #1

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV03d.2	200	Feb-10						
LPV04.1	730	Jul-07						
LPV04.2A	420	Sep-09						
LPV04.2B	420	Oct-09						
LPV05.2A	420	Nov-09						
LPV05.2B	530	Sep-09						
LPV06a.2	310	Sep-09	970	LT10	1,940	20	1,940	20
LPV06e.2	390	Nov-09	2,860	20	5,720	40	5,720	40
LPV06f.2	370	Jan-10	200	LT10	410	LT10	410	LT10
LPV07b.2	510	Dec-09	370	LT10	740	LT10	740	LT10
LPV07c.2	500	Jan-10	370	LT10	730	LT10	730	LT10
LPV07d.2	270	Aug-09	370	LT10	730	LT10	730	LT10

Table 2-1e. Aggregate Demand (Tons) by Project Period in IER #1

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV03d.2	200	Feb-10						
LPV04.1	730	Jul-07						
LPV04.2A	420	Sep-09						
LPV04.2B	420	Oct-09						
LPV05.2A	420	Nov-09						
LPV05.2B	530	Sep-09						
LPV06a.2	310	Sep-09	1,470	10	2,930	30	2,930	30
LPV06e.2	390	Nov-09	4,320	30	8,650	70	8,650	70
LPV06f.2	370	Jan-10	310	LT10	620	LT10	620	LT10
LPV07b.2	510	Dec-09	560	LT10	1,120	LT10	1,120	LT10
LPV07c.2	500	Jan-10	550	LT10	1,100	LT10	1,100	LT10
LPV07d.2	270	Aug-09	550	LT10	1,100	10	1,100	10

None of the projects require concrete pile, or rock for construction. Tables 2-1f and 2-1g have been omitted.

2.2 IER #2 – West Return Floodwall, Jefferson-St. Charles Parish, Louisiana

The proposed actions for IER #2 is the replacement of approximately 3.4 miles of floodwalls: West Return Floodwall, Floodwall under I-10, and Recurve I-Wall in Northwest Kenner. Details of the proposed action are available in the Final IER at www.nolaenvironmental.gov.

Individual contracts included in IER 2 are listed below, and figure 2-2 provides an overview of the projects.

LPV03.2A	West Return Floodwall - Phase 2
LPV03.2B	West Return Floodwall - Phase 2

Figure 2-2. IER #2 Project Area

Table 2-2a. Materials Quantities for Construction Reaches in IER #2

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
LPV03.2A	42,000	100,100	151,400	616,900	1,467,700			87,700
LPV03.2B	128,000							

Table 2-2b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #2

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV03.2A	540	Feb-10	4,200	20	29,400	160	8,400	50
LPV03.2B	540	Feb-10	12,800	70	89,600	500	25,600	140

Table 2-2c. Steel Demand (Tons) by Project Period in IER #2

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV03.2A	540	Feb-10	77,650	430				
LPV03.2B	540	Feb-10						

Table 2-2d. Concrete Demand (Cubic Yards) by Project Period in IER #2

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV03.2A	540	Feb-10	20,030	110	40,060	220	40,060	220
LPV03.2B	540	Feb-10						

Table 2-2e. Aggregate Demand (Tons) by Project Period in IER #2

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV03.2A	540	Feb-10	30,280	170	60,570	340	60,570	340
LPV03.2B	540	Feb-10						

None of the projects require concrete pile for construction. Table 2-2f has been omitted.

Table 2-2g. Rock Demand (Tons) by Project Period in IER #2

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV03.2A	540	Feb-10					87,700	490
LPV03.2B	540	Feb-10						

2.3 IER #3 – Jefferson East Bank, Jefferson Parish Louisiana

The proposed actions for IER #3 are 11 separate construction projects that collectively rebuild 9.5 miles of earthen levees along the Lake Pontchartrain waterfront, upgrade the foreshore protection, replace two floodgates, and construct fronting protection and breakwaters at four pumping stations. Details of the proposed actions are available in the Final IER at www.nolaenvironmental.gov. Individual contracts included in IER 3 are listed below, and figure 2-3 provides an overview of the projects.

LPV00.2	Reach 1 Lakefront Levee - Phase 2
LPV01.2	Foreshore Protection A - Phase 2
LPV02.2	Reach 3 - Lakefront Levee - Phase 2
LPV09.2	Pump Station #1 (Bonnabel) Modification, Fronting Protection - Phase 2
LPV09a.2	Pump Station #1 Breakwater - Phase 2
LPV12a.2	Pump Station #4 Breakwater - Phase 2
LPV16.2	Floodwall and Gate at Bonnabel Boat Launch - Phase 2
LPV17.2	Bridge Abutment and Floodwall Tie-ins at Causeway Bridge - Phase 2
LPV18.2	Floodwall and Gate at Williams Boat Launch - Phase 2
LPV19.2	Reach 4 Lakefront Levee - Phase 2
LPV20.2	Foreshore Protection B

Figure 2-3. IER # 3 Project Area

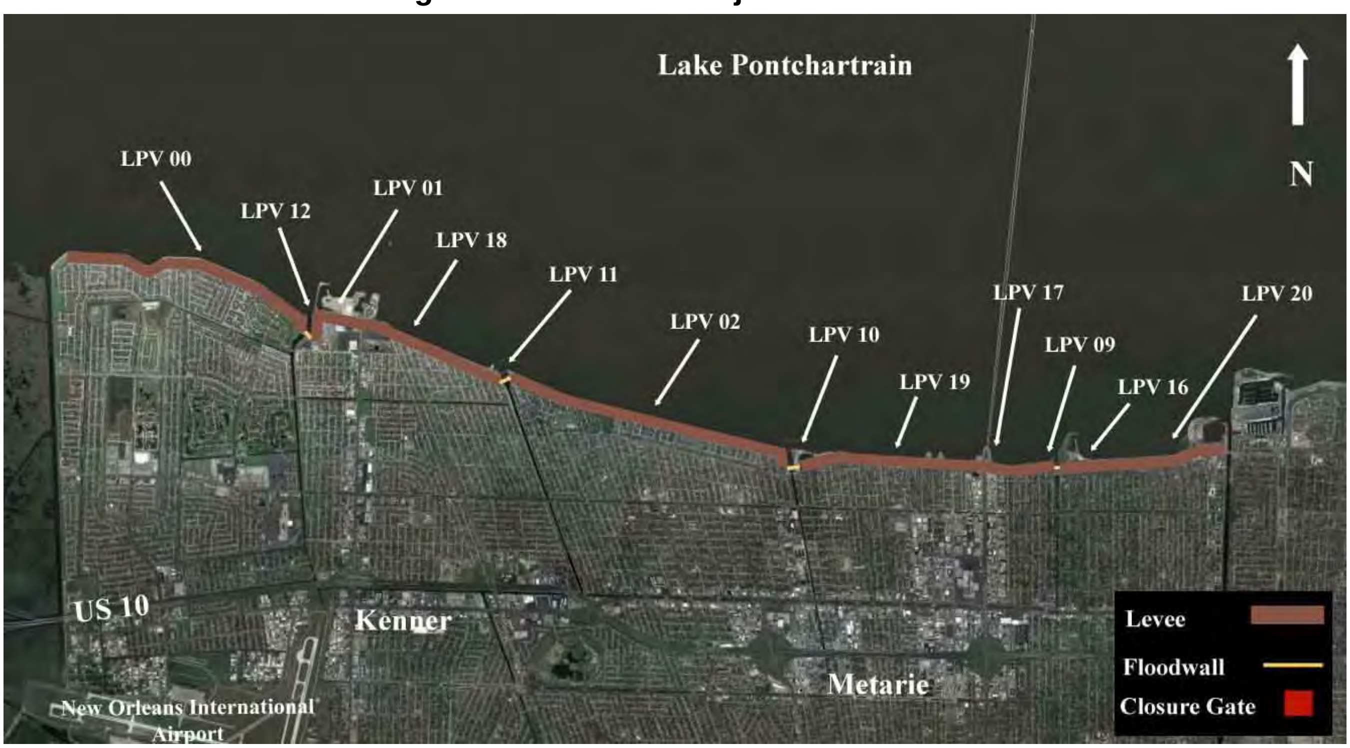

Table 2-3a. Materials Quantities for Construction Reaches in IER #3

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
LPV00.2	149,000							130,900
LPV01.2	202,000							69,900
LPV02.2	184,000							131,000
LPV09.2		27,700	41,800	214,600	212,900	36,200	99,100	33,800
LPV09a.2				15,500			20,200	35,000
LPV12a.2		1,500	2,300	10,800			17,400	3,800
LPV16.2		500	800				3,300	
LPV17.2	76,000	200	300	49,100				
LPV18.2		500	800				1,300	
LPV19.2	116,000							72,900
LPV20.2								61,000

Table 2-3b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #3

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV00.2	280	Sep-09	14,900	160	104,300	1,120	29,800	320
LPV01.2	310	Mar-10	20,200	200	141,400	1,370	40,400	390
LPV02.2	290	Jul-09	18,400	190	128,800	1,330	36,800	380
LPV09.2	1470	Oct-09						
LPV09a.2	190	May-09						
LPV12a.2	250	Aug-09						
LPV16.2	150	Nov-09						
LPV17.2	680	May-10	7,600	30	53,200	230	15,200	70
LPV18.2	130	Sep-09						
LPV19.2	240	Aug-09	11,600	150	81,200	1,020	23,200	290
LPV20.2	300	Mar-10						

Table 2-3c. Steel Demand (Tons) by Project Period in IER #3

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV00.2	280	Sep-09						
LPV01.2	310	Mar-10						
LPV02.2	290	Jul-09						
LPV09.2	1470	Oct-09	16,050	30				
LPV09a.2	190	May-09	310	LT10				
LPV12a.2	250	Aug-09	220	LT10				
LPV16.2	150	Nov-09						
LPV17.2	680	May-10	980	LT10				
LPV18.2	130	Sep-09						
LPV19.2	240	Aug-09						
LPV20.2	300	Mar-10						

Table 2-3d. Concrete Demand (Cubic Yards) by Project Period in IER #3

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV00.2	280	Sep-09						
LPV01.2	310	Mar-10						
LPV02.2	290	Jul-09						
LPV09.2	1470	Oct-09	5,530	10	11,070	20	11,070	20
LPV09a.2	190	May-09						
LPV12a.2	250	Aug-09	300	LT10	600	LT10	600	LT10
LPV16.2	150	Nov-09	100	LT10	200	LT10	200	LT10
LPV17.2	680	May-10	50	LT10	90	LT10	90	LT10
LPV18.2	130	Sep-09	100	LT10	210	LT10	210	LT10
LPV19.2	240	Aug-09						
LPV20.2	300	Mar-10						

Table 2-3e. Aggregate Demand (Tons) by Project Period in IER #3

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV00.2	280	Sep-09						
LPV01.2	310	Mar-10						
LPV02.2	290	Jul-09						
LPV09.2	1470	Oct-09	8,370	20	16,730	30	16,730	30
LPV09a.2	190	May-09						
LPV12a.2	250	Aug-09	460	LT10	910	10	910	10
LPV16.2	150	Nov-09	150	LT10	300	LT10	300	LT10
LPV17.2	680	May-10	70	LT10	140	LT10	140	LT10
LPV18.2	130	Sep-09	160	LT10	310	LT10	310	LT10
LPV19.2	240	Aug-09						
LPV20.2	300	Mar-10						

Table 2-3f. Concrete Pile Demand (Tons) by Project Period in IER #3

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV00.2	280	Sep-09						
LPV01.2	310	Mar-10						
LPV02.2	290	Jul-09						
LPV09.2	1470	Oct-09	26,450	50				
LPV09a.2	190	May-09	5,380	80				
LPV12a.2	250	Aug-09	4,640	60				
LPV16.2	150	Nov-09	880	20				
LPV17.2	680	May-10						
LPV18.2	130	Sep-09	350	LT10				
LPV19.2	240	Aug-09						
LPV20.2	300	Mar-10						

Table 2-3g. Rock Demand (Tons) by Project Period in IER #3

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV00.2	280	Sep-09					130,900	1,400
LPV01.2	310	Mar-10					69,940	680
LPV02.2	290	Jul-09					131,040	1,360
LPV09.2	1470	Oct-09					33,810	70
LPV09a.2	190	May-09					35,000	550
LPV12a.2	250	Aug-09					3,770	50
LPV16.2	150	Nov-09						
LPV17.2	680	May-10						
LPV18.2	130	Sep-09						
LPV19.2	240	Aug-09					72,930	910
LPV20.2	300	Mar-10					60,970	610

2.4 IER #4 – New Orleans Lakefront Levee, West of Inner Harbor Navigation Canal, Orleans Parish, Louisiana

The proposed actions for IER #4 rebuild approximately 4.4 miles of earthen levee, 7,600 feet of floodwall, 16 vehicle access gates, and one sector gate along the Lake Pontchartrain waterfront in Orleans Parish. Details of the proposed actions are available at www.nolaenvironmental.gov.

Individual contracts included in IER 4 are listed below, and figure 2-4 provides an overview of the projects.

LPV101.2	Lakefront Levee OEB -17th St. Canal to Topaz St.- Phase 2
LPV103.01A	Lakefront Levee OEB -LPV 101-103.01A
LPV103.01A2	Lakefront Levee OEB - Orleans Canal to London Ave
LPV104.01a	Lakefront Levee OEB- London Ave Canal to IHNC - Phase 1A
LPV104.02	Lakefront Levee OEB -London Ave Canal to IHNC - Phase 2

Figure 2-4. IER # 4 Project Area

Table 2-4a. Materials Quantities for Construction Reaches in IER #4

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
LPV101.2		16,500	25,000	55,900	77,800		16,500	1,800
LPV103.01A	150,000	5,000	7,600	57,800	28,300		4,700	
LPV103.01A2	150,000	1,700	2,500	19,300	9,400		1,600	
LPV104.01a	102,000							
LPV104.02	10,000	2,400	3,600	46,900	102,000			

Table 2-4b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #4

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV101.2	700	Jul-09						
LPV103.01A	400	Aug-09	15,000	110	105,000	790	30,000	230
LPV103.01A2	200	Jan-10	15,000	230	105,000	1,580	30,000	450
LPV104.01a	390	Sep-09	10,200	80	71,400	550	20,400	160
LPV104.02	560	Oct-09	1,000	LT10	7,000	40	2,000	10

Table 2-4c. Steel Demand (Tons) by Project Period in IER #4

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV101.2	700	Jul-09	4,580	20				
LPV103.01A	400	Aug-09	2,410	20				
LPV103.01A2	200	Jan-10	800	10				
LPV104.01a	390	Sep-09						
LPV104.02	560	Oct-09	5,480	30				

Table 2-4d. Concrete Demand (Cubic Yards) by Project Period in IER #4

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV101.2	700	Jul-09	3,300	10	6,600	30	6,600	30
LPV103.01A	400	Aug-09	1,010	LT10	2,010	20	2,010	20
LPV103.01A2	200	Jan-10	340	LT10	670	10	670	10
LPV104.01a	390	Sep-09						
LPV104.02	560	Oct-09	480	LT10	950	LT10	950	LT10

Table 2-4e. Aggregate Demand (Tons) by Project Period in IER #4

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV101.2	700	Jul-09	4,990	20	9,980	40	9,980	40
LPV103.01A	400	Aug-09	1,520	10	3,040	20	3,040	20
LPV103.01A2	200	Jan-10	510	LT10	1,010	20	1,010	20
LPV104.01a	390	Sep-09						
LPV104.02	560	Oct-09	720	LT10	1,440	LT10	1,440	LT10

Table 2-4f. Concrete Pile Demand (Tons) by Project Period in IER #4

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV101.2	700	Jul-09	4,410	20				
LPV103.01A	400	Aug-09	1,240	LT10				
LPV103.01A2	200	Jan-10	410	LT10				
LPV104.01a	390	Sep-09						
LPV104.02	560	Oct-09						

Table 2-4g. Rock Demand (Tons) by Project Period in IER #4

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV101.2	700	Jul-09					1,770	LT10
LPV103.01A	400	Aug-09						
LPV103.01A2	200	Jan-10						
LPV104.01a	390	Sep-09						
LPV104.02	560	Oct-09						

2.5 IER #5 – Outfall Canal Closure Structures, 17th Street Canal, Orleans Avenue Canal, and London Avenue Canal, Orleans and Jefferson Parishes, Louisiana

The proposed actions for IER #5 provide new closure structures and pumping stations for each of three canals (17th Street Canal, Orleans Outfall Canal, and London Avenue Canal) all under a single construction project, PCCP-01. Details of the proposed actions are available at www.nolaenvironmental.gov.

Individual contracts included in IER 5 are listed below, and figure 2-5 provides an overview of the projects.

PCCP-01 PCCP -Pump Stations for Outfall Canal Closures

Figure 2-5. IER # 5 Project Area

Table 2-5a. Materials Quantities for Construction Reaches in IER #5

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
PCCP01		11,100	16,700	285,800	326,900			

The projects do not require earthen fill, concrete pile, or rock. Tables 2-5b, 2-5f, and 2-5g have been omitted.

Table 2-5c. Steel Demand (Tons) by Project Period in IER #5

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
PCCP-01	1200	Aug-10	20,260	50				

Table 2-5d. Concrete Demand (Cubic Yards) by Project Period in IER #5

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
PCCP-01	1200	Aug-10	2,210	LT10	4,420	10	4,420	10

Table 2-5e. Aggregate Demand (Tons) by Project Period in IER #5

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
PCCP-01	1200	Aug-10	3,340	LT10	6,680	20	6,680	20

2.6 IER #6 – New Orleans East, Orleans Parish, Louisiana

The proposed actions for IER #6 provide 6 miles of levee or 1.9 miles of levee and conversion of 4.1 miles of levees to floodwall and replacement of two miles of floodwalls and four floodgates. Details of the proposed actions are available at www.nolaenvironmental.gov.

Individual contracts included in IER 6 are listed below, and figure 2-6 provides an overview of the projects.

LPV105.01	Lakefront Airport Floodwalls- West
LPV105.02	T-Wall Existing Alignment-Lakefront Airport- East
LPV106	Raise Levee- Paris Rd to Lakefront Airport
LPV106.01	Breakwater / Foreshore Protection NOE Lakefront Levee
LPV107	Replace Gate at Lincoln Beach

Figure 2-6. IER # 6 Project Area

Table 2-6a. Materials Quantities for Construction Reaches in IER #6

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
LPV105.01	12,000	15,300	23,100	155,600	218,000			
LPV105.02	56,000	5,400	8,100	31,300	80,100			
LPV106	52,000	40,500	61,300	1,366,000	696,000			
LPV106.01								80,000
LPV107	40,000	700	1,100	30,000	10,500			

Table 2-6b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #6

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV105.01	380	Jan-10	1,200	LT10	8,400	70	2,400	20
LPV105.02	380	Feb-10	5,600	40	39,200	310	11,200	90
LPV106	360	Dec-09	5,200	40	36,400	300	10,400	90
LPV106.01	740	Sep-09						
LPV107	280	Jan-10	4,000	40	28,000	300	8,000	90

Table 2-6c. Steel Demand (Tons) by Project Period in IER #6

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV105.01	380	Jan-10	12,810	100				
LPV105.02	380	Feb-10	4,190	30				
LPV106	360	Dec-09	58,290	490				
LPV106.01	740	Sep-09						
LPV107	280	Jan-10	1,070	10				

Table 2-6d. Concrete Demand (Cubic Yards) by Project Period in IER #6

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV105.01	380	Jan-10	3,060	20	6,120	50	6,120	50
LPV105.02	380	Feb-10	1,080	LT10	2,150	20	2,150	20
LPV106	360	Dec-09	8,110	70	16,220	140	16,220	140
LPV106.01	740	Sep-09						
LPV107	280	Jan-10	150	LT10	300	LT10	300	LT10

Table 2-6e. Aggregate Demand (Tons) by Project Period in IER #6

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV105.01	380	Jan-10	4,620	40	9,250	70	9,250	70
LPV105.02	380	Feb-10	1,630	10	3,260	30	3,260	30
LPV106	360	Dec-09	12,260	100	24,520	200	24,520	200
LPV106.01	740	Sep-09						
LPV107	280	Jan-10	230	LT10	450	LT10	450	LT10

None of the projects require concrete pile for construction. Table 2-6f has been omitted.

Table 2-6g. Rock Demand (Tons) by Project Period in IER #6

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV105.01	380	Jan-10						
LPV105.02	380	Feb-10						
LPV106	360	Dec-09						
LPV106.01	740	Sep-09					80,000	320
LPV107	280	Jan-10						

2.7 IER #7 – New Orleans East, Orleans Parish, Louisiana

The proposed actions for IER #7 provide 19.3 miles of levee and three floodgates. Details of the proposed actions are available at www.nolaenvironmental.gov. Individual contracts included in IER 7 are listed below, and figure 2-7 provides an overview of the projects.

LPV108	Levee Raise-Paris Rd to South Point
LPV109.02a	Levee raise to 100-Year Elevation
LPV109.02b	I-10 Floodwall & Crossing
LPV109.02c	US11 & US 90 Gates & Crossing
LPV110	Modify CSX RR Gate
LPV111.01	100 Year Levee Raise-CSX RR to Michoud Canal
LPV111.02	Raisewall at Pumpstation#15- CSXRR to Michoud Canal
LPV113	Citrus Back Levee (Michoud Canal to Slip)

Figure 2-7. IER # 7 Project Area

Table 2-7a. Materials Quantities for Construction Reaches in IER #7

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
LPV108	450,000							121,000
LPV109.02a	4,910,000	600	1,000					2,500
LPV109.02b	115,000							
LPV109.02c	40,000	1,700	2,500	21,600	15,700			
LPV110	40,000	300	500	20,400	2,600			
LPV111.01	2,460,000			184,800				
LPV111.02	10,000	11,900	18,000	42,500		7,600		
LPV113	648,000							

Table 2-7b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #7

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV108	280	Dec-08	45,000	480	315,000	3,380	90,000	960
LPV109.02a	710	Mar-10	491,000	2,070	3,437,000	14,520	982,000	4,150
LPV109.02b	510	Mar-10	11,500	70	80,500	470	23,000	140
LPV109.02c	200	Dec-09	4,000	60	28,000	420	8,000	120
LPV110	400	Apr-10	4,000	30	28,000	210	8,000	60
LPV111.01	840	Aug-09	246,000	880	1,722,000	6,150	492,000	1,760
LPV111.02	270	Dec-09	1,000	10	7,000	80	2,000	20
LPV113	240	Jul-09	64,800	810	453,600	5,670	129,600	1,620

Table 2-7c. Steel Demand (Tons) by Project Period in IER #7

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV108	280	Dec-08						
LPV109.02a	710	Mar-10						
LPV109.02b	510	Mar-10						
LPV109.02c	200	Dec-09	1,130	20				
LPV110	400	Apr-10	520	LT10				
LPV111.01	840	Aug-09	3,700	10				
LPV111.02	270	Dec-09	1,330	10				
LPV113	240	Jul-09						

Table 2-7d. Concrete Demand (Cubic Yards) by Project Period in IER #7

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV108	280	Dec-08						
LPV109.02a	710	Mar-10	130	LT10	260	LT10	260	LT10
LPV109.02b	510	Mar-10						
LPV109.02c	200	Dec-09	330	LT10	660	LT10	660	LT10
LPV110	400	Apr-10	60	LT10	120	LT10	120	LT10
LPV111.01	840	Aug-09						
LPV111.02	270	Dec-09	2,380	30	4,760	50	4,760	50
LPV113	240	Jul-09						

Table 2-7e. Aggregate Demand (Tons) by Project Period in IER #7

Reach	Project Duration	NTP Mo & Yr	First Third		Second Third		Final Third	
			Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV108	280	Dec-08						
LPV109.02a	710	Mar-10	190	LT10	390	LT10	390	LT10
LPV109.02b	510	Mar-10						
LPV109.02c	200	Dec-09	500	LT10	1,000	20	1,000	20
LPV110	400	Apr-10	90	LT10	190	LT10	190	LT10
LPV111.01	840	Aug-09						
LPV111.02	270	Dec-09	3,600	40	7,200	80	7,200	80
LPV113	240	Jul-09						

None of the projects require concrete pile for construction. Table 2-7f has been omitted.

Table 2-7g. Rock Demand (Tons) by Project Period in IER #7

Reach	Project Duration	NTP Mo & Yr	First Third		Second Third		Final Third	
			Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV108	280	Dec-08					121,000	1,300
LPV109.02a	710	Mar-10					2,540	10
LPV109.02b	510	Mar-10						
LPV109.02c	200	Dec-09						
LPV110	400	Apr-10						
LPV111.01	840	Aug-09						
LPV111.02	270	Dec-09						
LPV113	240	Jul-09						

2.8 IER #8 – Bayou Bienvenue and Bayou Dupre Control Structures, St. Bernard Parish, Louisiana

The proposed actions for IER #8 require the replacement of approximately 1,000 linear feet of floodwalls and the replacement of two navigable floodgates. This project is being completed under one construction projects, LPV 144, Bayou Bienvenue and Bayou Dupre Floodgate Structures. Details of the proposed actions are available at www.nolaenvironmental.gov.

Individual contracts included in IER 8 are listed below, and figure 2-8 provides an overview of the projects.

LPV144	Chalmette Loop Levee, St. Bernard Parish

Figure 2-8. IER #8 Project Area

Table 2-8a. Materials Quantities for Construction Reaches in IER #8

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
LPV144	300	14,900	22,500	33,400	94,100			13,200

Table 2-8b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #8

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV144	510	Dec-09	30	LT10	180	LT10	50	LT10

Table 2-8c. Steel Demand (Tons) by Project Period in IER #8

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV144	510	Dec-09	4,860	30				

Table 2-8d. Concrete Demand (Cubic Yards) by Project Period in IER #8

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV144	510	Dec-09	2,980	20	5,950	40	5,950	40

Table 2-8e. Aggregate Demand (Tons) by Project Period in IER #8

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV144	510	Dec-09	4,500	30	9,000	50	9,000	50

The project does not require concrete pile for construction. Table 2-8f has been omitted.

Table 2-8g. Rock Demand (Tons) by Project Period in IER #8

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV144	510	Dec-09					13,220	80

2.9 IER #9 – Caernarvon Floodwall, St. Bernard Parish, Louisiana

The proposed actions for IER #9 involve the replacement of two floodgates, the reconstruction of 1,500 feet of floodwall, and possible realignment of levee. This project is being completed under a single construction project: LPV 149, Caernarvon Floodwall. Details of the proposed actions are available at www.nolaenvironmental.gov.

Individual contracts included in IER 9 are listed below, and figure 2-9 provides an overview of the projects.

LPV149	Chalmette Loop Levee, St. Bernard Parish

Figure 2-9. IER # 9 Project Area

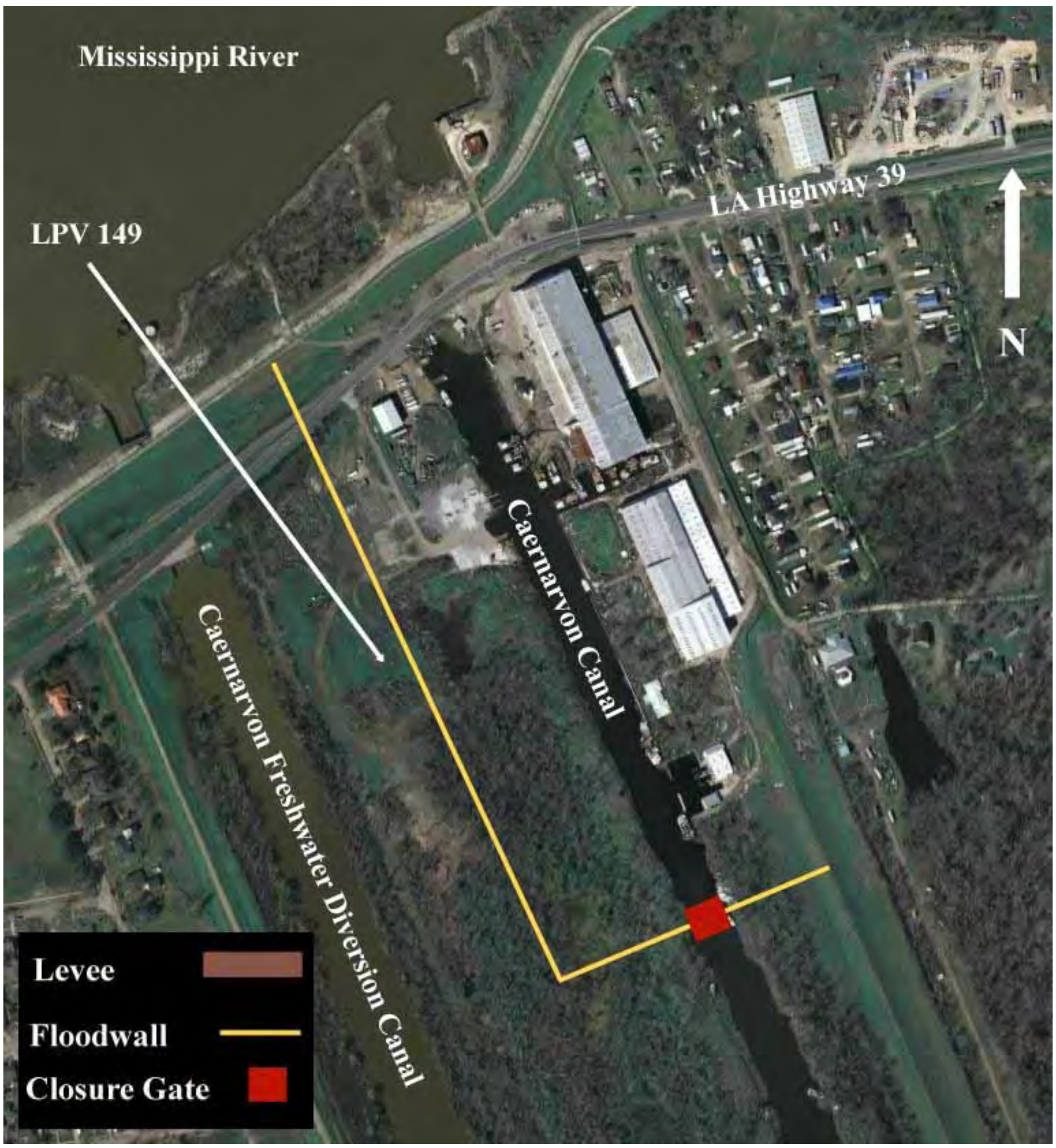

Table 2-9a. Materials Quantities for Construction Reaches in IER #9

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
LPV149	141,000	12,000	18,100	69,200	102,000			

Table 2-9b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #9

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV149	500	Feb-10	14,100	80	98,700	590	28,200	170

Table 2-9c. Steel Demand (Tons) by Project Period in IER #9

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV149	500	Feb-10	5,920	40				

Table 2-9d. Concrete Demand (Cubic Yards) by Project Period in IER #9

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV149	500	Feb-10	2,400	10	4,800	30	4,800	30

Table 2-9e. Aggregate Demand (Tons) by Project Period in IER #9

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV149	500	Feb-10	3,630	20	7,260	40	7,260	40

The project does not require concrete pile or rock for construction. Tables 2-9f and 2-9g have been omitted.

2.10 IER #10 – Chalmette Loop, St. Bernard Parish, Louisiana

The proposed actions for IER #10 provide 100-year elevation of risk reduction for 22 miles of levee, 1,500 linear feet of floodwalls, and three floodgates. This project is being completed under four discrete construction projects: LPV 145, Bayou Bienvenue to Bayou Dupre Levee; LPV 146, Bayou Dupre to Hwy 46 Levee; LPV 147, Hwy 46 Crossing and Bayou Road Flood Gate; and LPV 148.02, Verret to Caernarvon Levee. Details of the proposed actions are available at www.nolaenvironmental.gov.

Individual contracts included in IER 10 are listed below, and figure 2-10 provides an overview of the projects.

LPV145	Chalmette Loop: Bayou Bienvenue to Bayou Dupre Levee, St. Bernard Parish
LPV146	Chalmette Loop: Bayou Dupre to Hwy 46 Levee
LPV147	Chalmette Loop: Hwy 46 Crossing and Bayou Road Flood Gate
LPV148.02	Chalmette Loop: Verret to Caernarvon Levee

Figure 2-10. IER # 10 Project Area

Table 2-10a. Materials Quantities for Construction Reaches in IER #10

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
LPV145	600,000	64,900	98,200	1,807,700	1,346,700			77,400
LPV146	600,000	101,200	153,000	2,102,200	1,430,900			197,100
LPV147	16,000	5,700	8,600	12,200	48,000		19,400	
LPV148.02	1,300,000	132,600	200,500	2,164,800	1,155,500			2,500

Table 2-10b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #10

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV145	800	Dec-09	60,000	230	420,000	1,580	120,000	450
LPV146	770	Dec-09	60,000	230	420,000	1,640	120,000	470
LPV147	480	Dec-09	1,600	LT10	11,200	70	3,200	20
LPV148.02	810	Feb-10	130,000	480	910,000	3,370	260,000	960

Table 2-10c. Steel Demand (Tons) by Project Period in IER #10

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV145	800	Dec-09	96,080	360				
LPV146	770	Dec-09	105,720	410				
LPV147	480	Dec-09	2,380	10				
LPV148.02	810	Feb-10	94,720	350				

Table 2-10d. Concrete Demand (Cubic Yards) by Project Period in IER #10

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV145	800	Dec-09	12,990	50	25,970	100	25,970	100
LPV146	770	Dec-09	20,240	80	40,480	160	40,480	160
LPV147	480	Dec-09	1,140	LT10	2,280	10	2,280	10
LPV148.02	810	Feb-10	26,510	100	53,030	200	53,030	200

Table 2-10e. Aggregate Demand (Tons) by Project Period in IER #10

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV145	800	Dec-09	19,640	70	39,270	150	39,270	150
LPV146	770	Dec-09	30,610	120	61,210	240	61,210	240
LPV147	480	Dec-09	1,720	10	3,440	20	3,440	20
LPV148.02	810	Feb-10	40,090	150	80,180	300	80,180	300

Table 2-10f. Concrete Pile Demand (Tons) by Project Period in IER #10

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV145	800	Dec-09						
LPV146	770	Dec-09						
LPV147	480	Dec-09	5,170	30				
LPV148.02	810	Feb-10						

Table 2-10g. Rock Demand (Tons) by Project Period in IER #10

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
LPV145	800	Dec-09					77,440	290
LPV146	770	Dec-09					197,060	770
LPV147	480	Dec-09						
LPV148.02	810	Feb-10					2,460	LT10

2.11 IER #11 – Improved Protection on the Inner Harbor Navigation Canal, Orleans and St. Bernard Parishes, Louisiana

The proposed actions under IER #11 would provide structural barriers to prevent damaging storm surges from entering the IHNC from Lake Pontchartrain and/or the Gulf Intracoastal Waterway (GIWW)-Mississippi River Gulf Outlet (MRGO)-Lake Borgne complex ("Lake Borgne complex"). The first proposed action, referred to as "Borgne 1," encompasses a location range within which a barrier could be built to address storm surge from the Lake Borgne complex. The second proposed action, referred to as "Pontchartrain 2," encompasses a location range within which a barrier could be built to address storm surge from the Lake Pontchartrain. Details of the proposed actions are available at www.nolaenvironmental.gov.

Individual contracts included in IER 11 are listed below, and figure 2-11 provides an overview of the projects.

IHNC01	IHNC-1 Protection from Lake Pontchartrain
IHNC02a	IHNC-2 Protection from Lake Borgne a
IHNC02b	IHNC-2 Protection from Lake Borgne b
IHNC02c	IHNC-2 Protection from Lake Borgne c
IHNC02d	IHNC-2 Protection from Lake Borgne d

Figure 2-11. IER # 11 Project Area

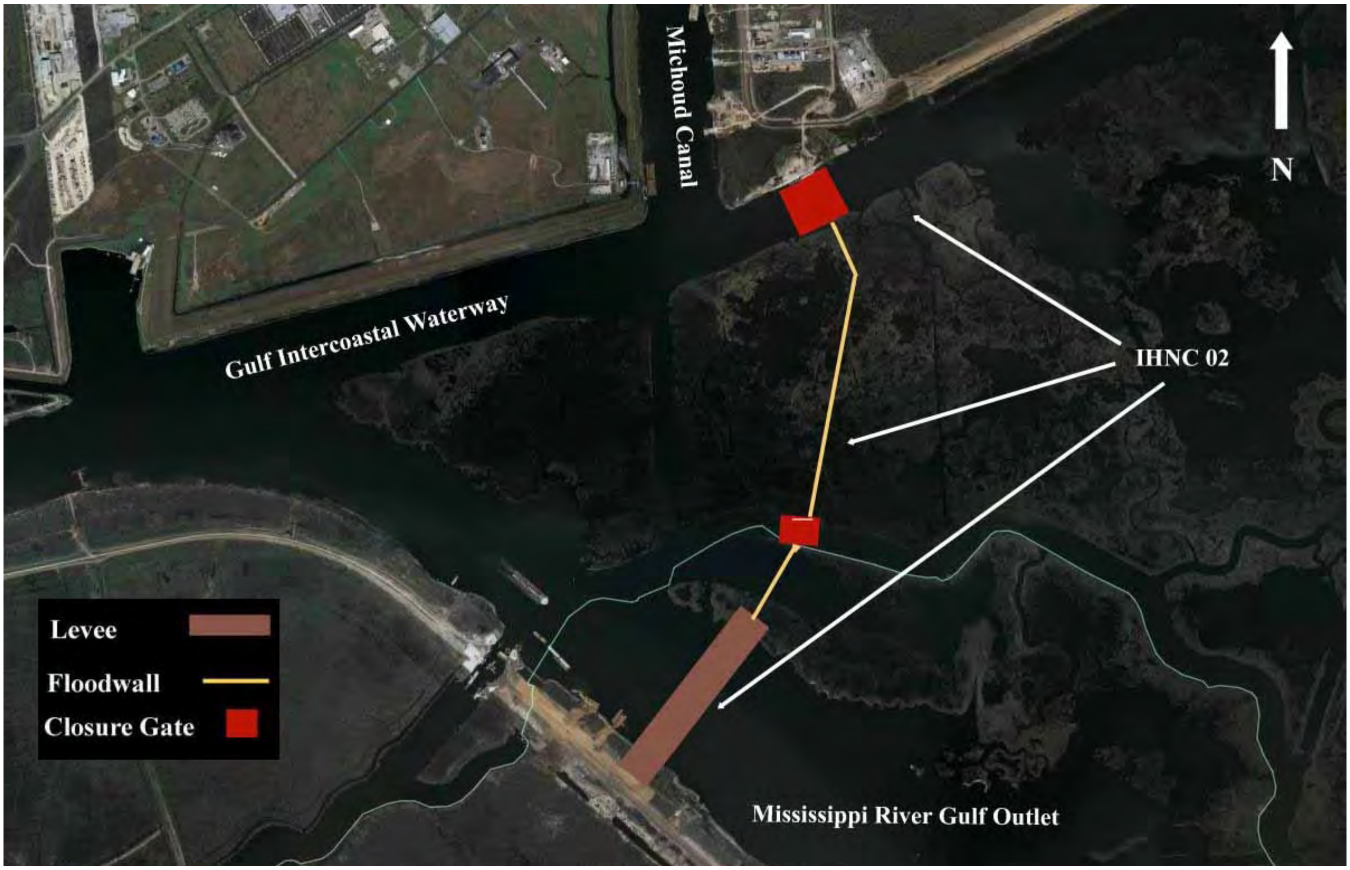

Table 2-11a. Materials Quantities for Construction Reaches in IER #11

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
IHNC01								
IHNC2a		33,900	51,300	110,500		102,000		6,000
IHNC2b		9,600	14,500	54,700		57,900		3,200
IHNC2c		100,900	152,600			265,000	148,200	172,000
IHNC2d		23,000	34,800			113,800	56,200	148,000

The project does not require earthen fill for construction. Table 2-11b has been omitted.

Table 2-11c. Steel Demand (Tons) by Project Period in IER #11

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
IHNC01	700	Feb-10						
IHNC-2a	1150	Apr-08	8,640	20				
IHNC-2b	1150	Apr-08	4,740	10				
IHNC-2c	1150	Apr-08	16,700	40				
IHNC-2d	1150	Apr-08	7,170	20				

Table 2-11d. Concrete Demand (Cubic Yards) by Project Period in IER #11

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
IHNC01	700	Feb-10						
IHNC-2a	1150	Apr-08	6,780	20	13,560	40	13,560	40
IHNC-2b	1150	Apr-08	1,920	LT10	3,840	10	3,840	10
IHNC-2c	1150	Apr-08	20,180	50	40,360	110	40,360	110
IHNC-2d	1150	Apr-08	4,600	10	9,200	20	9,200	20

Table 2-11e. Aggregate Demand (Tons) by Project Period in IER #11

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
IHNC01	700	Feb-10						
IHNC-2a	1150	Apr-08	10,250	30	20,500	50	20,500	50
IHNC-2b	1150	Apr-08	2,900	LT10	5,810	20	5,810	20
IHNC-2c	1150	Apr-08	30,510	80	61,020	160	61,020	160
IHNC-2d	1150	Apr-08	6,960	20	13,910	40	13,910	40

Table 2-11f. Concrete Pile Demand (Tons) by Project Period in IER #11

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
IHNC01	700	Feb-10						
IHNC-2a	1150	Apr-08						
IHNC-2b	1150	Apr-08						
IHNC-2c	1150	Apr-08	90,180	240				
IHNC-2d	1150	Apr-08	34,200	90				

Table 2-11g. Rock Demand (Tons) by Project Period in IER #11

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
IHNC01	700	Feb-10						
IHNC-2a	1150	Apr-08					6,000	20
IHNC-2b	1150	Apr-08					3,200	LT10
IHNC-2c	1150	Apr-08					172,000	450
IHNC-2d	1150	Apr-08					148,000	390

2.12 IER #12 – GIWW, Harvey and Algiers Levees and Floodwalls, Jefferson, Orleans, and Plaquemines Parishes, Louisiana

The proposed action for IER # 12 would consist of constructing approximately 3 miles of levee and floodwall that would reduce the length of the current alignment by eliminating the need for 25 miles of existing parallel protection. The proposed action also includes providing a 100-year level of risk reduction fronting protection for pump stations and backflow prevention. Existing pump stations in the detention basin behind the surge barrier would receive fronting protection (El. 8.5 ft, less than 100-year level of risk reduction) and backflow prevention. Details of the proposed actions are available in the IER at www.nolaenvironmental.gov.

Individual contracts included in IER 12 are listed below, and figure 2-12 provides an overview of the projects.

WBV03a	Contract 3a, Hero PS to Algiers Canal
WBV03b	Contract 3b, Hero PS to Algiers Canal
WBV04.2	Belle Chasse Hwy to Hero Cutoff - Reach 1 - Phase 2
WBV05.2	Belle Chasse Hwy to Hero Cutoff - Reach 2 - Phase 2
WBV06.2	Belle Chasse Hwy to Hero Cutoff - Reach 3 & 4 - Phase 2
WBV06a.2	Belle Chasse Hwy to Hero Cutoff - Phase 2
WBV07	Planters PS Fronting Protection and Modifications
WBV08	S&WB PS #13 Fronting Protection and Modifications
WBV10	Belle Chasse PS #1 (Plaquemines PS) Fronting Protection and Modifications
WBV11	Belle Chasse PS #2 Fronting Protection and Modifications
WBV13	S&WB PS #11 Fronting Protection and Modifications
WBV14a.2	Estelle PS to Vicinity of LaPalco Overpass - Phase 2
WBV14g.2	Estelle PS Vicinity Floodwalls
WBV23	New Estelle PS Floodwall Modifications
WBV33	Old Estelle PS Fronting Protection and Modifications
WBV38.2	Cousins PS - Phase 2
WBV44	Whitney Barataria PS Floodwall Modifications

WBV46.2	Cousins Canal Walls - Destrehan Bridge to Sector Gate
WBV47.1	Algiers Lock to Belle Chase Hwy (West) - Phase 1
WBV48.2	Belle Chase Hwy to Algiers Lock (West) - Phase 2
WBV49.1	Hero Levee to Belle Chase Hwy (East) - Phase 1
WBV90	GIWW West Closure Complex

Figure 2-12. IER #12 Project Area

Table 2-12a. Materials Quantities for Construction Reaches in IER #12

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
WBV03a		2,600	4,000	14,800	34,300	1,900	9,900	
WBV03b	444,000	8,700	13,100	31,700			57,600	
WBV04.2		400	600	11,000	8,600			
WBV05.2		1,000	1,600	23,800	22,700			
WBV06.2		5,700	8,600	12,100	57,500			
WBV06a.2		5,300	8,000	1,084,200				
WBV07		2,200	3,300	31,500	21,800	2,300	12,200	
WBV08		2,500	3,700	25,200	29,200	14,800		
WBV10		1,600	2,400	13,200	22,700			
WBV11		900	1,400	10,700	11,800			
WBV13		2,200	3,300	23,800	22,400	2,200	10,300	
WBV14a.2		6,600	10,000	263,300	91,300			
WBV14g.2	28,000	12,400	18,800	210,400	193,900			700
WBV23		2,100	3,200	50,000	28,400			2,000
WBV33		3,300	4,900	36,800	40,200			900
WBV38.2		1,700	2,500	24,700	35,000			200
WBV44		7,000	10,600	42,000	71,200			1,900
WBV46.2		1,900	2,900	24,000	34,800			
WBV47.1	318,000			970,800				
WBV48.2		19,700	29,700	971,200	353,400			
WBV49.1	222,000	3,600	5,400	1,424,000	69,800			
WBV90		199,800	302,200	623,500	268,600	335,400	132,100	240,300

Table 2-12b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #12

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV03a	780	Jul-08						
WBV03b	490	Dec-08	44,400	270	310,800	1,900	88,800	540
WBV04.2	210	Oct-09						
WBV05.2	210	Oct-09						
WBV06.2	250	Jan-10						
WBV06a.2	370	May-10						
WBV07	580	Oct-09						
WBV08	590	Oct-09						
WBV10	620	Oct-09						
WBV11	540	Sep-09						
WBV13	680	Oct-09						
WBV14a.2	360	Dec-09						
WBV14g.2	780	Sep-09	2,800	10	19,600	80	5,600	20
WBV23	380	Feb-10						
WBV33	560	Oct-09						
WBV38.2	320	May-10						
WBV44	470	Feb-10						
WBV46.2	330	Dec-09						
WBV47.1	240	May-10	31,800	400	222,600	2,780	63,600	800
WBV48.2	370	May-10						
WBV49.1	180	Apr-10	22,200	370	155,400	2,590	44,400	740
WBV90	1720	Feb-10						

Table 2-12c. Steel Demand (Tons) by Project Period in IER #12

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV03a	780	Jul-08	1,940	LT10				
WBV03b	490	Dec-08	630	LT10				
WBV04.2	210	Oct-09	610	LT10				
WBV05.2	210	Oct-09	1,480	20				
WBV06.2	250	Jan-10	2,800	30				
WBV06a.2	370	May-10	21,680	180				
WBV07	580	Oct-09	1,750	LT10				
WBV08	590	Oct-09	2,740	10				
WBV10	620	Oct-09	1,270	LT10				
WBV11	540	Sep-09	740	LT10				
WBV13	680	Oct-09	1,620	LT10				
WBV14a.2	360	Dec-09	9,330	80				
WBV14g.2	780	Sep-09	12,830	50				
WBV23	380	Feb-10	2,270	20				
WBV33	560	Oct-09	2,530	10				
WBV38.2	320	May-10	2,050	20				
WBV44	470	Feb-10	4,010	30				
WBV46.2	330	Dec-09	2,030	20				
WBV47.1	240	May-10	19,420	240				
WBV48.2	370	May-10	35,150	280				
WBV49.1	180	Apr-10	31,590	530				
WBV90	1720	Feb-10	45,560	80				

Table 2-12d. Concrete Demand (Cubic Yards) by Project Period in IER #12

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV03a	780	Jul-08	520	LT10	1,050	LT10	1,050	LT10
WBV03b	490	Dec-08	1,730	10	3,460	20	3,460	20
WBV04.2	210	Oct-09	90	LT10	170	LT10	170	LT10
WBV05.2	210	Oct-09	210	LT10	410	LT10	410	LT10
WBV06.2	250	Jan-10	1,140	10	2,270	30	2,270	30
WBV06a.2	370	May-10	1,060	LT10	2,130	20	2,130	20
WBV07	580	Oct-09	440	LT10	880	LT10	880	LT10
WBV08	590	Oct-09	490	LT10	980	LT10	980	LT10
WBV10	620	Oct-09	310	LT10	630	LT10	630	LT10
WBV11	540	Sep-09	180	LT10	370	LT10	370	LT10
WBV13	680	Oct-09	440	LT10	880	LT10	880	LT10
WBV14a.2	360	Dec-09	1,320	10	2,640	20	2,640	20
WBV14g.2	780	Sep-09	2,490	LT10	4,970	20	4,970	20
WBV23	380	Feb-10	420	LT10	830	LT10	830	LT10
WBV33	560	Oct-09	650	LT10	1,310	LT10	1,310	LT10
WBV38.2	320	May-10	340	LT10	670	LT10	670	LT10
WBV44	470	Feb-10	1,410	LT10	2,820	20	2,820	20
WBV46.2	330	Dec-09	390	LT10	780	LT10	780	LT10
WBV47.1	240	May-10						
WBV48.2	370	May-10	3,930	30	7,870	60	7,870	60
WBV49.1	180	Apr-10	710	10	1,420	20	1,420	20
WBV90	1720	Feb-10	39,970	70	79,930	140	79,930	140

Table 2-12e. Aggregate Demand (Tons) by Project Period in IER #12

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV03a	780	Jul-08	790	LT10	1,590	LT10	1,590	LT10
WBV03b	490	Dec-08	2,620	20	5,240	30	5,240	30
WBV04.2	210	Oct-09	130	LT10	260	LT10	260	LT10
WBV05.2	210	Oct-09	310	LT10	620	LT10	620	LT10
WBV06.2	250	Jan-10	1,720	20	3,440	40	3,440	40
WBV06a.2	370	May-10	1,610	10	3,220	30	3,220	30
WBV07	580	Oct-09	670	LT10	1,330	LT10	1,330	LT10
WBV08	590	Oct-09	740	LT10	1,490	LT10	1,490	LT10
WBV10	620	Oct-09	470	LT10	950	LT10	950	LT10
WBV11	540	Sep-09	280	LT10	550	LT10	550	LT10
WBV13	680	Oct-09	670	LT10	1,330	LT10	1,330	LT10
WBV14a.2	360	Dec-09	2,000	20	3,990	30	3,990	30
WBV14g.2	780	Sep-09	3,760	10	7,520	30	7,520	30
WBV23	380	Feb-10	630	LT10	1,260	LT10	1,260	LT10
WBV33	560	Oct-09	990	LT10	1,980	10	1,980	10
WBV38.2	320	May-10	510	LT10	1,010	LT10	1,010	LT10
WBV44	470	Feb-10	2,130	10	4,260	30	4,260	30
WBV46.2	330	Dec-09	590	LT10	1,180	10	1,180	10
WBV47.1	240	May-10						
WBV48.2	370	May-10	5,950	50	11,900	100	11,900	100
WBV49.1	180	Apr-10	1,080	20	2,150	40	2,150	40
WBV90	1720	Feb-10	60,430	110	120,860	210	120,860	210

Table 2-12f. Concrete Pile Demand (Tons) by Project Period in IER #12

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV03a	780	Jul-08	2,650	10				
WBV03b	490	Dec-08	15,390	90				
WBV04.2	210	Oct-09						
WBV05.2	210	Oct-09						
WBV06.2	250	Jan-10						
WBV06a.2	370	May-10						
WBV07	580	Oct-09	3,260	20				
WBV08	590	Oct-09						
WBV10	620	Oct-09						
WBV11	540	Sep-09						
WBV13	680	Oct-09	2,760	10				
WBV14a.2	360	Dec-09						
WBV14g.2	780	Sep-09						
WBV23	380	Feb-10						
WBV33	560	Oct-09						
WBV38.2	320	May-10						
WBV44	470	Feb-10						
WBV46.2	330	Dec-09						
WBV47.1	240	May-10						
WBV48.2	370	May-10						
WBV49.1	180	Apr-10						
WBV90	1720	Feb-10	35,280	60				

Table 2-12g. Rock Demand (Tons) by Project Period in IER #12

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV03a	780	Jul-08						
WBV03b	490	Dec-08						
WBV04.2	210	Oct-09						
WBV05.2	210	Oct-09						
WBV06.2	250	Jan-10						
WBV06a.2	370	May-10						
WBV07	580	Oct-09						
WBV08	590	Oct-09						
WBV10	620	Oct-09						
WBV11	540	Sep-09						
WBV13	680	Oct-09						
WBV14a.2	360	Dec-09						
WBV14g.2	780	Sep-09					710	LT10
WBV23	380	Feb-10					2,000	20
WBV33	560	Oct-09					940	LT10
WBV38.2	320	May-10					200	LT10
WBV44	470	Feb-10					1,860	10
WBV46.2	330	Dec-09						
WBV47.1	240	May-10						
WBV48.2	370	May-10						
WBV49.1	180	Apr-10						
WBV90	1720	Feb-10					240,340	420

2.13 IER #13 – Hero Canal Levee and Eastern Terminus, Plaquemines Parish, Louisiana

The proposed actions for IER #13 include 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. Details of the proposed action are available in the Final IER at www.nolaenvironmental.gov.

Individual contracts included in IER 13 are listed below, and figure 2-13 provides an overview of the projects.

WBV09a	Hero Canal to Oakville - Levees
WBV09b	Hero Canal to Oakville - Structures
WBV12	Hero Canal Reach 1 - 2nd Enlgt

Figure 2-13. IER #13 Project Area

Table 2-13a. Materials Quantities for Construction Reaches in IER #13

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
WBV09a	500,000							
WBV09b		5,000	7,600	59,000	87,900			
WBV12	550,000							800

Table 2-13b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #13

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV09a	450	Mar-10	50,000	330	350,000	2,330	100,000	670
WBV09b	470	Feb-10						
WBV12	390	Jun-10	55,000	420	385,000	2,960	110,000	850

Table 2-13c. Steel Demand (Tons) by Project Period in IER #13

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV09a	450	Mar-10						
WBV09b	470	Feb-10	5,090	30				
WBV12	390	Jun-10						

Table 2-13d. Concrete Demand (Cubic Yards) by Project Period in IER #13

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV09a	450	Mar-10						
WBV09b	470	Feb-10	1,000	LT10	2,000	10	2,000	10
WBV12	390	Jun-10						

Table 2-13e. Aggregate Demand (Tons) by Project Period in IER #13

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV09a	450	Mar-10						
WBV09b	470	Feb-10	1,510	LT10	3,020	20	3,020	20
WBV12	390	Jun-10						

None of the projects require concrete pile for construction. Table 2-13f has been omitted.

Table 2-13g. Rock Demand (Tons) by Project Period in IER #13

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV09a	450	Mar-10						
WBV09b	470	Feb-10						
WBV12	390	Jun-10					840	LT10

2.14 IER #14 – Westwego to Harvey Levee, Jefferson Parish, Louisiana

The proposed actions for IER #14 would increase the elevation of five existing levee reaches to meet the 100-year level of risk reduction and replace all existing pumping station fronting protection floodwalls with higher floodwall. Details of the proposed action are available in the Final IER at www.nolaenvironmental.gov.

Individual contracts included in IER 14 are listed below, and figure 2-14 provides an overview of the projects.

WBV14b.2	Orleans Village to Hwy 45 Levee - Phase 2
WBV14c.2	New Westwego PS to Vicinity Orleans Village - Phase 2
WBV14d	V- Line Floodwall
WBV14e.2	V- Line Levee,East of Vertex - Phase 2
WBV14f.2	Hwy 45 Levee - Phase 2
WBV14i	WBV-14i V-Line Levee, LA 3134 Highway Crossing
WBV30	Westminister PS Fronting Protection and Modifications
WBV37	Ames / Mt;. Kennedy Pump Station

Figure 2-14. IER #14 Project Area

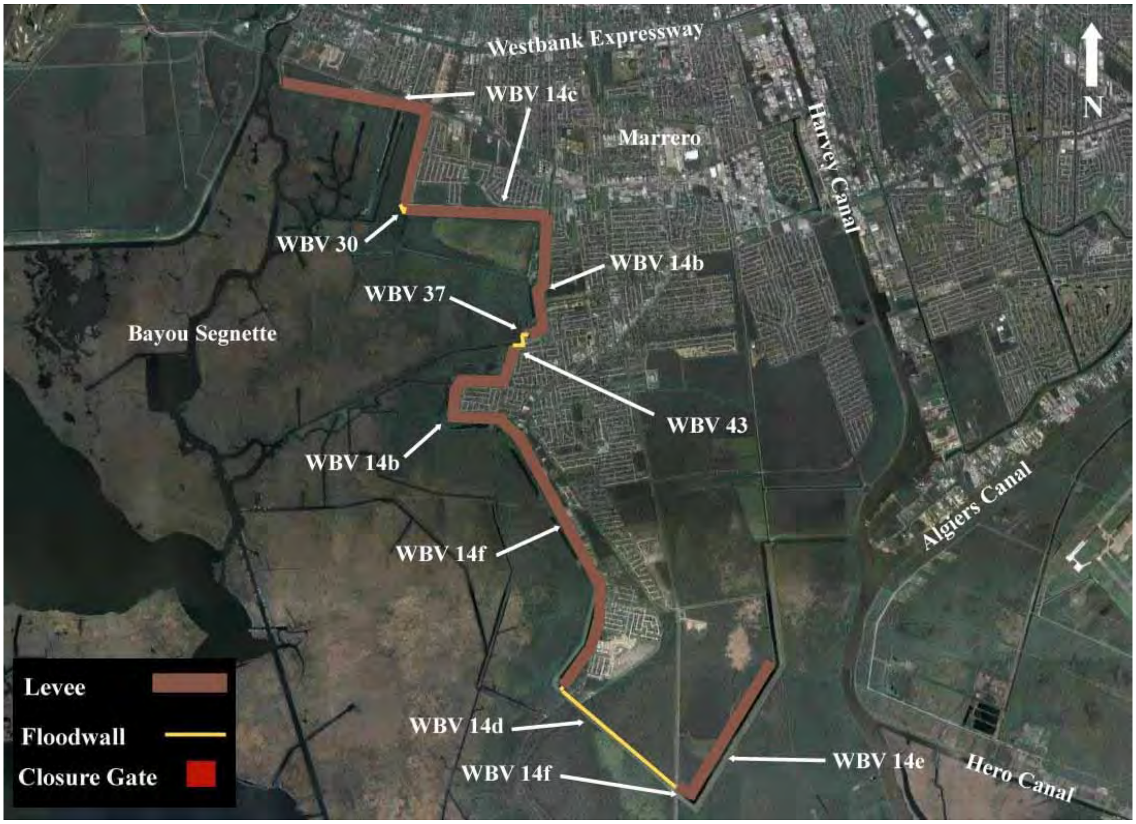

Table 2-14a. Materials Quantities for Construction Reaches in IER #14

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
WBV14b.2	520,000							200
WBV14c.2	1,350,000							100
WBV14d	120,000	7,500	11,300	202,700			96,900	
WBV14e.2	570,000	100	200					
WBV14f.2	188,000	600	800					
WBV14i	210,000							
WBV30	4,000	200	300	24,400	25,600			1,200
WBV37	4,000	2,500	3,700	29,900	13,600		12,900	800

Table 2-14b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #14

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV14b.2	170	Sep-09	52,000	920	364,000	6,420	104,000	1,840
WBV14c.2	330	Dec-09	135,000	1,230	945,000	8,590	270,000	2,450
WBV14d	580	Jul-09	12,000	60	84,000	430	24,000	120
WBV14e.2	240	Sep-09	57,000	710	399,000	4,990	114,000	1,430
WBV14f.2	270	Aug-09	18,800	210	131,600	1,460	37,600	420
WBV14i	240	Sep-09	21,000	260	147,000	1,840	42,000	530
WBV30	450	Aug-09	400	LT10	2,800	20	800	LT10
WBV37	730	Mar-10	400	LT10	2,800	10	800	LT10

Table 2-14c. Steel Demand (Tons) by Project Period in IER #14

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV14b.2	170	Sep-09						
WBV14c.2	330	Dec-09						
WBV14d	580	Jul-09	4,050	20				
WBV14e.2	240	Sep-09						
WBV14f.2	270	Aug-09						
WBV14i	240	Sep-09						
WBV30	450	Aug-09	1,630	10				
WBV37	730	Mar-10	1,200	LT10				

Table 2-14d. Concrete Demand (Cubic Yards) by Project Period in IER #14

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV14b.2	170	Sep-09						
WBV14c.2	330	Dec-09						
WBV14d	580	Jul-09	1,500	LT10	2,990	20	2,990	20
WBV14e.2	240	Sep-09	20	LT10	40	LT10	40	LT10
WBV14f.2	270	Aug-09	110	LT10	220	LT10	220	LT10
WBV14i	240	Sep-09						
WBV30	450	Aug-09	30	LT10	70	LT10	70	LT10
WBV37	730	Mar-10	490	LT10	980	LT10	980	LT10

Table 2-14e. Aggregate Demand (Tons) by Project Period in IER #14

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV14b.2	170	Sep-09						
WBV14c.2	330	Dec-09						
WBV14d	580	Jul-09	2,260	10	4,530	20	4,530	20
WBV14e.2	240	Sep-09	30	LT10	70	LT10	70	LT10
WBV14f.2	270	Aug-09	170	LT10	340	LT10	340	LT10
WBV14i	240	Sep-09						
WBV30	450	Aug-09	50	LT10	100	LT10	100	LT10
WBV37	730	Mar-10	740	LT10	1,490	LT10	1,490	LT10

Table 2-14f. Concrete Pile Demand (Tons) by Project Period in IER #14

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV14b.2	170	Sep-09						
WBV14c.2	330	Dec-09						
WBV14d	580	Jul-09	25,880	130				
WBV14e.2	240	Sep-09						
WBV14f.2	270	Aug-09						
WBV14i	240	Sep-09						
WBV30	450	Aug-09						
WBV37	730	Mar-10	3,440	10				

Table 2-14g. Rock Demand (Tons) by Project Period in IER #14

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV14b.2	170	Sep-09					170	LT10
WBV14c.2	330	Dec-09					110	LT10
WBV14d	580	Jul-09						
WBV14e.2	240	Sep-09						
WBV14f.2	270	Aug-09						
WBV14i	240	Sep-09						
WBV30	450	Aug-09					1,160	LT10
WBV37	730	Mar-10					840	LT10

2.15 IER #15 – Lake Cataouatche Levee, Jefferson Parish, Louisiana

The proposed actions for IER #15 would increase the elevation of approximately 8 miles of the Lake Cataouatche Levee and the Lake Cataouatche Pumping Station fronting protection to meet the 100-year level of risk reduction. Details of the proposed action are available in the Final IER at www.nolaenvironmental.gov.

Individual contracts included in IER 15 are listed below, and figure 2-15 provides an overview of the projects.

WBV15a.2	Lake Cataouatche PS to Segnette State Park - Phase 2
WBV15b.2	Lake Cataouatche PS Fronting Protection, Modifications - Phase 2
WBV17b.1	Station 160+00 to Hwy 90 - Phase 1
WBV17b.2	Station 160+00 to Hwy 90 - Phase 2
WBV18.2	Hwy 90 to Lake Cataouatche PS - Phase 2

Figure 2-15. IER #15 Project Area

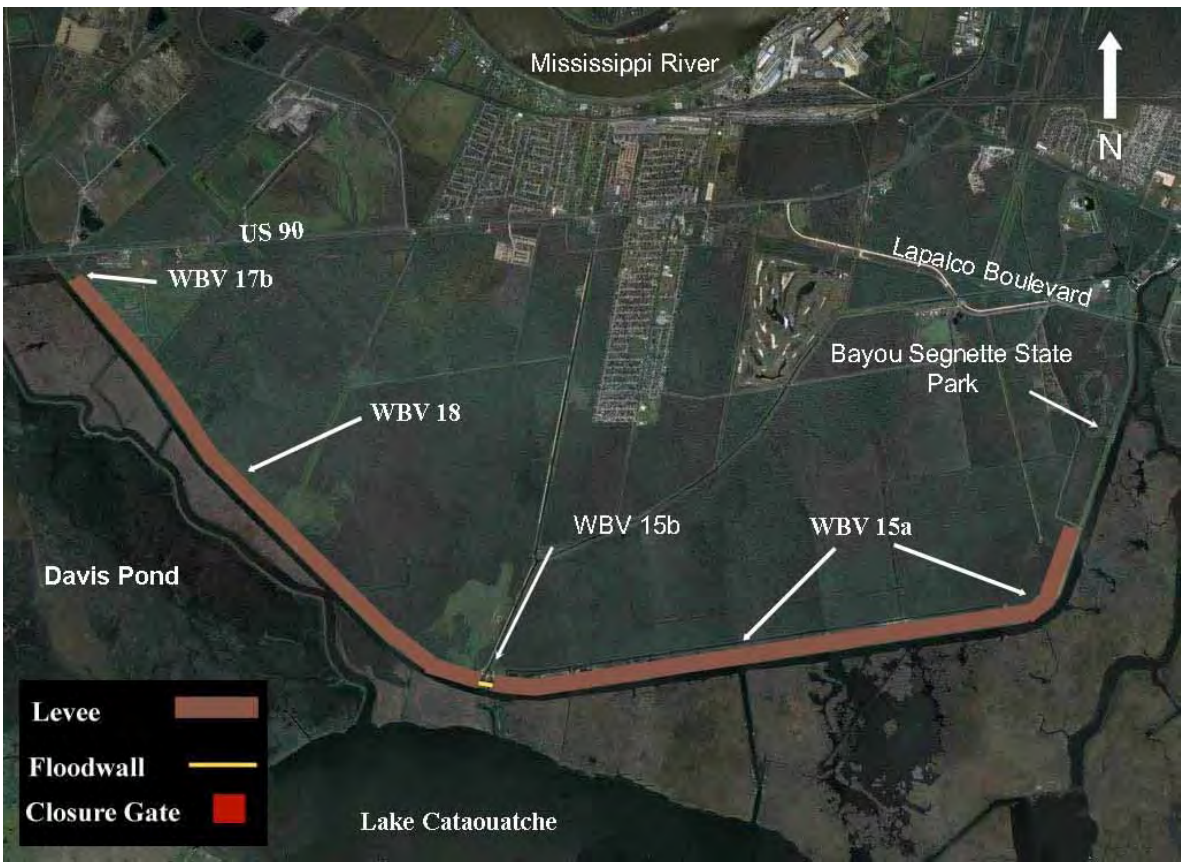

Table 2-15a. Materials Quantities for Construction Reaches in IER #15

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
WBV15a.2	1,284,000							
WBV15b.2		4,700	7,100	22,400	91,600			
WBV17b.1	500,000							
WBV17b.2	160,000							
WBV18.2	1,880,000							

Table 2-15b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #15

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV15a.2	430	Nov-09	128,400	900	898,800	6,270	256,800	1,790
WBV15b.2	550	Apr-09						
WBV17b.1	560	Mar-08	50,000	270	350,000	1,880	100,000	540
WBV17b.2	160	Dec-09	16,000	300	112,000	2,100	32,000	600
WBV18.2	550	Aug-09	188,000	1,030	1,316,000	7,180	376,000	2,050

Table 2-15c. Steel Demand (Tons) by Project Period in IER #15

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV15a.2	430	Nov-09						
WBV15b.2	550	Apr-09	4,520	20				
WBV17b.1	560	Mar-08						
WBV17b.2	160	Dec-09						
WBV18.2	550	Aug-09						

Table 2-15d. Concrete Demand (Cubic Yards) by Project Period in IER #15

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV15a.2	430	Nov-09						
WBV15b.2	550	Apr-09	930	LT10	1,870	10	1,870	10
WBV17b.1	560	Mar-08						
WBV17b.2	160	Dec-09						
WBV18.2	550	Aug-09						

Table 2-15e. Aggregate Demand (Tons) by Project Period in IER #15

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV15a.2	430	Nov-09						
WBV15b.2	550	Apr-09	1,410	LT10	2,820	20	2,820	20
WBV17b.1	560	Mar-08						
WBV17b.2	160	Dec-09						
WBV18.2	550	Aug-09						

None of the projects require concrete pile or rock for construction. Tables 2-15f and 2-15g have been omitted.

2.16 IER #16 – Western Tie-In, Jefferson and St. Charles Parishes, Louisiana

The proposed actions for IER #16 would require construction of new levee, floodwall, and closure structures to complete the western terminus of the West Bank and Vicinity Project; although authorized, the western tie in (connecting to the Mississippi River Levee) was never completed. The proposed action is an alignment south of Hwy 90 and south of the Outer Cataouatche Canal and then north along the eastern side of the Davis Pond Freshwater Diversion Canal to the Mississippi River Levee. The western tie in is being completed under six separate construction projects: WBV 70, 71, 72, 73, 74, and 75. Details of the proposed action are available at www.nolaenvironmental.gov.

Individual contracts included in IER 16 are listed below, and figure 2-16 provides an overview of the projects.

WBV70	Western Tie-In Levees (South)
WBV71	Western Tie-In Levees (North)
WBV72	Western Tie-In Levees (East - West)
WBV73	Western Tie-In Hwy 90 X-ing
WBV74	Western Tie-In Sector Gate / Drainage
WBV75	Western Tie-In Railroad

Figure 2-16. IER #16 Project Area

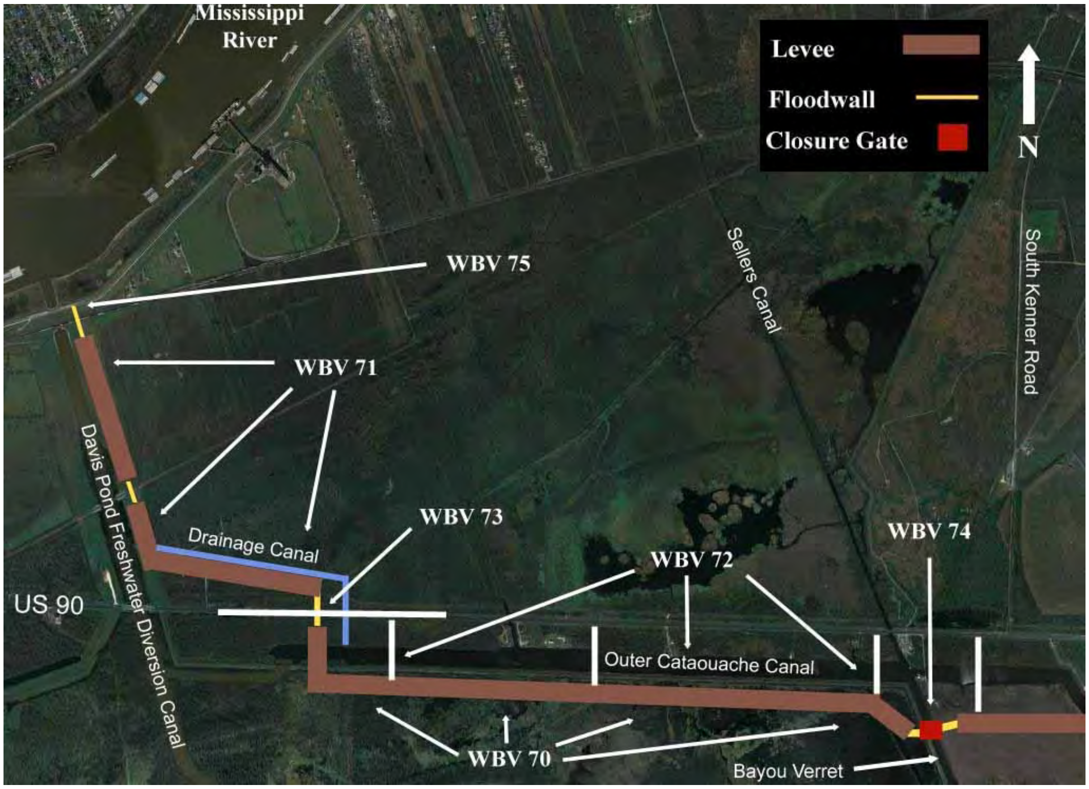

Table 2-16a. Materials Quantities for Construction Reaches in IER #16

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
WBV70								1,586,800
WBV71	150,000							
WBV72	3,000,000							1,600
WBV73	170,000	10,100	15,300	27,900	37,600		66,500	12,800
WBV74		5,500	8,400	102,800	39,600			6,400
WBV75		700	1,000	16,900	5,200		5,700	100

Table 2-16b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #16

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV70	240	Aug-09						
WBV71	150	Sep-09	15,000	300	105,000	2,100	30,000	600
WBV72	450	Jan-10	300,000	2,000	2,100,000	14,000	600,000	4,000
WBV73	540	Nov-09	17,000	90	119,000	660	34,000	190
WBV74	600	Nov-09						
WBV75	150	Sep-09						

Table 2-16c. Steel Demand (Tons) by Project Period in IER #16

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV70	240	Aug-09						
WBV71	150	Sep-09						
WBV72	450	Jan-10						
WBV73	540	Nov-09	2,230	10				
WBV74	600	Nov-09	3,820	20				
WBV75	150	Sep-09	570	10				

Table 2-16d. Concrete Demand (Cubic Yards) by Project Period in IER #16

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV70	240	Aug-09						
WBV71	150	Sep-09						
WBV72	450	Jan-10						
WBV73	540	Nov-09	2,020	10	4,040	20	4,040	20
WBV74	600	Nov-09	1,110	LT10	2,210	10	2,210	10
WBV75	150	Sep-09	140	LT10	270	LT10	270	LT10

Table 2-16e. Aggregate Demand (Tons) by Project Period in IER #16

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV70	240	Aug-09	317,360	3,970	634,720	7,930	634,720	7,930
WBV71	150	Sep-09						
WBV72	450	Jan-10						
WBV73	540	Nov-09	3,050	20	6,100	30	6,100	30
WBV74	600	Nov-09	1,670	LT10	3,340	20	3,340	20
WBV75	150	Sep-09	210	LT10	410	LT10	410	LT10

Table 2-16f. Concrete Pile Demand (Tons) by Project Period in IER #16

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV70	240	Aug-09						
WBV71	150	Sep-09						
WBV72	450	Jan-10						
WBV73	540	Nov-09	17,750	100				
WBV74	600	Nov-09						
WBV75	150	Sep-09	1,530	30				

Table 2-16g. Rock Demand (Tons) by Project Period in IER #16

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV70	240	Aug-09						
WBV71	150	Sep-09						
WBV72	450	Jan-10					1,600	10
WBV73	540	Nov-09					12,750	70
WBV74	600	Nov-09					6,400	30
WBV75	150	Sep-09					140	LT10

2.17 IER #17 – Company Canal Floodwall, Jefferson Parish, Louisiana

The proposed action for IER #17 would provide 100-year level of risk reduction for the Company Canal Floodwall from the Bayou Segnette State Park to the New Westwego Pumping Station. The existing floodwall is approximately 15,000 feet long and includes fronting protection for two pumping stations. A segment of the proposed action is on a new alignment; details of the proposed action are available in the Final IER at www.nolaenvironmental.gov.

Individual contracts included in IER 17 are listed below, and figure 2-17 provides an overview of the projects.

WBV16.2	Bayou Segnette Complex
WBV16b	Segnette PS Fronting Protection and Modifications
WBV20	New Westwego PS Fronting Protection and Modifications
WBV21	Old Westwego PS Fronting Protection and Modifications
WBV22	Westwego Floodwall
WBV24	Segnette State Park Floodwall

Figure 2-17. IER # 17 Project Area

Table 2-17a. Materials Quantities for Construction Reaches in IER #17

Reach	Earthen Fill (CY)	Concrete (CY)	Aggregate (Tons)	Sheet Pile (SF)	H Pile (LF)	Pipe Pile (LF)	Concrete Pile (LF)	Rock (Tons)
WBV16.2	194,000	11,500	17,400	118,200	112,400	2,300		9,700
WBV16b		3,900	5,900	27,200	27,800	8,000		700
WBV20		2,200	3,300	29,700	25,700	1,900		
WBV21		1,100	1,700	24,200	15,000			300
WBV22		3,100	4,700	42,800	73,000		200	1,800
WBV24	45,000	20,000	30,200	350,000	125,000	100,000		

Table 2-17b. Earthen Fill Demand (Cubic Yards) by Project Period in IER #17

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV16.2	610	Feb-10	19,400	100	135,800	670	38,800	190
WBV16b	600	Dec-09						
WBV20	450	Nov-09						
WBV21	400	Nov-09						
WBV22	220	Nov-09						
WBV24	640	Nov-09	4,500	20	31,500	150	9,000	40

Table 2-17c. Steel Demand (Tons) by Project Period in IER #17

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV16.2	610	Feb-10	7,510	40				
WBV16b	600	Dec-09	2,280	10				
WBV20	450	Nov-09	1,860	10				
WBV21	400	Nov-09	1,150	LT10				
WBV22	220	Nov-09	4,100	60				
WBV24	640	Nov-09	18,860	90				

Table 2-17d. Concrete Demand (Cubic Yards) by Project Period in IER #17

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV16.2	610	Feb-10	2,300	10	4,610	20	4,610	20
WBV16b	600	Dec-09	790	LT10	1,570	LT10	1,570	LT10
WBV20	450	Nov-09	440	LT10	880	LT10	880	LT10
WBV21	400	Nov-09	220	LT10	440	LT10	440	LT10
WBV22	220	Nov-09	620	LT10	1,240	20	1,240	20
WBV24	640	Nov-09	4,000	20	8,000	40	8,000	40

Table 2-17e. Aggregate Demand (Tons) by Project Period in IER #17

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV16.2	610	Feb-10	3,480	20	6,960	30	6,960	30
WBV16b	600	Dec-09	1,190	LT10	2,380	10	2,380	10
WBV20	450	Nov-09	660	LT10	1,330	LT10	1,330	LT10
WBV21	400	Nov-09	340	LT10	670	LT10	670	LT10
WBV22	220	Nov-09	930	10	1,870	30	1,870	30
WBV24	640	Nov-09	6,050	30	12,100	60	12,100	60

Table 2-17f. Concrete Pile Demand (Tons) by Project Period in IER #17

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV16.2	610	Feb-10						
WBV16b	600	Dec-09						
WBV20	450	Nov-09						
WBV21	400	Nov-09						
WBV22	220	Nov-09	40	LT10				
WBV24	640	Nov-09						

Table 2-17g. Rock Demand (Tons) by Project Period in IER #17

			First Third		Second Third		Final Third	
Reach	Project Duration	NTP Mo & Yr	Total In Period	Total Per Day	Total In Period	Total Per Day	Total In Period	Total Per Day
WBV16.2	610	Feb-10					9,690	50
WBV16b	600	Dec-09					670	LT10
WBV20	450	Nov-09						
WBV21	400	Nov-09					330	LT10
WBV22	220	Nov-09					1,750	20
WBV24	640	Nov-09						

3 Transportation Alternatives

Both NEPA and the President's Council on Environmental Quality (CEQ) regulations require that the CEMVN consider and evaluate appropriate alternatives to proposed actions that have the potential for significant effects on the environment. Section 102(2)(E) of NEPA provides that all agencies of the Federal Government shall "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." Given the quantities of materials to be moved, the accessibility of different modes of transportation, the origin and destination pairs, and different routes that could be used, thousands of 'alternatives' could be identified and assessed.

While CEMVN is not required to select any particular materials transportation alternative, and the examination of alternatives need not be exhaustive, it must be sufficient to demonstrate reasoned decision making. Four transportation alternatives have been developed to provide a range of meaningfully different alternatives for assessing. They are:

- Maximum Truck Use (3.1),
- Maximum Barge Use (3.2),
- Maximum Rail Use (3.3), and
- The Likely Scenario (3.4)

When considering the differences among the alternatives, bear in mind that the vast majority of all trips necessary to construct the HSRRS are for the transportation of borrow material that is not able to be moved by rail or barge; borrow can only be moved by truck.

The alternatives were developed assuming that the materials movement would still be bound by rational decision-making. For example, when the price of material being transported is low relative to the cost of transportation, barge transportation was assumed (e.g., rock being brought to greater New Orleans).

3.1 Maximum Truck Use

The Maximum Truck Use Scenario assumes that no material will be moved by any transportation mode other than truck. Assumptions used in the assignment of materials origins are described below.

3.1.1 Earthen Fill

Trucks would be used to haul earthen fill from assigned government-furnished borrow sites designated by CEMVN (USACE, 2009) to construction sites (roughly 21 million CY). Contractor furnished earthen fill (roughly 9 million CY) cannot be assigned to specific construction projects until those contracts are awarded. Therefore, the contractor furnished earthen fill was assumed to be truck hauled 28.3 miles one-way.[5, 6]

3.1.2 Steel

Under maximum truck use, all Sheet Pile, H-Pile, and Pipe Pile would be shipped by truck from the manufacturing facility to the powder-coating facility, and then to construction sites. Sheetpile was assumed to originate in Petersburg, Virginia and Blytheville, Arkansas shipped directly to New Orleans, LA by truck (an average of the distances from both origins was used). H-pile and Pipe Pile were assumed to be shipped via truck from Blytheville, Arkansas.[7]

3.1.3 Concrete and Aggregate

Under maximum truck use, the contracts requiring less than 25,000 CY of concrete would have the aggregate trucked from Covington, Louisiana and Bogalusa, Louisiana to local ready-mix plants.[8] Ready-mix concrete would then be supplied by truck from major local ready-mix plants closest to the project. For contracts requiring more than 25,000 CY of concrete, it was assumed that batch plants would be used at the construction sites. In these cases, aggregate would be trucked directly to the batch plants from Covington, Louisiana and Bogalusa, Louisiana.

3.1.4 Stone

Under maximum truck use, all stone and rock would be trucked to construction sites in New Orleans from Pine Bluff, Arkansas.[9]

[5] Distance based on the median distance from the 24 contractor furnished sites in IERs 19, 23, 26, 29, and 30 to center city New Orleans using Google Maps.
[6] These miles traveled are included in total miles, for use in estimating emissions and accident rates. These vehicle trips cannot be routed or included in the congestion modeling because “origin-destination” pairings cannot be assigned until the contracts are issued. However, an escalation factor will be applied to the congestion modeling in order to estimate the effects of the contractor furnished trips.
[7] The analyses assumed the use of sheetpile suppliers from Blytheville, AR and Petersburg, VA that had provided specialty sheetpile to CEMVN for initial HSDRRS construction projects. Although the supply of other types of steel products (e.g., H-pile, pipe pile) could come from a myriad of other locations, for the purpose of analysis, it was assumed that all steel products would originate from Blytheville, AR and Petersburg, VA. While this simplification may not reflect the distances for these steel products outside of the greater New Orleans area, local miles traveled for the delivery of steel within greater New Orleans has been accurately assessed.
[8] At the time of this analysis, the majority of aggregate used for concrete in initial HSDRRS construction projects was provided from facilities in or near Covington, Louisiana and Bogalusa, Louisiana.
[9] At the time of this analysis, the majority of stone and rock used for initial HSDRRS construction projects originated from Pine Bluff, AR.

3.1.5 Concrete Pile

Under maximum truck use, all Concrete Pile would be trucked directly to construction sites from Pass Christian, Mississippi.

3.1.6 Maximum Truck Use - Miles Traveled By Mode and Material

Tables 3-1 to 3-5 provide summary information on miles, trips, and mode of transportation used to transport materials to project sites. These tables are:

- Table 3-1: Maximum Truck Use - Miles Traveled By Mode and Material shows local and non-local round-trip miles required to deliver project materials. Local and non-local miles are provided for each material class.
- Table 3-2. Maximum Truck Use - Trips By Mode and Material shows the total number of trips required to deliver project materials. Trips are provided for each material class.
- Table 3-3. Summary of Local Truck Miles By IER parses the local miles data provided in table 3-1, aggregated to the IER level.
- Table 3-4. Summary Table of Non-Local Truck Miles By IER parses the non-local miles data provided in table 3-1, aggregated to the IER level.
- Table 3-5. Summary Table of Miles By Mode of Transportation shows the number of local truck miles, non-local truck miles, barge miles, and rail miles incurred in the transportation of project materials. These data also are aggregated to the IER level.

In addition to the tables, figures 3-1, 3-2, and 3-3 graphically depict the magnitude of, and differences between, truck miles, truck trips, and delivery timing for all materials included in the analysis.

Figure 3-1 Truck Miles Traveled shows both local and non-local truck round trip miles traveled for the delivery of materials to project sites. Data used to generate this figure are directly traceable to table 3-1. As shown in the figure, the local miles traveled for the delivery of earthen fill, or borrow (over 57 million miles), vastly outnumber the local miles traveled for the delivery of all other project materials. In this scenario, non-local miles traveled for the delivery of steel also are significant, at a total of nearly 48 million miles.

Figure 3-2 Truck Trips shows all truck trips summarized by material. Data used to generate this figure are directly traceable to table 3-2. As shown in the figure, the number of borrow deliveries (over 2 million) is significantly higher than the number of deliveries for all other materials combined (approximately 310,000).

Figure 3-3 Truck Trips Distributed Across Schedule shows truck deliveries per day for all project materials distributed across a master schedule, beginning on 1 January 2009. The distribution of truck trips across the schedule is based on:

- individual project Notice to Proceed date;
- individual project expected construction duration; and
- individual project sequencing of demand timing for materials (see introduction to section 2 for a discussion of the separation of materials demand schedule separation).

The figure shows daily borrow deliveries of:

- over 1,000 for 100 weeks;
- over 2,000 for 60 weeks;
- over 3,000 for 40 weeks; and
- over 4,000 for 10 weeks.

Figure 3-3 also depicts the magnitude of the differences between the number of borrow deliveries and the number of deliveries for all other materials combined.

Table 3-1. Maximum Truck Use - Miles Traveled By Mode and Material

	Quantity	Units	Truck Miles (Local)	Truck Miles (Non-Local)	Barge Miles	Train Miles
Borrow (trucked)	29,616,300	CY	57,270,000			
Steel Sheet Pile (trucked)	338,300	Tons	1,116,900	24,061,900		
Steel H-Pile (trucked)	434,000	Tons	1,493,300	20,429,000		
Steel Pipe Pile (trucked)	67,200	Tons	237,800	3,165,900		
Steel (SP,HP,PP barged to project site)		Tons				
Steel (SP,HP,PP barged & intermodal)		Tons				
Steel (SP,HP,PP by rail & intermodal)		Tons				
Concrete Pile (trucked)	281,300	Tons	697,300	1,327,700		
Concrete Pile (barged to project site)		Tons				
Concrete Pile (barged & intermodal)		Tons				
Concrete Pile (by rail & intermodal)		Tons				
Ready-Mix Concrete	283,500	CY	408,100			
On-Site Batch Concrete	854,300	CY				
Aggregate (barged to project batch plants)		Tons				
Aggregate (barged to suppliers)		Tons				
Trucked: suppliers to ready-mix plants						
Trucked: suppliers to project						
Aggregate (by rail to suppliers)		Tons				
Trucked: suppliers to ready-mix plants						
Trucked: suppliers to project						
Aggregate (trucked to project)	2,878,500	Tons	4,000,600	4,353,800		
Aggregate (trucked to ready-mix plants)	428,700	Tons	670,600	232,400		
Rock (barged to project site)		Tons				
Rock (barged & intermodal)		Tons				
Rock (by rail & intermodal)		Tons				
Rock (trucked to project site)	1,733,200	Tons	2,381,700	28,579,100		
TOTAL MILES			68,276,300	82,149,800		

Table 3-2. Maximum Truck Use - Trips By Mode and Material

	Quantity	Units	Truck Trips	Barge Trips	Train Trips
Borrow (trucked)	29,616,300	CY	2,042,500		
Steel Sheet Pile (trucked)	338,300	Tons	16,900		
Steel H-Pile (trucked)	434,000	Tons	21,700		
Steel Pipe Pile (trucked)	67,200	Tons	3,400		
Steel (SP,HP,PP barged to project site)		Tons			
Steel (SP,HP,PP barged & intermodal)		Tons			
Steel (SP,HP,PP by rail & intermodal)		Tons			
Concrete Pile (trucked)	281,300	Tons	14,100		
Concrete Pile (barged to project site)		Tons			
Concrete Pile (barged & intermodal)		Tons			
Concrete Pile (by rail & intermodal)		Tons			
Ready-Mix Concrete	283,500	CY	28,400		
On-Site Batch Concrete	854,300	CY			
Aggregate (barged to project batch plants)		Tons			
Aggregate (barged to suppliers)		Tons			
Trucked from suppliers to ready-mix plants					
Trucked from suppliers to project					
Aggregate (by rail to suppliers)		Tons			
Trucked from suppliers to ready-mix plants					
Trucked from suppliers to project					
Aggregate (trucked to project)	2,878,500	Tons	127,900		
Aggregate (trucked to ready-mix plants)	428,700	Tons	19,100		
Rock (barged to project site)		Tons			
Rock (barged & intermodal)		Tons			
Rock (by rail & intermodal)		Tons			
Rock (trucked to project site)	1,733,200	Tons	77,000		
TOTAL TRIPS			2,351,000		

Figure 3-1 Truck Miles Traveled – Maximum Truck Scenario

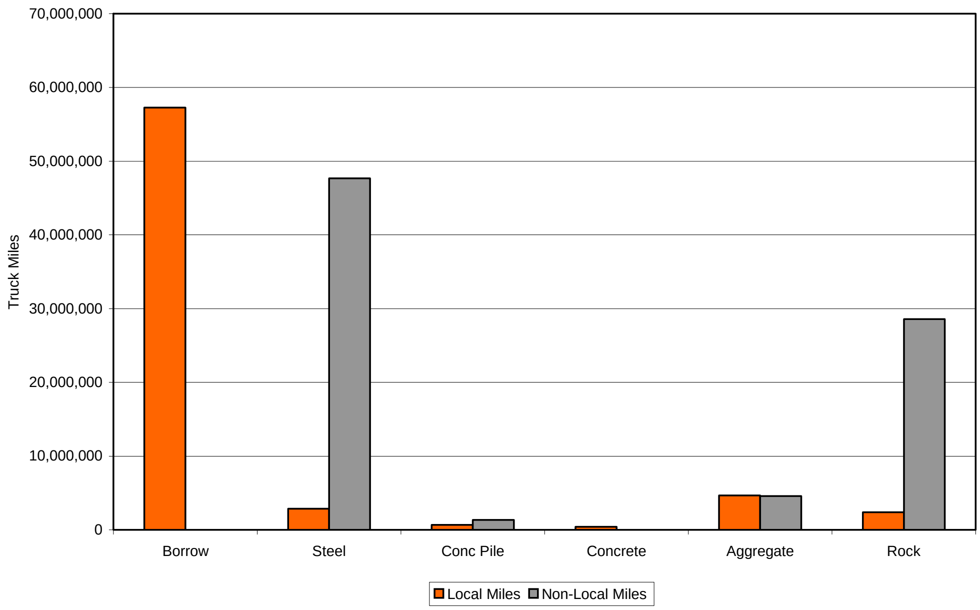

Figure 3-2 Truck Trips – Maximum Truck Scenario

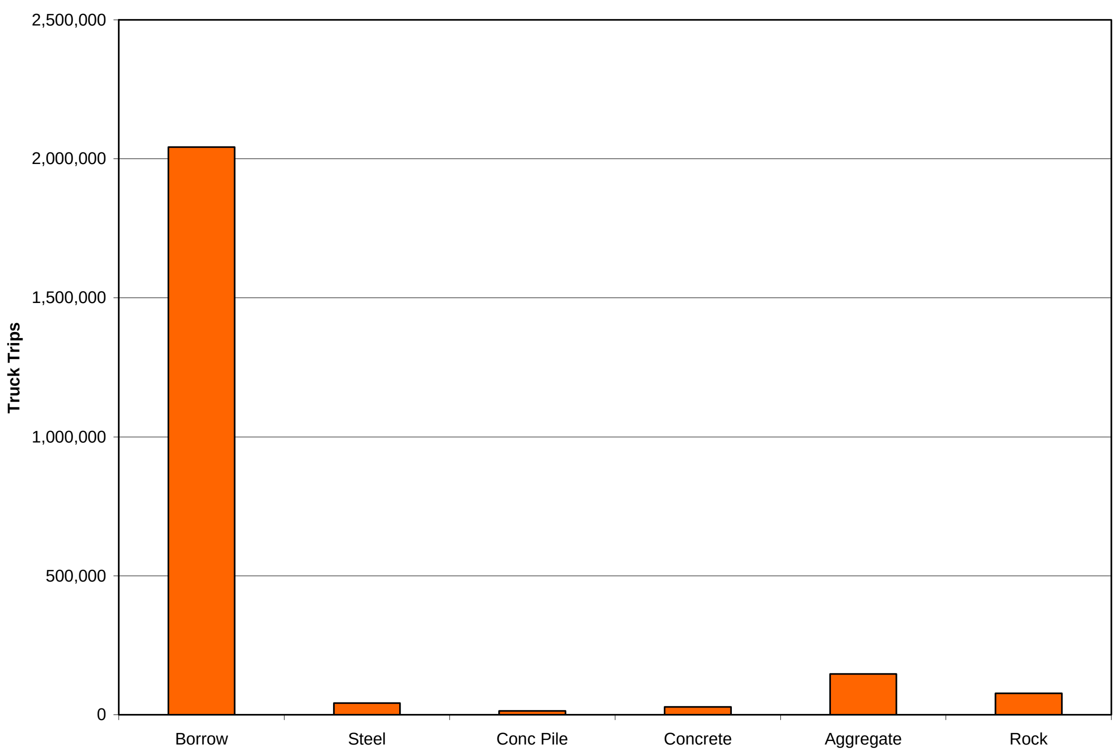

Figure 3-3 Truck Trips Distributed Across Schedule
Maximum Truck Scenario

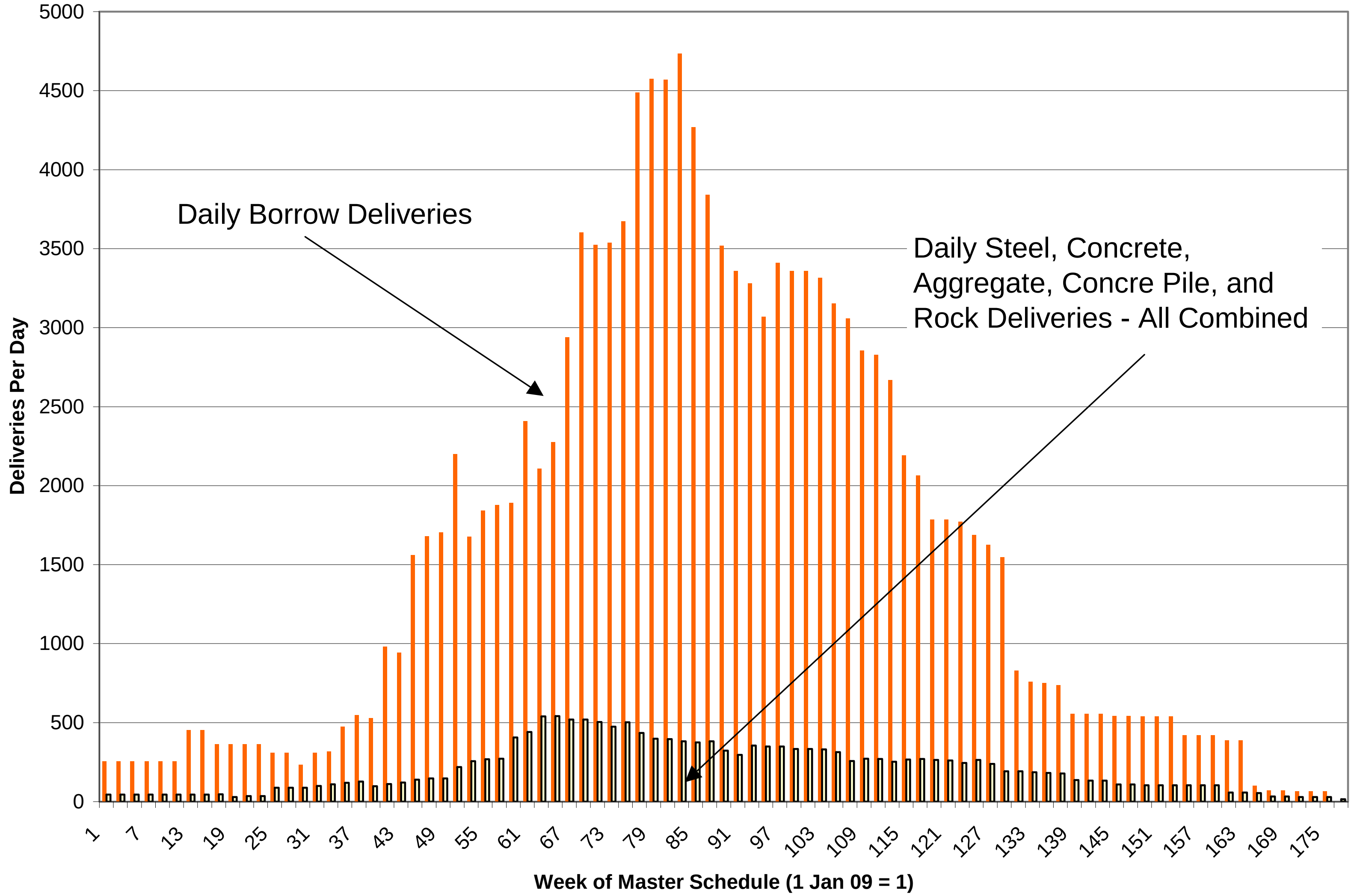

Table 3-3. Summary Table of Local Truck Miles By IER Maximum Truck Use

IER	Earthen Fill Truck Miles Local	Steel Truck Miles Local	Conc Pile Truck Miles Local	Concrete Truck Miles Local	Aggregate Truck Miles Local	Rock Truck Miles Local	Total Truck Miles Local
1	2,764,800	32,720		16,270	60,740		2,874,530
2	305,600	128,350			483,200	58,980	976,130
3	1,604,400	38,680	97,480	3,770	102,090	431,890	2,278,310
4	1,376,900	34,220	14,030	34,340	60,530	1,890	1,521,910
5		50,230		16,120	26,140		92,490
6	323,600	224,460		27,080	100,800	127,850	803,790
7	20,465,100	18,830		18,810	34,310	198,400	20,735,450
8	800	16,370		7,630	35,200	20,590	80,590
9	139,700	24,180		37,240	28,390		229,510
10	7,134,800	1,205,560	16,310	23,740	1,107,240	549,000	10,036,650
11		139,140	148,900		269,970	563,060	1,121,070
12	1,702,000	733,660	233,490	129,430	1,067,510	377,610	4,243,700
13	2,680,200	21,720		15,160	11,830	1,670	2,730,580
14	4,497,000	26,730	110,250	14,740	25,490	3,780	4,677,990
15	2,013,800	14,060		10,380	11,030		2,049,270
16	11,961,900	20,710	76,740	29,650	1,096,410	26,640	13,212,050
17	299,100	118,460	130	23,710	150,320	20,360	612,080
Total	57,269,700	2,848,080	697,330	408,070	4,671,200	2,381,720	68,276,100

Table 3-4. Summary Table of Non-Local Truck Miles By IER Maximum Truck Use

IER	Earthen Fill Truck Miles Non-Local	Steel Truck Miles Non-Local	Conc Pile Truck Miles Non-Local	Concrete Truck Miles Non-Local	Aggregate Truck Miles Non-Local	Rock Truck Miles Non-Local	Total Truck Miles Non-Local
1		1,015,300			21,050		1,036,350
2		3,946,180			164,210	1,446,080	5,556,470
3		967,360	177,980		47,630	8,876,950	10,069,920
4		712,920	28,640		20,970	29,120	791,650
5		1,090,440			9,060		1,099,500
6		4,353,000			253,470	1,319,110	5,925,580
7		445,920			11,890	2,037,040	2,494,850
8		245,680			12,200	217,930	475,810
9		312,780			9,840		322,620
10		16,974,780	24,420		1,743,080	4,566,770	23,309,050
11		1,832,780	587,060		974,190	5,428,140	8,822,170
12		12,459,340	280,050		1,237,850	4,056,950	18,034,190
13		268,020			4,100	13,850	285,970
14		449,080	138,390		8,840	37,540	633,850
15		224,420			3,820		228,240
16		384,060	90,990		13,360	344,580	832,990
17		1,974,780	190		50,700	205,000	2,230,670
Total		47,656,840	1,327,720		4,586,260	28,579,060	82,149,880

Table 3-5. Summary Table of Miles By Mode of Transportation Maximum Truck Use

IER	Total Truck Miles Local	Total Truck Miles Non-Local	Total Barge Miles	Total Rail Miles	Total Miles
1	2,874,600	1,036,350			3,910,950
2	976,100	5,556,470			6,532,570
3	2,278,300	10,069,920			12,348,220
4	1,521,900	791,650			2,313,550
5	92,500	1,099,500			1,192,000
6	803,900	5,925,580			6,729,480
7	20,735,400	2,494,850			23,230,250
8	80,600	475,810			556,410
9	229,500	322,620			552,120
10	10,036,700	23,309,050			33,345,750
11	1,121,100	8,822,170			9,943,270
12	4,243,900	18,034,190			22,278,090
13	2,730,600	285,970			3,016,570
14	4,678,200	633,850			5,312,050
15	2,049,300	228,240			2,277,540
16	13,212,100	832,990			14,045,090
17	612,000	2,230,670			2,842,670
Total	68,276,700	82,149,880			150,426,580

3.2 Maximum Barge Use

The Maximum Barge Use Scenario routes materials from their point of origin to greater New Orleans on barges to the extent that such an assumption is reasonable. For all materials other than borrow, this assumption is valid in this scenario. That said, trucks remain a major mode of transportation under this scenario, even for materials shipped on barges. This is because many projects do not have direct water access, and materials would need to be transported from a New Orleans marine terminal to the project site via truck. Those projects with direct water access would receive materials (other than borrow) delivered directly by barge.

3.2.1 Earthen Fill

Trucks would be used to haul earthen fill from assigned government-furnished borrow sites designated by CEMVN (USACE, 2009) to construction sites (roughly 21 million CY). Contractor furnished earthen fill (roughly 9 million CY) cannot be assigned to specific construction projects until those contracts are awarded. Therefore, the contractor furnished earthen fill was assumed to be truck hauled 28.3 miles one-way.[10, 11]

3.2.2 Steel

Under the maximum barge use alternative, steel would be shipped by barge from Blytheville, Arkansas to destinations within greater New Orleans. Sheet Pile, H-Pile, and Pipe Pile supplied to contracts with direct water access to offload steel to construction sites (e.g., Chalmette Loop, IHNC, Harvey Canal) would be shipped from Blytheville, Arkansas directly to the construction site by barge. For maximum barge use, the Sheet Pile, H-pile and Pipe Pile for all other contracts would be shipped by barge from Blytheville, Arkansas to New Orleans marine terminals and unloaded for local truck delivery to the project sites.

3.2.3 Concrete and Aggregate

Under maximum barge use, it was assumed that projects that require less than 25,000 CY of concrete would be supplied by existing major local ready-mix plants. For these projects, the aggregate was assumed to be shipped by barge from Smithland, Kentucky to New Orleans marine terminals, unloaded onto trucks and driven to the local ready-mix plants. Once blended, the ready-mix concrete would then be driven to the construction project.

When construction contracts require more than 25,000 CY of concrete, new batch plants were assumed to be established at the project site. Contracts with direct water access were assumed to receive aggregate via barge from Smithland, Kentucky and blended with cement and water at the site. Those contracts needing more than 25,000 CY of concrete, but without direct water access were assumed to receive aggregate via truck from New Orleans marine terminals after barge transport from Smithland, Kentucky.

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[10] Distance based on the median distance from the 24 contractor furnished sites in IERs 19, 23, 26, 29, and 30 to center city New Orleans using Google Maps.

[11] These miles traveled are included in total miles, for use in estimating emissions and accident rates. These vehicle trips cannot be routed or included in the congestion modeling because "origin-destination" pairings cannot be assigned until the contracts are issued. However, an escalation factor will be applied to the congestion modeling in order to estimate the effects of the contractor furnished trips.

3.2.4 Stone

Under the maximum barge use alternative, stone would be shipped by barge to New Orleans from Pine Bluff, Arkansas. If direct water access to the construction project is available, rock would be barged directly to the site. All stone necessary for the foreshore protection projects on Lake Pontchartrain would be shipped by light-loaded 500-TON barges directly to the project.

If no direct water access is available at the construction project, stone would be barged from Pine Bluff, Arkansas to a New Orleans marine terminal, offloaded onto trucks and then trucked to the construction site.

3.2.5 Concrete Pile

Under the maximum barge use alternative, concrete pile would be shipped with barge from Pass Christian, Mississippi to projects with direct water access and offloaded at construction sites (e.g., Chalmette Loop, IHNC, Harvey Canal). Concrete pile for those projects without direct water access would be shipped by barge to a local New Orleans marine terminal for local delivery by truck.

3.2.6 Maximum Barge Use - Miles Traveled By Mode and Material

Tables 3-6 to 3-10 provide summary information on miles, trips, and mode of transportation used to transport materials to project sites. These tables are:

- Table 3-6: Maximum Barge Use - Miles Traveled By Mode and Material shows local and non-local round-trip miles required to deliver project materials. Local and non-local miles are provided for each material class. Table 3-6 also includes tons of each type of material shipped by barge directly to the project site, as well as tons of each type of material shipped to a marine terminal for off-loading onto trucks for final delivery to the project site.
- Table 3-7. Maximum Barge Use - Trips By Mode and Material shows the total number of trips required to deliver project materials. Trips are provided for each material class, by each mode of transportation.
- Table 3-8. Summary Table of Local Truck Miles By IER parses the local miles data provided in table 3-6, aggregated to the IER level. It is important to note that local truck miles will remain significant, even with barge delivery of all materials other than borrow.
- Table 3-9. Summary Table of Non-Local Truck Miles By IER parses the non-local truck miles data provided in table 3-6, aggregated to the IER level. Under this alternative, as shown in the table, non-local truck miles for all materials is zero.
- Table 3-10. Summary Table of Miles By Mode of Transportation shows the number of local truck miles, non-local truck miles, barge miles, and rail miles incurred in the transportation of project materials. These data also are aggregated to the IER level.

In addition to the tables, figures 3-4, 3-5, and 3-6 graphically depict the magnitude of, and differences between, truck miles, truck trips, and delivery timing for all materials included in the analysis.

Figure 3-4 Truck Miles Traveled shows both local and non-local truck round trip miles traveled for the delivery of materials to project sites. Non-local truck miles are zero for all materials.

Data used to generate this figure are directly traceable to table 3-6. As shown in the figure, the local miles traveled for the delivery of earthen fill, or borrow (over 57 million miles), vastly outnumber the local miles traveled for the delivery of all other project materials.

Figure 3-5 Truck Trips shows all truck trips summarized by material. Data used to generate this figure are directly traceable to table 3-7. As shown in the figure, the number of borrow deliveries (over 2 million) is significantly higher than the number of deliveries for all other materials combined (approximately 150,000).

Figure 3-6 Truck Trips Distributed Across Schedule shows truck deliveries per day for all project materials distributed across a master schedule, beginning on 1 January 2009. The distribution of truck trips across the schedule is based on:

- individual project Notice to Proceed date;
- individual project expected construction duration; and
- individual project sequencing of demand timing for materials (see introduction to section 2 for a discussion of the separation of materials demand schedule separation).

The figure shows daily borrow deliveries of:

- over 1,000 for 100 weeks;
- over 2,000 for 60 weeks;
- over 3,000 for 40 weeks; and
- over 4,000 for 10 weeks.

Figure 3-6 also depicts the magnitude of the differences between the number of borrow deliveries and the number of deliveries for all other materials combined.

Table 3-6. Maximum Barge Use - Miles Traveled By Mode and Material

	Quantity	Units	Truck Miles (Local)	Truck Miles (Non-Local)	Barge Miles	Train Miles
Borrow (trucked)	29,616,300	CY	57,270,000			
Steel Sheet Pile (trucked)		Tons				
Steel H-Pile (trucked)		Tons				
Steel Pipe Pile (trucked)		Tons				
Steel (SP,HP,PP barged to project site)	571,200	Tons			96,600	
Steel (SP,HP,PP barged & intermodal)	268,400	Tons	401,900		72,400	
Steel (SP,HP,PP by rail & intermodal)		Tons				
Concrete Pile (trucked)		Tons				
Concrete Pile (barged to project site)	229,000	Tons			4,800	
Concrete Pile (barged & intermodal)	52,300	Tons	49,300		500	
Concrete Pile (by rail & intermodal)		Tons				
Ready-Mix Concrete	283,500	CY	408,100			
On-Site Batch Concrete	854,300	CY				
Aggregate (barged to project batch plants)	1,219,600	Tons			203,300	
Aggregate (barged to suppliers)	500,800	Tons			153,900	
Trucked: suppliers to ready-mix plants			294,500			
Trucked: suppliers to project			38,700			
Aggregate (by rail to suppliers)		Tons				
Trucked: suppliers to ready-mix plants						
Trucked: suppliers to project						
Aggregate (trucked to project)	1,586,800	Tons	1,057,900			
Aggregate (trucked to ready-mix plants)		Tons				
Rock (barged to project site)	1,537,300	Tons			185,200	
Rock (barged & intermodal)	195,900	Tons	142,200		16,100	
Rock (by rail & intermodal)		Tons				
Rock (trucked to project site)		Tons				
TOTAL MILES			59,662,600		732,800	

Table 3-7. Maximum Barge Use - Trips By Mode and Material

	Quantity	Units	Truck Trips	Barge Trips	Train Trips
Borrow (trucked)	29,616,300	CY	2,042,500		
Steel Sheet Pile (trucked)		Tons			
Steel H-Pile (trucked)		Tons			
Steel Pipe Pile (trucked)		Tons			
Steel (SP,HP,PP barged to project site)	571,200	Tons		68	
Steel (SP,HP,PP barged & intermodal)	268,400	Tons	13,400	51	
Steel (SP,HP,PP by rail & intermodal)		Tons			
Concrete Pile (trucked)		Tons			
Concrete Pile (barged to project site)	229,000	Tons		58	
Concrete Pile (barged & intermodal)	52,300	Tons	2,600	6	
Concrete Pile (by rail & intermodal)		Tons			
Ready-Mix Concrete	283,500	CY	28,400		
On-Site Batch Concrete	854,300	CY			
Aggregate (barged to project batch plants)	1,219,600	Tons		107	
Aggregate (barged to suppliers)	500,800	Tons		81	
Trucked from suppliers to ready-mix plants			19,100		
Trucked from suppliers to project			3,200		
Aggregate (by rail to suppliers)		Tons			
Trucked from suppliers to ready-mix plants					
Trucked from suppliers to project					
Aggregate (trucked to project)	1,586,800	Tons	70,500		
Aggregate (trucked to ready-mix plants)		Tons			
Rock (barged to project site)	1,537,300	Tons		322	
Rock (barged & intermodal)	195,900	Tons	8,700	28	
Rock (by rail & intermodal)		Tons			
Rock (trucked to project site)		Tons			
TOTAL TRIPS			2,188,400	721	

Figure 3-4 Truck Miles Traveled – Maximum Barge Scenario

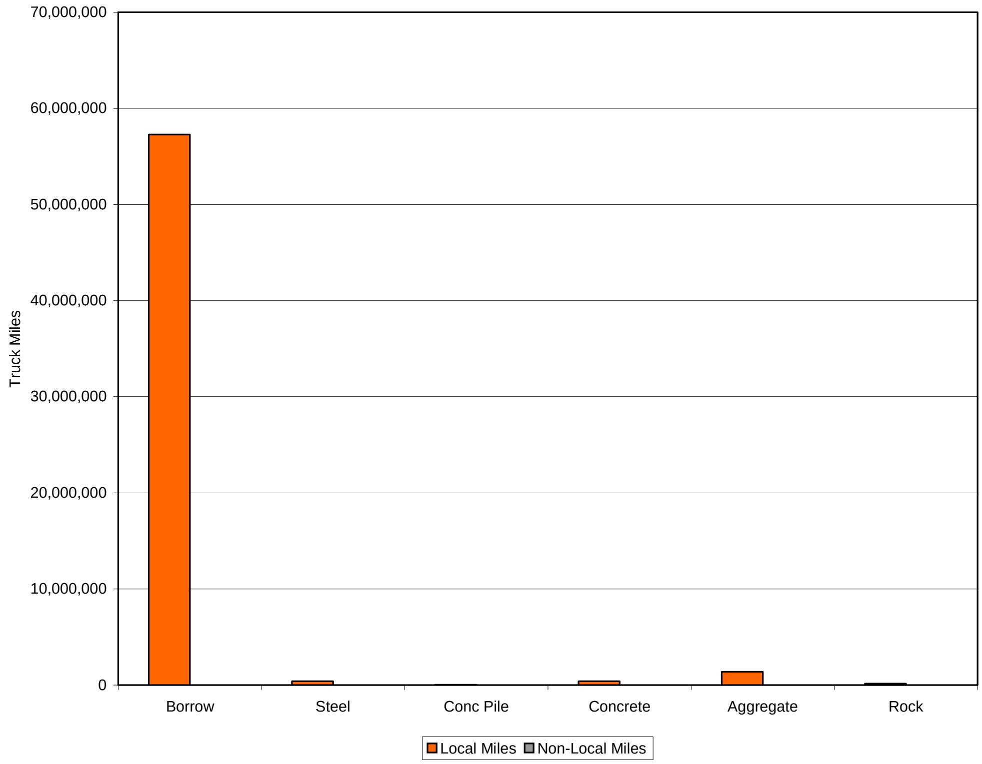

Figure 3-5 Truck Trips – Maximum Barge Scenario

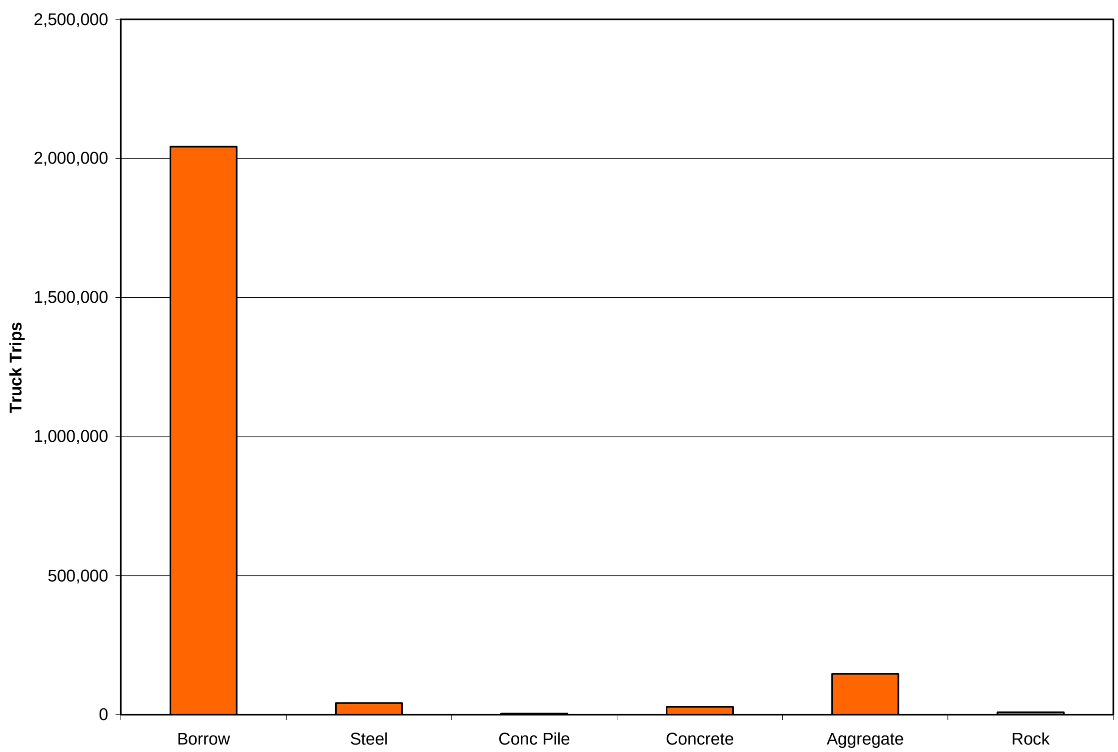

Figure 3-6 Truck Trips Distributed Across Schedule Maximum Barge Scenario

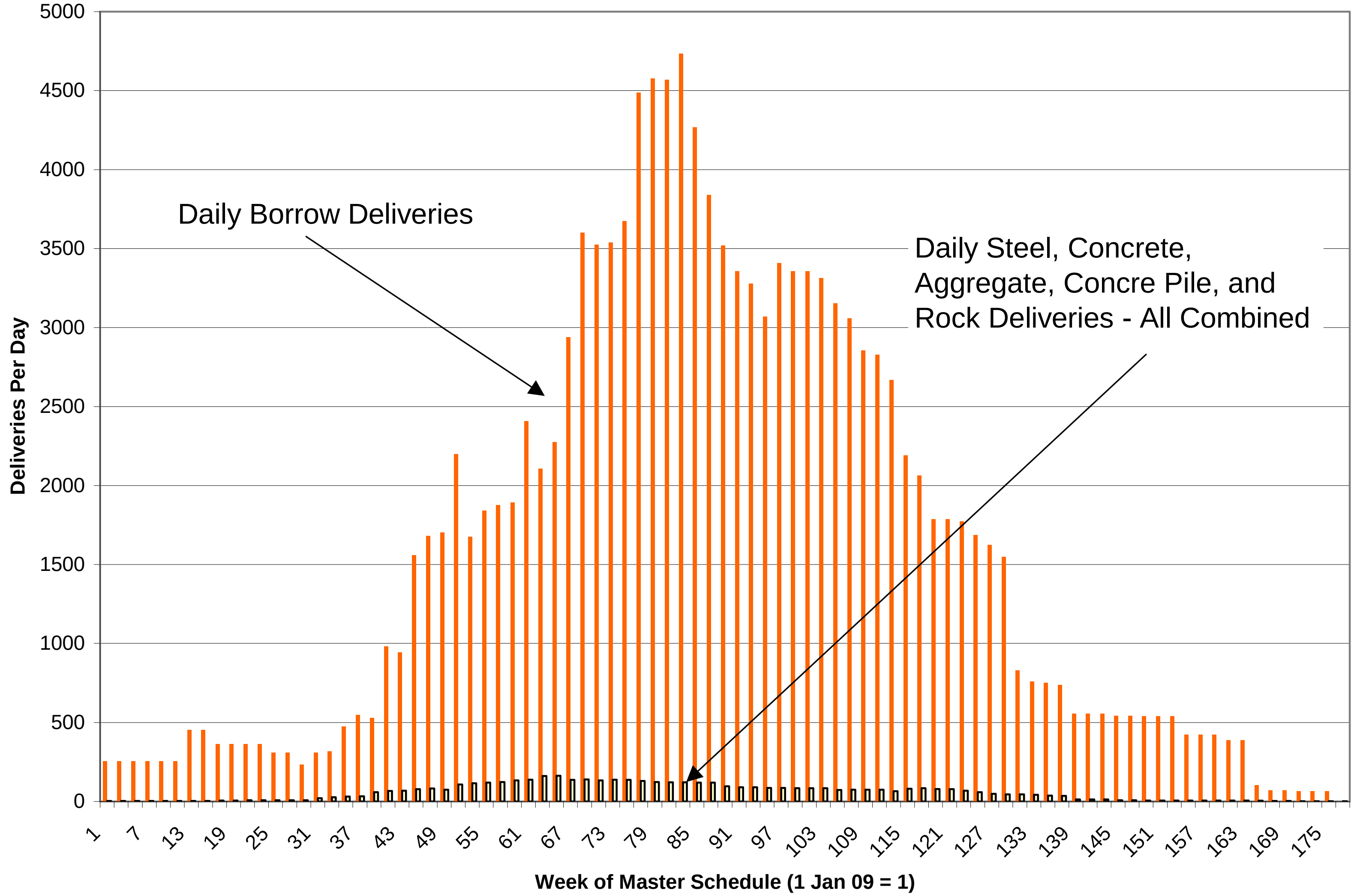

Table 3-8. Summary Table of Local Truck Miles By IER Maximum Barge Use

IER	Earthen Fill Truck Miles Local	Steel Truck Miles Local	Conc Pile Truck Miles Local	Concrete Truck Miles Local	Aggregate Truck Miles Local	Rock Truck Miles Local	Total Truck Miles Local
1	2,764,800	30,360		16,270	26,680		2,838,110
2	305,600	137,050				70,290	512,940
3	1,604,400	17,990	26,790	3,770	28,020	44,410	1,725,380
4	1,376,900	15,240		34,340	26,580		1,453,060
5				16,120	11,480		27,600
6	323,600	147,630		27,080	22,260		520,570
7	20,465,100	16,060		18,810	15,060		20,515,030
8	800			7,630	15,460		23,890
9	139,700			37,240	12,470		189,410
10	7,134,800			23,740	5,910		7,164,450
11							
12	1,702,000			129,430	94,930		1,926,360
13	2,680,200	8,740		15,160	5,190		2,709,290
14	4,497,000	4,710	22,530	14,740	11,200	1,520	4,551,700
15	2,013,800	4,450		10,380	4,840		2,033,470
16	11,961,900	7,320		29,650	1,074,800	21,550	13,095,220
17	299,100	12,320		23,710	36,210	4,460	375,800
Total	57,269,700	401,870	49,320	408,070	1,391,090	142,230	59,662,280

Table 3-9. Summary Table of Non-Local Truck Miles By IER
Maximum Barge Use

IER	Earthen Fill Truck Miles Non-Local	Steel Truck Miles Non-Local	Conc Pile Truck Miles Non-Local	Concrete Truck Miles Non-Local	Aggregate Truck Miles Non-Local	Rock Truck Miles Non-Local	Total Truck Miles Non-Local
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

Table 3-10. Summary Table of Miles By Mode of Transportation Maximum Barge Use

IER	Total Truck Miles Local	Total Truck Miles Non-Local	Total Barge Miles	Total Rail Miles	Total
1	2,838,000		23,240		2,861,240
2	512,900		39,240		552,140
3	1,725,400		82,210		1,807,610
4	1,453,100		17,900		1,471,000
5	27,600		6,640		34,240
6	520,500		40,980		561,480
7	20,515,000		30,140		20,545,140
8	23,900		6,950		30,850
9	189,400		5,220		194,620
10	7,164,500		147,290		7,311,790
11			92,070		92,070
12	1,926,300		172,750		2,099,050
13	2,709,300		3,900		2,713,200
14	4,551,800		16,410		4,568,210
15	2,033,500		3,320		2,036,820
16	13,095,200		15,160		13,110,360
17	375,900		29,440		405,340
Total	59,662,300		732,860		60,395,160

3.3 Maximum Rail Use

The Maximum Rail Use Scenario routes materials from their point of origin to greater New Orleans on rail cars to the extent that such an assumption is reasonable. For all materials other than borrow, this assumption is reasonable in this scenario. Like the maximum barge use alternative, trucks remain a major mode of transportation under this scenario because none of the projects have direct rail access, and materials would need to be transported from a New Orleans rail terminal to the project site via truck.

3.3.1 Earthen Fill

Trucks would be used to haul earthen fill from assigned government-furnished borrow sites designated by CEMVN (USACE, 2009) to construction sites (roughly 21 million CY). Contractor furnished earthen fill (roughly 9 million CY) cannot be assigned to specific construction projects until those contracts are awarded. Therefore, the contractor furnished earthen fill was assumed to be truck hauled 28.3 miles one-way.[12, 13]

3.3.2 Steel

Under maximum rail use, Sheet Pile, H-Pile, and Pipe Pile would be shipped by rail from Blytheville, Arkansas to rail yards within New Orleans. At the rail yards, the steel would be unloaded onto trucks and then trucked to construction projects.

3.3.3 Aggregate

Under the maximum rail use alternative, construction contracts requiring less than 25,000 CY of concrete would be supplied by major local ready-mix plants. For those projects, aggregate would be shipped to New Orleans by rail from Covington, Louisiana and Bogalusa, Louisiana, offloaded at the nearest rail yard, and trucked to the local ready-mix plants. Once blended, the ready-mix concrete would then be driven to the construction project.

For contracts requiring more than 25,000 CY of concrete, new batch plants were assumed to be constructed at the project site. For those projects, aggregate would be shipped to New Orleans by rail from Covington, Louisiana and Bogalusa, Louisiana, offloaded at the nearest rail yard, then trucked to the project batch plant and blending into ready-mix concrete at the site.

3.3.4 Stone

Under the maximum rail alternative, all stone needed for the foreshore protection on Lake Pontchartrain would be shipped from Pine Bluff, AR by 500 TON barges directly to the project (all LPV levee foreshore protection projects). All other rock would be shipped by rail to New Orleans from Pine Bluff, AR offloaded at rail yards, loaded onto trucks and then trucked to the construction sites for local delivery.

[12] Distance based on the median distance from the 24 contractor furnished sites in IERs 19, 23, 26, 29, and 30 to center city New Orleans using Google Maps.
[13] These miles traveled are included in total miles, for use in estimating emissions and accident rates. These vehicle trips cannot be routed or included in the congestion modeling because “origin-destination” pairings cannot be assigned until the contracts are issued. However, an escalation factor will be applied to the congestion modeling in order to estimate the effects of the contractor furnished trips.

3.3.5 Concrete Pile

Under the maximum rail alternative, concrete pile supplied to contracts with direct water access and offloaded at construction sites (e.g., Chalmette Loop, IHNC, Harvey Canal) would be shipped from Pass Christian, Mississippi by barge. All other concrete pile would be shipped by train from Pass Christian, Mississippi to a New Orleans rail terminal for local delivery by truck.

3.3.6 Maximum Rail Use - Miles Traveled By Mode and Material

Tables 3-11 to 3-15 provide summary information on miles, trips, and mode of transportation used to transport materials to project sites. These tables are:

- Table 3-11: Maximum Rail Use - Miles Traveled By Mode and Material shows local and non-local round-trip miles required to deliver project materials. Local and non-local miles are provided for each material class. Table 3-11 also includes tons of each type of material shipped by barge directly to the project site, as well as tons of each type of material shipped to a rail terminal for off-loading onto trucks for final delivery to the project site.
- Table 3-12. Maximum Rail Use - Trips By Mode and Material shows the total number of trips required to deliver project materials. Trips are provided for each material class, by each mode of transportation.
- Table 3-13. Summary Table of Local Truck Miles By IER parses the local miles data provided in table 3-6, aggregated to the IER level. It is important to note that local truck miles will remain significant, even with barge and rail delivery of all materials other than borrow.
- Table 3-14. Summary Table of Non-Local Truck Miles By IER parses the non-local truck miles data provided in table 3-11, aggregated to the IER level. Under this alternative, as shown in the table, non-local truck miles for all materials is zero.
- Table 3-15. Summary Table of Miles By Mode of Transportation shows the number of local truck miles, non-local truck miles, barge miles, and rail miles incurred in the transportation of project materials. These data also are aggregated to the IER level.

In addition to the tables, figures 3-7, 3-8, and 3-9 graphically depict the magnitude of, and differences between, truck miles, truck trips, and delivery timing for all materials included in the analysis.

Figure 3-7 Truck Miles Traveled shows both local and non-local truck round trip miles traveled for the delivery of materials to project sites. Non-local truck miles are zero for all materials. Data used to generate this figure are directly traceable to table 3-11. As shown in the figure, the local miles traveled for the delivery of earthen fill, or borrow (over 57 million miles), vastly outnumber the local miles traveled for the delivery of all other project materials.

Figure 3-8 Truck Trips shows all truck trips summarized by material. Data used to generate this figure are directly traceable to table 3-12. As shown in the figure, the number of borrow deliveries (over 2 million) is significantly higher than the number of deliveries for all other materials combined (approximately 230,000).

Figure 3-9 Truck Trips Distributed Across Schedule shows truck deliveries per day for all project materials distributed across a master schedule, beginning on 1 January 2009. The distribution of truck trips across the schedule is based on:

- individual project Notice to Proceed date;
- individual project expected construction duration; and
- individual project sequencing of demand timing for materials (see introduction to section 2 for a discussion of the separation of materials demand schedule separation).

The figure shows daily borrow deliveries of:

- over 1,000 for 100 weeks;
- over 2,000 for 60 weeks;
- over 3,000 for 40 weeks; and
- over 4,000 for 10 weeks.

Figure 3-9 also depicts the magnitude of the differences between the number of borrow deliveries and the number of deliveries for all other materials combined.

Table 3-11. Maximum Rail Use – Miles Traveled By Mode and Material

	Quantity	Units	Truck Miles (Local)	Truck Miles (Non-Local)	Barge Miles	Train Miles
Borrow (trucked)	29,616,300	CY	57,270,000			
Steel Sheet Pile (trucked)		Tons				
Steel H-Pile (trucked)		Tons				
Steel Pipe Pile (trucked)		Tons				
Steel (SP,HP,PP barged to project site)		Tons				
Steel (SP,HP,PP barged & intermodal)		Tons				
Steel (SP,HP,PP by rail & intermodal)	839,500	Tons	1,062,700			58,800
Concrete Pile (trucked)		Tons				
Concrete Pile (barged to project site)	189,800	Tons			3,700	
Concrete Pile (barged & intermodal)		Tons				
Concrete Pile (by rail & intermodal)	91,500	Tons	87,500			1,000
Ready-Mix Concrete	283,500	CY	408,100			
On-Site Batch Concrete	854,300	CY				
Aggregate (barged to project batch plants)		Tons				
Aggregate (barged to suppliers)		Tons				
Trucked: suppliers to ready-mix plants						
Trucked: suppliers to project						
Aggregate (by rail to suppliers)	1,720,400	Tons				9,400
Trucked: suppliers to ready-mix plants			294,500			
Trucked: suppliers to project			1,456,700			
Aggregate (trucked to project)	1,586,800	Tons	1,057,900			
Aggregate (trucked to ready-mix plants)		Tons				
Rock (barged to project site)	1,537,300	Tons			185,200	
Rock (barged & intermodal)		Tons				
Rock (by rail & intermodal)	195,900	Tons	123,600			11,100
Rock (trucked to project site)		Tons				
TOTAL MILES			61,761,000		188,900	80,300

Table 3-12. Maximum Rail Use - Trips By Mode and Material

	Quantity	Units	Truck Trips	Barge Trips	Train Trips
Borrow (trucked)	29,616,300	CY	2,042,500		
Steel Sheet Pile (trucked)		Tons			
Steel H-Pile (trucked)		Tons			
Steel Pipe Pile (trucked)		Tons			
Steel (SP,HP,PP barged to project site)		Tons			
Steel (SP,HP,PP barged & intermodal)		Tons			
Steel (SP,HP,PP by rail & intermodal)	839,500	Tons	42,000		125
Concrete Pile (trucked)		Tons			
Concrete Pile (barged to project site)	189,800	Tons		44	
Concrete Pile (barged & intermodal)		Tons			
Concrete Pile (by rail & intermodal)	91,500	Tons	4,600		16
Ready-Mix Concrete	283,500	CY	28,400		
On-Site Batch Concrete	854,300	CY			
Aggregate (barged to project batch plants)		Tons			
Aggregate (barged to suppliers)		Tons			
Trucked from suppliers to ready-mix plants					
Trucked from suppliers to project					
Aggregate (by rail to suppliers)	1,720,400	Tons			199
Trucked from suppliers to ready-mix plants			19,100		
Trucked from suppliers to project			57,400		
Aggregate (trucked to project)	1,586,800	Tons	70,500		
Aggregate (trucked to ready-mix plants)		Tons			
Rock (barged to project site)	1,537,300	Tons		322	
Rock (barged & intermodal)		Tons			
Rock (by rail & intermodal)	195,900	Tons	8,700		30
Rock (trucked to project site)		Tons			
TOTAL TRIPS			2,273,200	366	370

Figure 3-7 Truck Miles Traveled – Maximum Rail Scenario

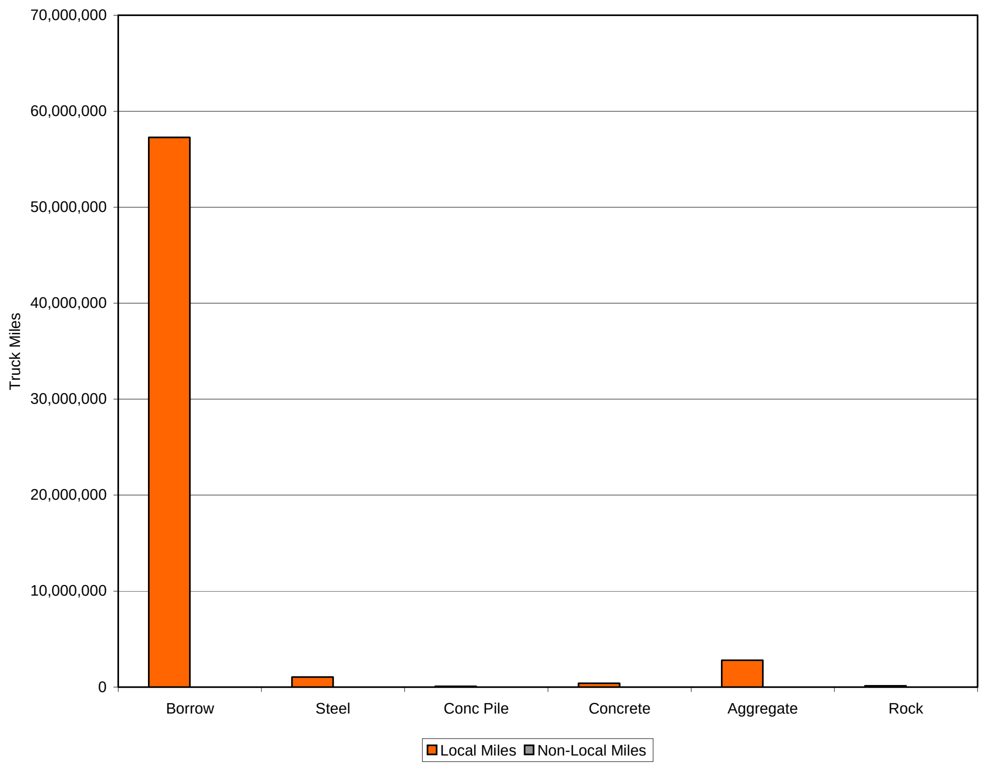

Figure 3-8 Truck Trips – Maximum Rail Scenario

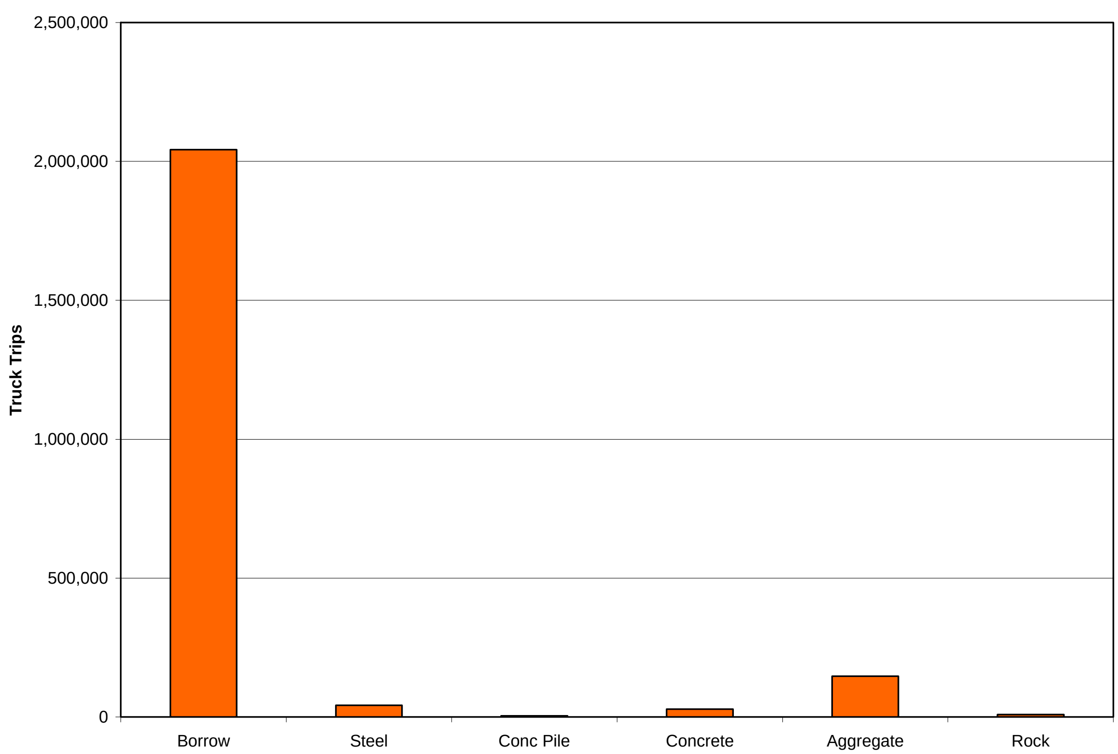

Figure 3-9 Truck Trips Distributed Across Schedule
Maximum Rail Scenario

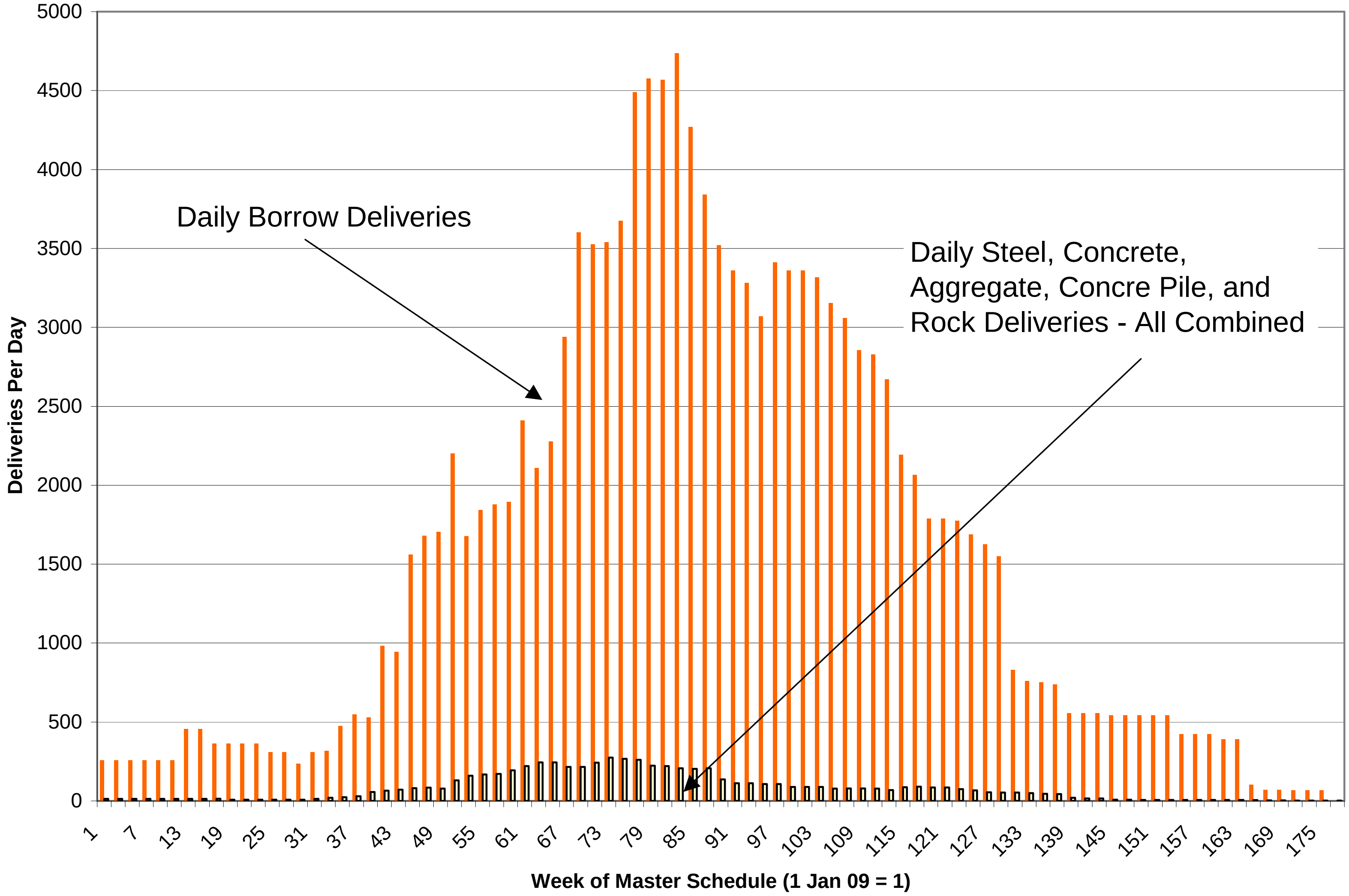

Table 3-13. Summary Table of Local Truck Miles By IER Maximum Rail Use

IER	Earthen Fill Truck Miles Local	Steel Truck Miles Local	Conc Pile Truck Miles Local	Concrete Truck Miles Local	Aggregate Truck Miles Local	Rock Truck Miles Local	Total Truck Miles Local
1	2,764,800	17,090		16,270	26,680		2,824,840
2	305,600	63,340			121,350	63,580	553,870
3	1,604,400	10,610	23,640	3,770	28,020	39,460	1,709,900
4	1,376,900	7,780		34,340	26,580		1,445,600
5		14,550		16,120	11,480		42,150
6	323,600	51,720		27,080	71,860		474,260
7	20,465,100	7,580		18,810	15,060		20,506,550
8	800	3,370		7,630	15,460		27,260
9	139,700	9,950		37,240	12,470		199,360
10	7,134,800	519,520	11,550	23,740	757,580		8,447,190
11		38,620			256,740		295,360
12	1,702,000	274,870		129,430	333,610		2,439,910
13	2,680,200	12,110		15,160	5,190		2,712,660
14	4,497,000	7,670	36,860	14,740	11,200	1,730	4,569,200
15	2,013,800	2,480		10,380	4,840		2,031,500
16	11,961,900	4,440	15,460	29,650	1,074,800	13,260	13,099,510
17	299,100	17,020	20	23,710	36,210	5,590	381,650
Total	57,269,700	1,062,720	87,530	408,070	2,809,130	123,620	61,760,770

**Table 3-14. Summary Table of Non-Local Truck Miles By IER
Maximum Rail Use**

IER	Earthen Fill Truck Miles Non-Local	Steel Truck Miles Non-Local	Conc Pile Truck Miles Non-Local	Concrete Truck Miles Non-Local	Aggregate Truck Miles Non-Local	Rock Truck Miles Non-Local	Total Truck Miles Non-Local
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

Table 3-15. Summary Table of Miles By Mode of Transportation Maximum Rail Use

IER	Total Truck Miles Local	Total Truck Miles Non-Local	Total Barge Miles	Total Rail Miles	Total
1	2,824,900			3,630	2,828,530
2	553,900			7,390	561,290
3	1,709,900		55,220	6,520	1,771,640
4	1,445,600		820	2,170	1,448,590
5	42,200			1,030	43,230
6	474,200		9,200	5,220	488,620
7	20,506,500		14,960	2,120	20,523,580
8	27,300		1,730	610	29,640
9	199,400			560	199,960
10	8,447,300		32,780	15,730	8,495,810
11	295,400		41,270	3,530	340,200
12	2,440,100		32,310	18,480	2,490,890
13	2,712,700		580	520	2,713,800
14	4,569,300			3,440	4,572,740
15	2,031,500			520	2,032,020
16	13,099,500			3,640	13,103,140
17	381,700			5,270	386,970
Total	61,761,400		188,870	80,380	62,030,650

3.4 Likely Scenario

The Likely Scenario routes materials from their point of origin to greater New Orleans on barges and trucks under the assumption that the choice of transportation mode is driven by transportation cost efficiencies and project access by water and over-land limitations.

3.4.1 Earthen Fill

Trucks would be used to haul earthen fill from assigned government-furnished borrow sites designated by CEMVN (USACE, 2009) to construction sites (roughly 21 million CY). Contractor furnished earthen fill (roughly 9 million CY) cannot be assigned to specific construction projects until those contracts are awarded. Therefore, the contractor furnished earthen fill was assumed to be truck hauled 28.3 miles one-way.[14, 15]

3.4.2 Steel

For the likely scenario, Sheet Pile, H-Pile, and Pipe Pile would be shipped from Blytheville, Arkansas directly to projects with direct water access (e.g., Chalmette Loop, IHNC, Harvey Canal). Steel for projects that require more than 10,000 tons would be shipped by barge to a local marine terminal and unloaded for local truck delivery to the project sites. Those projects that require less than 10,000 tons of steel were assumed to be supplied by truck as follows:

- Sheetpile from Petersburg, Virginia and Blytheville, Arkansas shipped directly to construction projects by truck.
- H-pile from Blytheville, Arkansas shipped directly to construction projects by truck.
- Pipe pile from Blytheville, Arkansas shipped directly to construction projects by truck.

3.4.3 Concrete and Aggregate

Under the likely scenario, projects that require less than 25,000 CY of concrete would be supplied by major local ready-mix plants. For these projects, aggregate would be shipped by truck directly to ready-mix plants from Covington, Louisiana and Bogalusa, Louisiana. Once blended, the ready-mix concrete would be driven to the construction project.

For projects requiring more than 25,000 CY of concrete, batch plants were assumed to be constructed at the project site. For those projects requiring more than 25,000 CY and with direct water access, aggregate would be shipped to the project site by barge from Smithland, Kentucky. For projects requiring more than 25,000 CY of concrete without direct water access, aggregate would be supplied by aggregate via truck from Covington, Louisiana and Bogalusa, Louisiana. In both cases, project the aggregate would be blended with cement and water at the project site.

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[14] Distance based on the median distance from the 24 contractor furnished sites in IERs 19, 23, 26, 29, and 30 to center city New Orleans using Google Maps.

[15] These miles traveled are included in total miles, for use in estimating emissions and accident rates. These vehicle trips cannot be routed or included in the congestion modeling because "origin-destination" pairings cannot be assigned until the contracts are issued. However, an escalation factor will be applied to the congestion modeling in order to estimate the effects of the contractor furnished trips.

3.4.4 Rock

Under the likely scenario, all rock would be shipped by barge to New Orleans from Pine Bluff, Arkansas. If direct water access to the construction site is available, rock would be barged directly to the site. All rock used for foreshore protection on Lake Pontchartrain would be shipped on light-loaded 500-ton barges directly to the project (all LPV levee foreshore protection projects). If no direct water access is available for the project, rock would be barged to local New Orleans marine terminal, offloaded onto trucks and then trucked to the construction sites.

3.4.5 Concrete Pile:

For the likely alternative, concrete pile supplied to contracts with direct water access would be barged from Pass Christian, Mississippi and offloaded at construction sites (e.g., Chalmette Loop, IHNC, Harvey Canal). Contracts requiring in excess of 20,000 tons in a single project without direct water access would be shipped by barge to a New Orleans marine terminal for local delivery by truck. Those contracts requiring less than 20,000 tons of concrete pile or where there is no direct offload to construction site would be shipped by truck from Pass Christian, Mississippi.

3.4.6 Likely Scenario - Miles Traveled By Mode and Material

Tables 3-16 to 3-20 provide summary information on miles, trips, and mode of transportation used to transport materials to project sites. These tables are:

- Table 3-16: Likely Scenario - Miles Traveled By Mode and Material shows local and non-local round-trip miles required to deliver project materials. Local and non-local miles are provided for each material class. Table 3-16 also includes tons of each type of material shipped by barge directly to the project site, as well as tons of each type of material shipped to a rail terminal for off-loading onto trucks for final delivery to the project site.
- Table 3-17. Likely Scenario - Trips By Mode and Material shows the total number of trips required to deliver project materials. Trips are provided for each material class, by each mode of transportation.
- Table 3-18. Summary Table of Local Truck Miles By IER parses the local miles data provided in table 3-16, aggregated to the IER level. It is important to note that local truck miles will remain significant, even with barge and rail delivery of all materials other than borrow.
- Table 3-19. Summary Table of Non-Local Truck Miles By IER parses the non-local truck miles data provided in table 3-17, aggregated to the IER level. Under this alternative, as shown in the table, non-local truck miles for all materials is zero.
- Table 3-20. Summary Table of Miles By Mode of Transportation shows the number of local truck miles, non-local truck miles, barge miles, and rail miles incurred in the transportation of project materials. These data also are aggregated to the IER level.

In addition to the tables, figures 3-10, 3-11, and 3-12 graphically depict the magnitude of and differences between truck miles, truck trips, and delivery timing for all materials included in the analysis.

Figure 3-10 Truck Miles Traveled shows both local and non-local truck round trip miles traveled for the delivery of materials to project sites. Data used to generate this figure are directly traceable to table 3-16. As shown in the figure, the local miles traveled for the delivery of earthen fill, or borrow (over 57 million miles), vastly outnumber the local miles traveled for the delivery of all other project materials.

Figure 3-11 Truck Trips shows all truck trips summarized by material. Data used to generate this figure are directly traceable to table 3-17. As shown in the figure, the number of borrow deliveries (over 2 million) is significantly higher than the number of deliveries for all other materials combined (approximately 150,000).

Figure 3-12 Truck Trips Distributed Across Schedule shows truck deliveries per day for all project materials distributed across a master schedule, beginning on 1 January 2009. The distribution of truck trips across the schedule is based on:

- individual project Notice to Proceed date;
- individual project expected construction duration; and
- individual project sequencing of demand timing for materials (see introduction to section 2 for a discussion of the separation of materials demand schedule separation).

The figure shows daily borrow deliveries of:

- over 1,000 for 100 weeks;
- over 2,000 for 60 weeks;
- over 3,000 for 40 weeks; and
- over 4,000 for 10 weeks.

Figure 3-12 also depicts the magnitude of the differences between the number of borrow deliveries and the number of deliveries for all other materials combined.

Tables 3-21 through 3-25 provide information on a project-by-project basis for the likely scenario. Data shown in the tables mirrors that of tables 3-16 through 3-20, though the data are shown at the project level, rather than aggregated to the IER level. Table titles are:

- Table 3-21. Local Truck Miles By Construction Project
- Table 3-22. Local Truck Trips By Construction Project
- Table 3-24. Non-Local Truck Trips, and Barge Trips By Construction Project
- Table 3-25. Miles By Mode of Transportation by Project

Table 3-16. Likely Scenario – Miles Traveled By Mode and Material

	Quantity	Units	Truck Miles (Local)	Truck Miles (Non-Local)	Barge Miles	Train Miles
Borrow (trucked)	29,616,300	CY	57,270,000			
Steel Sheet Pile (trucked)	47,400	Tons	138,500	3,385,300		
Steel H-Pile (trucked)	74,200	Tons	209,700	3,503,400		
Steel Pipe Pile (trucked)	10,800	Tons	29,300	510,400		
Steel (SP,HP,PP barged to project site)	571,200	Tons			96,600	
Steel (SP,HP,PP barged & intermodal)	135,900	Tons	256,400		17,000	
Steel (SP,HP,PP by rail & intermodal)		Tons				
Concrete Pile (trucked)	39,200	Tons	136,500	185,000		
Concrete Pile (barged to project site)	189,800	Tons			3,700	
Concrete Pile (barged & intermodal)	52,300	Tons	49,300		500	
Concrete Pile (by rail & intermodal)		Tons				
Ready-Mix Concrete	283,500	CY	408,100			
On-Site Batch Concrete	854,300	CY				
Aggregate (barged to project batch plants)	1,219,600	Tons			203,300	
Aggregate (barged to suppliers)		Tons				
Trucked: suppliers to ready-mix plants						
Trucked: suppliers to project						
Aggregate (by rail to suppliers)		Tons				
Trucked: suppliers to ready-mix plants						
Trucked: suppliers to project						
Aggregate (trucked to project)	1,658,900	Tons	1,252,100	78,200		
Aggregate (trucked to ready-mix plants)	428,700	Tons	670,600	232,400		
Rock (barged to project site)	1,537,300	Tons			185,200	
Rock (barged & intermodal)	195,900	Tons	142,200		16,100	
Rock (by rail & intermodal)		Tons				
Rock (trucked to project site)		Tons				
TOTAL MILES			60,562,700	7,894,700	522,400	

Table 3-17. Likely Scenario - Trips By Mode and Material

	Quantity	Units	Truck Trips	Barge Trips	Train Trips
Borrow (trucked)	29,616,300	CY	2,042,500		
Steel Sheet Pile (trucked)	47,400	Tons	2,400		
Steel H-Pile (trucked)	74,200	Tons	3,700		
Steel Pipe Pile (trucked)	10,800	Tons	500		
Steel (SP,HP,PP barged to project site)	571,200	Tons		68	
Steel (SP,HP,PP barged & intermodal)	135,900	Tons	6,800	12	
Steel (SP,HP,PP by rail & intermodal)		Tons			
Concrete Pile (trucked)	39,200	Tons	2,000		
Concrete Pile (barged to project site)	189,800	Tons		44	
Concrete Pile (barged & intermodal)	52,300	Tons	2,600	6	
Concrete Pile (by rail & intermodal)		Tons			
Ready-Mix Concrete	283,500	CY	28,400		
On-Site Batch Concrete	854,300	CY			
Aggregate (barged to project batch plants)	1,219,600	Tons		107	
Aggregate (barged to suppliers)		Tons			
Trucked from suppliers to ready-mix plants					
Trucked from suppliers to project					
Aggregate (by rail to suppliers)		Tons			
Trucked from suppliers to ready-mix plants					
Trucked from suppliers to project					
Aggregate (trucked to project)	1,658,900	Tons	73,700		
Aggregate (trucked to ready-mix plants)	428,700	Tons	19,100		
Rock (barged to project site)	1,537,300	Tons		322	
Rock (barged & intermodal)	195,900	Tons	8,700	28	
Rock (by rail & intermodal)		Tons			
Rock (trucked to project site)		Tons			
TOTAL TRIPS			2,190,400	587	

Figure 3-10 Truck Miles Traveled – Likely Scenario

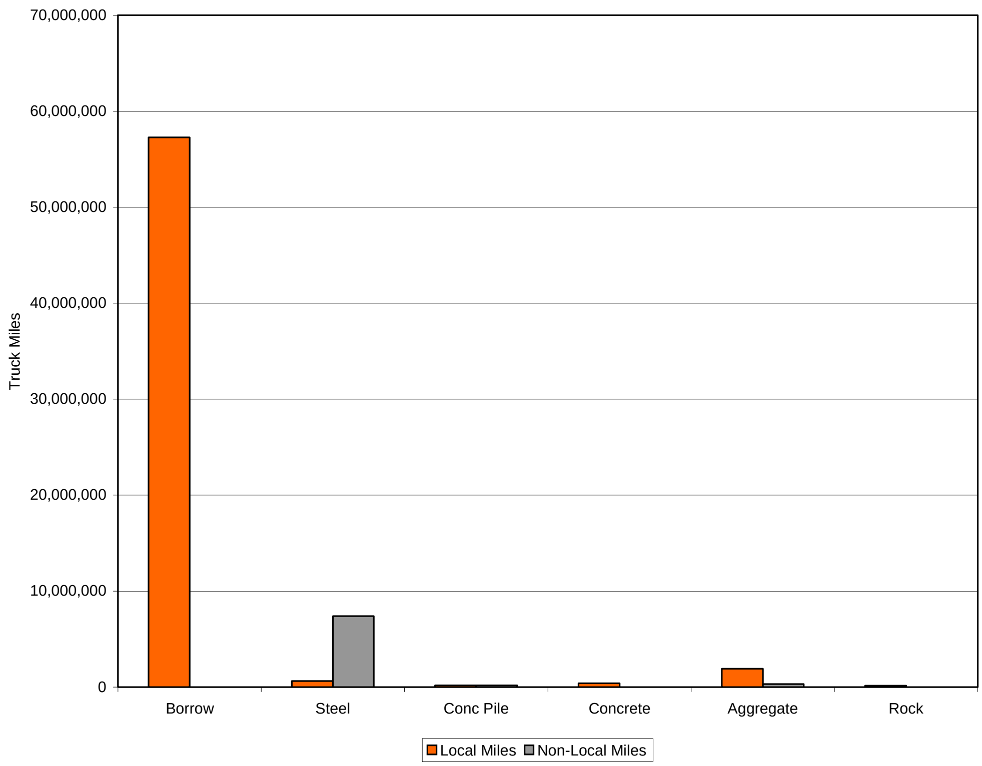

Figure 3-11 Truck Trips – Likely Scenario

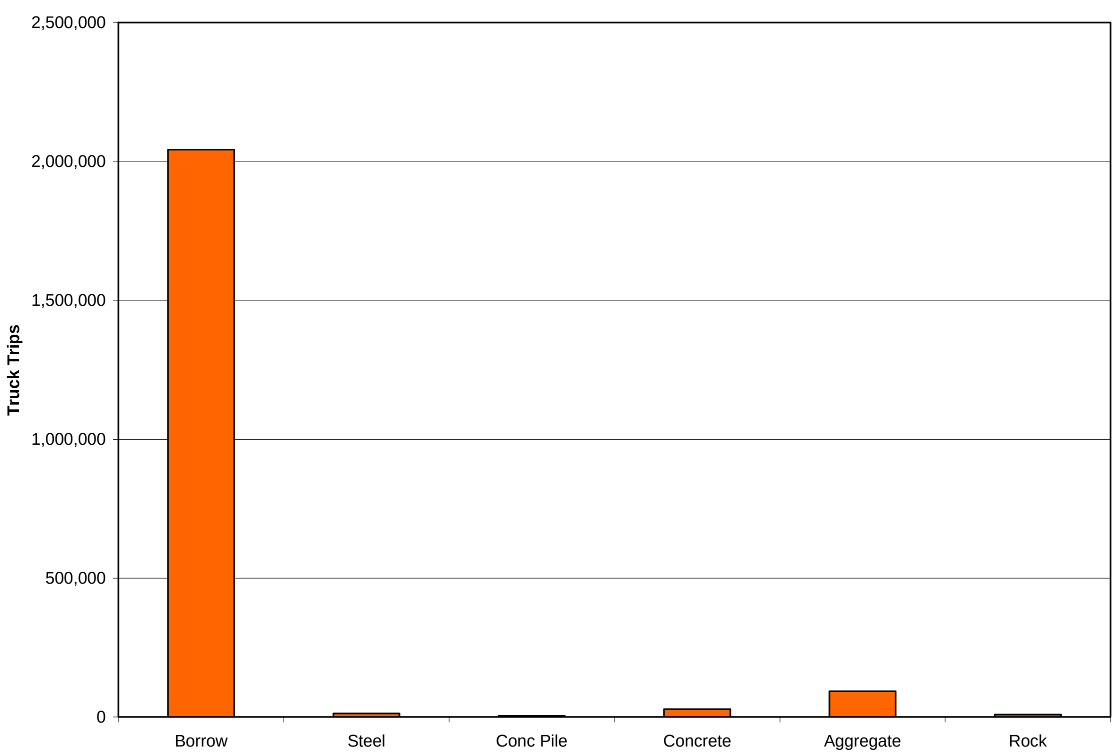

Figure 3-12 Truck Trips Distributed Across Schedule
Likely Scenario

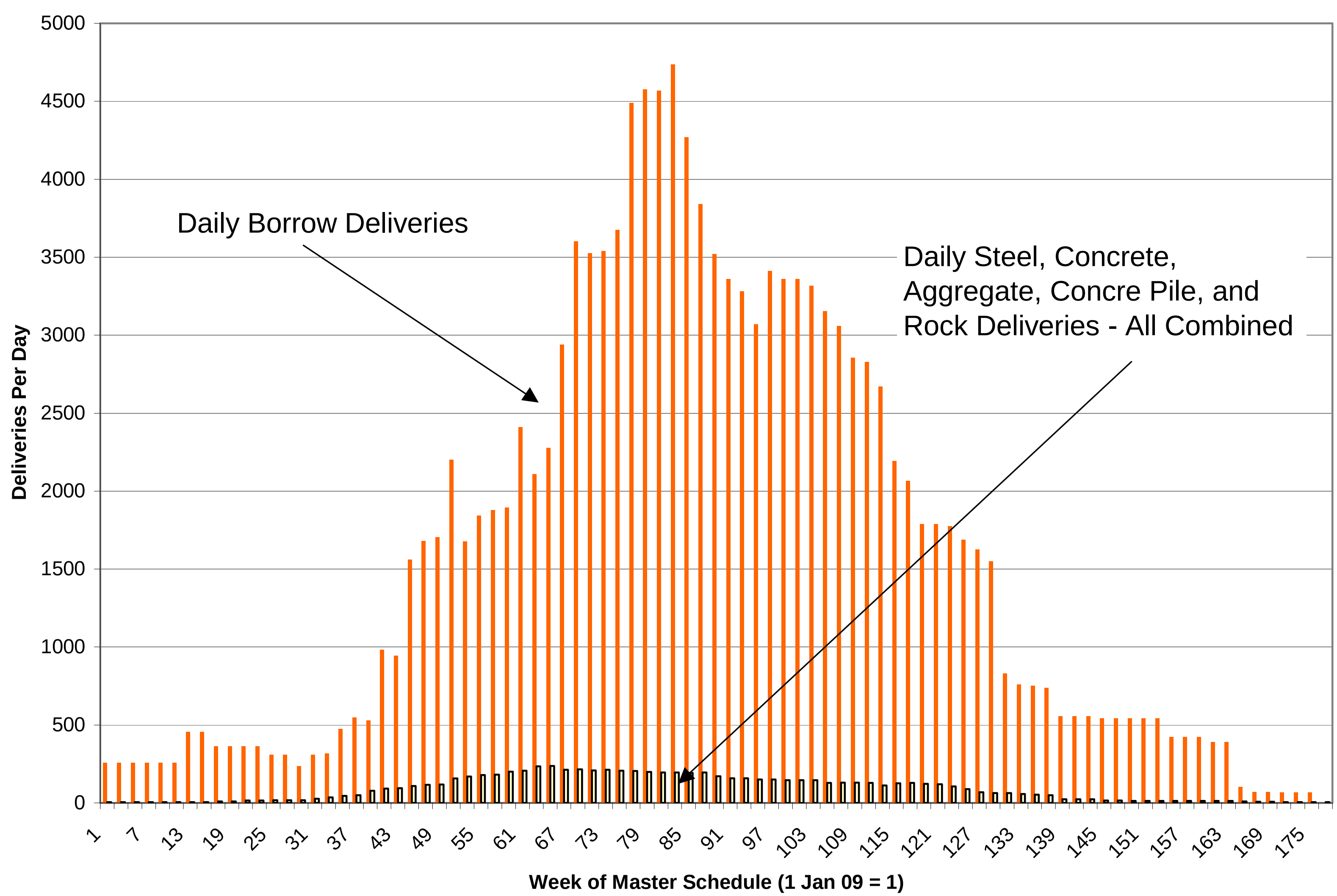

Table 3-18. Summary Table of Local Truck Miles By IER Likely Scenario

IER	Earthen Fill Truck Miles Local	Steel Truck Miles Local	Conc Pile Truck Miles Local	Concrete Truck Miles Local	Aggregate Truck Miles Local	Rock Truck Miles Local	Total Truck Miles Local
1	2,764,800	32,720		16,270	60,740		2,874,530
2	305,600	137,050				70,290	512,940
3	1,604,400	38,680	58,580	3,770	102,090	44,410	1,851,930
4	1,376,900	34,220		34,340	60,530		1,505,990
5				16,120	26,140		42,260
6	323,600	170,740		27,080	50,680		572,100
7	20,465,100	18,830		18,810	34,310		20,537,050
8	800			7,630	35,200		43,630
9	139,700			37,240	28,390		205,330
10	7,134,800		16,310	23,740	13,450		7,188,300
11							
12	1,702,000			129,430	216,110		2,047,540
13	2,680,200	21,720		15,160	11,830		2,728,910
14	4,497,000	26,730	34,070	14,740	25,490	1,520	4,599,550
15	2,013,800	14,060		10,380	11,030		2,049,270
16	11,961,900	20,710	76,740	29,650	1,096,410	21,550	13,206,960
17	299,100	118,460	130	23,710	150,320	4,460	596,180
Total	57,269,700	633,920	185,830	408,070	1,922,720	142,230	60,562,470

Table 3-19. Summary Table of Non-Local Truck Miles By IER
Likely Scenario

IER	Earthen Fill Truck Miles Non-Local	Steel Truck Miles Non-Local	Conc Pile Truck Miles Non-Local	Concrete Truck Miles Non-Local	Aggregate Truck Miles Non-Local	Rock Truck Miles Non-Local	Total Truck Miles Non-Local
1		1,015,300			21,050		1,036,350
2							
3		967,360	53,140		47,630		1,068,130
4		712,920			20,970		733,890
5					9,060		9,060
6		957,220			17,560		974,780
7		445,920			11,890		457,810
8					12,200		12,200
9					9,840		9,840
10			24,420		4,660		29,080
11							
12					74,890		74,890
13		268,020			4,100		272,120
14		449,080	16,220		8,840		474,140
15		224,420			3,820		228,240
16		384,060	90,990		13,360		488,410
17		1,974,780	190		50,700		2,025,670
Total		7,399,080	184,960		310,570		7,894,610

Table 3-20. Summary Table of Miles By Mode of Transportation Likely Scenario

IER	Total Truck Miles Local	Total Truck Miles Non-Local	Total Barge Miles	Total Rail Miles	Total
1	2,874,600	1,036,350			3,910,950
2	512,900		39,240		552,140
3	1,851,900	1,068,130	59,510		2,979,540
4	1,506,000	733,890	820		2,240,710
5	42,300	9,060	2,840		54,200
6	572,100	974,780	27,700		1,574,580
7	20,537,000	457,810	14,960		21,009,770
8	43,600	12,200	3,150		58,950
9	205,300	9,840	1,420		216,560
10	7,188,300	29,080	145,220		7,362,600
11			92,070		92,070
12	2,047,600	74,890	127,150		2,249,640
13	2,728,900	272,120	580		3,001,600
14	4,599,700	474,140	2,570		5,076,410
15	2,049,300	228,240			2,277,540
16	13,207,100	488,410	2,890		13,698,400
17	596,200	2,025,670	2,320		2,624,190
Total	60,562,800	7,894,610	522,440		68,979,850

Table 3-21. Local Truck Miles By Construction Project Likely Scenario

IER	Project	Earthen Fill Miles	Steel Miles	Concrete Pile Miles	Concrete Miles	Aggregate Miles	Rock Miles
1	LPV03d.2	210,800	50				
1	LPV04.1	423,500					
1	LPV04.2A	131,700					
1	LPV04.2B	478,800					
1	LPV05.2A	339,800					
1	LPV05.2B	926,700					
1	LPV06a.2	39,000	10,330		5,000	11,460	
1	LPV06e.2		5,660		7,890	33,830	
1	LPV06f.2	54,600	2,740		160	2,420	
1	LPV07b.2		4,310		1,920	4,390	
1	LPV07c.2	139,000	4,720		1,010	4,320	
1	LPV07d.2	20,900	4,910		290	4,320	
2	LPV03.2A	75,500	137,050				70,290
2	LPV03.2B	230,100					
3	LPV00.2	267,900					
3	LPV01.2	490,800					
3	LPV02.2	330,800					
3	LPV09.2		35,100	26,790		95,570	20,330
3	LPV09a.2		740	13,370			21,050
3	LPV12a.2		530	15,190	2,410	3,580	3,030
3	LPV16.2			2,190	330	1,180	
3	LPV17.2	203,800	2,310		150	540	
3	LPV18.2			1,040	880	1,220	
3	LPV19.2	311,100					
3	LPV20.2						
4	LPV101.2		11,040		21,200	39,050	
4	LPV103.01A	476,900	5,780		6,450	11,890	
4	LPV103.01A2	476,900	1,960		2,150	3,960	
4	LPV104.01a	385,300					
4	LPV104.02	37,800	15,440		4,540	5,630	

IER	Project	Earthen Fill Miles	Steel Miles	Concrete Pile Miles	Concrete Miles	Aggregate Miles	Rock Miles
5	PCCP-01				16,120	26,140	
6	LPV105.01	46,200	36,190		19,580	36,170	
6	LPV105.02	215,800	12,150		6,890	12,740	
6	LPV106	34,800	119,320				
6	LPV106.01						
6	LPV107	26,800	3,080		610	1,770	
7	LPV108	303,200					
7	LPV109.02a	7,229,900			1,280	1,510	
7	LPV109.02b	448,900					
7	LPV109.02c	156,100	4,080		3,320	3,930	
7	LPV110	156,100	1,510		510	720	
7	LPV111.01	9,602,500	9,250				
7	LPV111.02	39,000	3,990		13,700	28,150	
7	LPV113	2,529,400					
8	LPV144	800			7,630	35,200	
9	LPV149	139,700			37,240	28,390	
10	LPV145	1,233,100					
10	LPV146	819,300					
10	LPV147	7,900		16,310	23,740	13,450	
10	LPV148.02	5,074,500					
11	IHNC01						
11	IHNC-2a						
11	IHNC-2b						
11	IHNC-2c						
11	IHNC-2d						
12	WBV03a				5,980	6,200	
12	WBV03b	851,300			19,750	20,480	
12	WBV04.2				980	1,010	
12	WBV05.2				2,350	2,430	
12	WBV06.2				12,960	13,440	

IER	Project	Earthen Fill Miles	Steel Miles	Concrete Pile Miles	Concrete Miles	Aggregate Miles	Rock Miles
12	WBV06a.2				8,690	12,590	
12	WBV07				3,380	5,220	
12	WBV08				3,420	5,820	
12	WBV10				2,980	3,700	
12	WBV11				1,590	2,160	
12	WBV13				3,300	5,220	
12	WBV14a.2				2,720	15,620	
12	WBV14g.2	109,300			5,120	29,410	
12	WBV23				860	4,930	
12	WBV33				1,350	7,730	
12	WBV38.2				690	3,960	
12	WBV44				11,490	16,650	
12	WBV46.2				800	4,600	
12	WBV47.1	447,400					
12	WBV48.2				34,250	46,530	
12	WBV49.1	294,000			6,770	8,410	
12	WBV90						
13	WBV09a	533,300					
13	WBV09b		21,720		15,160	11,830	
13	WBV12	2,146,900					
14	WBV14b.2	674,200					150
14	WBV14c.2	1,247,600					50
14	WBV14d	468,400	16,320	22,530	11,350	17,700	
14	WBV14e.2	1,336,600			220	260	
14	WBV14f.2	339,300			840	1,310	
14	WBV14i	399,700					
14	WBV30	15,600	5,930		110	410	670
14	WBV37	15,600	4,480	11,540	2,220	5,810	650
15	WBV15a.2						
15	WBV15b.2		14,060		10,380	11,030	
15	WBV17b.1	1,951,700					
15	WBV17b.2	62,100					

IER	Project	Earthen Fill Miles	Steel Miles	Concrete Pile Miles	Concrete Miles	Aggregate Miles	Rock Miles
15	WBV18.2						
16	WBV70					1,057,860	
16	WBV71	117,900					
16	WBV72	11,710,300					1,460
16	WBV73	133,700	6,560	70,660	16,740	23,860	14,150
16	WBV74		12,330		11,780	13,080	5,770
16	WBV75		1,820	6,080	1,130	1,610	170
17	WBV16.2	123,400	27,670		12,380	27,240	3,480
17	WBV16b		6,970		4,460	9,310	230
17	WBV20		6,880		2,360	5,190	
17	WBV21		4,290		1,190	2,620	120
17	WBV22		15,170	130	3,320	7,310	630
17	WBV24	175,700	57,480			98,650	

Table 3-22. Local Truck Trips By Construction Project Likely Scenario

IER	Project	Earthen Fill Local Truck Trips	Steel Local Truck Trips	Conc Pile Local Truck Trips	Concrete Local Truck Trips	Aggregate Local Truck Trips	Rock Local Truck Trips
1	LPV03d.2	13,900					
1	LPV04.1	90,500					
1	LPV04.2A	28,100					
1	LPV04.2B	42,800					
1	LPV05.2A	30,300					
1	LPV05.2B	82,800					
1	LPV06a.2	700	290		480	330	
1	LPV06e.2		160		1,430	960	
1	LPV06f.2	1,000	60		100	70	
1	LPV07b.2		140		190	120	
1	LPV07c.2	12,400	130		180	120	
1	LPV07d.2	1,400	130		180	120	
2	LPV03.2A	2,900	3,880				3,900
2	LPV03.2B	8,800					
3	LPV00.2	10,300					
3	LPV01.2	13,900					
3	LPV02.2	12,700					
3	LPV09.2		800	1,320		1,860	1,500
3	LPV09a.2		20	270			1,560
3	LPV12a.2		10	230	150	100	170
3	LPV16.2			50	50	30	
3	LPV17.2	5,200	50		20	20	
3	LPV18.2			20	50	30	
3	LPV19.2	8,000					
3	LPV20.2						
4	LPV101.2		230		1,650	1,110	
4	LPV103.01A	10,300	120		500	340	
4	LPV103.01A2	10,300	40		170	110	
4	LPV104.01a	7,000					

IER	Project	Earthen Fill Local Truck Trips	Steel Local Truck Trips	Conc Pile Local Truck Trips	Concrete Local Truck Trips	Aggregate Local Truck Trips	Rock Local Truck Trips
4	LPV104.02	700	270		240	160	
5	PCCP-01				1,110	740	
6	LPV105.01	800	640		1,530	1,030	
6	LPV105.02	3,900	210		540	360	
6	LPV106	3,600	2,920				
6	LPV106.01						
6	LPV107	2,800	50		70	50	
7	LPV108	31,000					
7	LPV109.02a	338,600			60	40	
7	LPV109.02b	7,900					
7	LPV109.02c	2,800	60		170	110	
7	LPV110	2,800	30		30	20	
7	LPV111.01	169,700	190				
7	LPV111.02	700	70		1,190	800	
7	LPV113	44,700					
8	LPV144				1,490	1,000	
9	LPV149	9,700			1,200	810	
10	LPV145	41,400					
10	LPV146	41,400					
10	LPV147	1,100		260	570	380	
10	LPV148.02	89,700					
11	IHNC01						
11	IHNC-2a						
11	IHNC-2b						
11	IHNC-2c						
11	IHNC-2d						
12	WBV03a				260	180	
12	WBV03b	30,600			870	580	
12	WBV04.2				40	30	

IER	Project	Earthen Fill Local Truck Trips	Steel Local Truck Trips	Conc Pile Local Truck Trips	Concrete Local Truck Trips	Aggregate Local Truck Trips	Rock Local Truck Trips
12	WBV05.2				100	70	
12	WBV06.2				570	380	
12	WBV06a.2				530	360	
12	WBV07				220	150	
12	WBV08				250	170	
12	WBV10				160	110	
12	WBV11				90	60	
12	WBV13				220	150	
12	WBV14a.2				660	440	
12	WBV14g.2	1,900			1,240	840	
12	WBV23				210	140	
12	WBV33				330	220	
12	WBV38.2				170	110	
12	WBV44				700	470	
12	WBV46.2				190	130	
12	WBV47.1	21,900					
12	WBV48.2				1,970	1,320	
12	WBV49.1	15,300			360	240	
12	WBV90						
13	WBV09a	34,500					
13	WBV09b		260		500	340	
13	WBV12	37,900					
14	WBV14b.2	35,900					10
14	WBV14c.2	93,100					10
14	WBV14d	8,300	200	1,290	750	500	
14	WBV14e.2	39,300			10	10	
14	WBV14f.2	13,000			60	40	
14	WBV14i	14,500					
14	WBV30	300	80		20	10	50
14	WBV37	300	60	170	250	170	40
15	WBV15a.2	88,600					

IER	Project	Earthen Fill Local Truck Trips	Steel Local Truck Trips	Conc Pile Local Truck Trips	Concrete Local Truck Trips	Aggregate Local Truck Trips	Rock Local Truck Trips
15	WBV15b.2		230		470	310	
15	WBV17b.1	34,500					
15	WBV17b.2	11,000					
15	WBV18.2	129,700					
16	WBV70						
16	WBV71	10,300					
16	WBV72	206,900					70
16	WBV73	11,700	110	890	1,010	680	570
16	WBV74		190		550	370	290
16	WBV75		30	80	70	50	10
17	WBV16.2	13,400	380		1,150	770	430
17	WBV16b		120		390	260	30
17	WBV20		90		220	150	
17	WBV21		60		110	70	20
17	WBV22		210		310	210	80
17	WBV24	3,100	940			1,340	

Table 3-23. Non-Local Truck Miles and Barge Miles By Construction Project Likely Scenario

IER	Project	Steel Truck Miles Non-Local	Steel Barge Miles Total	Conc Pile Truck Miles Non-Local	Conc Pile Barge Miles Total	Aggrgte Truck Miles Non-Local	Aggrgte Barge Miles Total	Rock Barge Miles Total
1	LPV03d.2	1,420						
1	LPV04.1							
1	LPV04.2A							
1	LPV04.2B							
1	LPV05.2A							
1	LPV05.2B							
1	LPV06a.2	333,100				3,970		
1	LPV06e.2	172,100				11,720		
1	LPV06f.2	77,920				840		
1	LPV07b.2	147,020				1,520		
1	LPV07c.2	144,240				1,500		
1	LPV07d.2	139,500				1,500		
2	LPV03.2A		9,940				24,700	4,600
2	LPV03.2B							
3	LPV00.2							15,530
3	LPV01.2							8,050
3	LPV02.2							15,530
3	LPV09.2	858,020			250	45,370		1,730
3	LPV09a.2	22,720		25,410				1,730
3	LPV12a.2	15,620		21,920		1,240		580
3	LPV16.2			4,160		410		
3	LPV17.2	71,000				190		
3	LPV18.2			1,650		420		
3	LPV19.2							8,630
3	LPV20.2							7,480
4	LPV101.2	243,080			80	13,530		580
4	LPV103.01A	141,580			80	4,120		
4	LPV103.01A2	48,140			80	1,370		
4	LPV104.01a							

IER	Project	Steel Truck Miles Non-Local	Steel Barge Miles Total	Conc Pile Truck Miles Non-Local	Conc Pile Barge Miles Total	Aggrgte Truck Miles Non-Local	Aggrgte Barge Miles Total	Rock Barge Miles Total
4	LPV104.02	280,120				1,950		
5	PCCP-01		2,840			9,060		
6	LPV105.01	678,360				12,540		
6	LPV105.02	213,700				4,410		
6	LPV106		7,100				11,400	
6	LPV106.01							9,200
6	LPV107	65,160				610		
7	LPV108							14,380
7	LPV109.02a					520		580
7	LPV109.02b							
7	LPV109.02c	64,140				1,360		
7	LPV110	35,460				250		
7	LPV111.01	262,700						
7	LPV111.02	83,620				9,760		
7	LPV113							
8	LPV144		1,420			12,200		1,730
9	LPV149		1,420			9,840		
10	LPV145		12,780				17,100	9,200
10	LPV146		12,780				24,700	23,000
10	LPV147		1,420	24,420		4,660		
10	LPV148.02		11,360				32,300	580
11	IHNC01							
11	IHNC-2a		1,420				9,500	1,150
11	IHNC-2b		1,420				3,800	580
11	IHNC-2c		2,840		1,590		24,700	20,130
11	IHNC-2d		1,420		580		5,700	17,250
12	WBV03a		1,420		80	2,150		
12	WBV03b		1,420		330	7,100		
12	WBV04.2		1,420			350		

IER	Project	Steel Truck Miles Non-Local	Steel Barge Miles Total	Conc Pile Truck Miles Non-Local	Conc Pile Barge Miles Total	Aggrgte Truck Miles Non-Local	Aggrgte Barge Miles Total	Rock Barge Miles Total
12	WBV05.2		1,420			840		
12	WBV06.2		1,420			4,660		
12	WBV06a.2		2,840			4,360		
12	WBV07		1,420		80	1,810		
12	WBV08		1,420			2,020		
12	WBV10		1,420			1,280		
12	WBV11		1,420			750		
12	WBV13		1,420		80	1,810		
12	WBV14a.2		1,420			5,410		
12	WBV14g.2		2,840			10,190		580
12	WBV23		1,420			1,710		580
12	WBV33		1,420			2,680		580
12	WBV38.2		1,420			1,370		580
12	WBV44		1,420			5,770		580
12	WBV46.2		1,420			1,590		
12	WBV47.1		2,840					
12	WBV48.2		4,260			16,130		
12	WBV49.1		4,260			2,910		
12	WBV90		5,680		670		49,400	28,180
13	WBV09a							
13	WBV09b	268,020				4,100		
13	WBV12							580
14	WBV14b.2							580
14	WBV14c.2							580
14	WBV14d	288,260			250	6,140		
14	WBV14e.2					90		
14	WBV14f.2					460		
14	WBV14i							
14	WBV30	89,080				140		580
14	WBV37	71,740		16,220		2,010		580
15	WBV15a.2							

IER	Project	Steel Truck Miles Non-Local	Steel Barge Miles Total	Conc Pile Truck Miles Non-Local	Conc Pile Barge Miles Total	Aggrgte Truck Miles Non-Local	Aggrgte Barge Miles Total	Rock Barge Miles Total
15	WBV15b.2	224,420				3,820		
15	WBV17b.1							
15	WBV17b.2							
15	WBV18.2							
16	WBV70							
16	WBV71							
16	WBV72							580
16	WBV73	118,720		83,780		8,270		1,150
16	WBV74	229,920				4,530		580
16	WBV75	35,420		7,210		560		580
17	WBV16.2	412,440				9,440		580
17	WBV16b	122,480				3,230		580
17	WBV20	102,760				1,800		
17	WBV21	67,460				910		580
17	WBV22	214,280		190		2,530		580
17	WBV24	1,055,360				32,790		

Table 3-24. Non-Local Truck Trips, and Barge Trips By Construction Project Likely Scenario

IER	Project	Steel Truck Trips Non-Local	Steel Barge Trips Total	Conc Pile Truck Trips Non-Local	Conc Pile Barge Trips Total	Aggrgte Truck Trips Non-Local	Aggrgte Barge Trips Total	Rock Barge Trips Total
1	LPV03d.2							
1	LPV04.1							
1	LPV04.2A							
1	LPV04.2B							
1	LPV05.2A							
1	LPV05.2B							
1	LPV06a.2	290				330		
1	LPV06e.2	160				960		
1	LPV06f.2	60				70		
1	LPV07b.2	140				120		
1	LPV07c.2	130				120		
1	LPV07d.2	130				120		
2	LPV03.2A		7				13	8
2	LPV03.2B							
3	LPV00.2							27
3	LPV01.2							14
3	LPV02.2							27
3	LPV09.2	800			3	1,860		3
3	LPV09a.2	20		270				3
3	LPV12a.2	10		230		100		1
3	LPV16.2			50		30		
3	LPV17.2	50				20		
3	LPV18.2			20		30		
3	LPV19.2							15
3	LPV20.2							13
4	LPV101.2	230			1	1,110		1
4	LPV103.01A	120			1	340		
4	LPV103.01A2	40			1	110		
4	LPV104.01a							

IER	Project	Steel Truck Trips Non-Local	Steel Barge Trips Total	Conc Pile Truck Trips Non-Local	Conc Pile Barge Trips Total	Aggrgte Truck Trips Non-Local	Aggrgte Barge Trips Total	Rock Barge Trips Total
4	LPV104.02	270				160		
5	PCCP-01		2			740		
6	LPV105.01	640				1,030		
6	LPV105.02	210				360		
6	LPV106		5				6	
6	LPV106.01							16
6	LPV107	50				50		
7	LPV108							25
7	LPV109.02a					40		1
7	LPV109.02b							
7	LPV109.02c	60				110		
7	LPV110	30				20		
7	LPV111.01	190						
7	LPV111.02	70				800		
7	LPV113							
8	LPV144		1			1,000		3
9	LPV149		1			810		
10	LPV145		9				9	16
10	LPV146		9				13	40
10	LPV147		1	260		380		
10	LPV148.02		8				17	1
11	IHNC01							
11	IHNC-2a		1				5	2
11	IHNC-2b		1				2	1
11	IHNC-2c		2		19		13	35
11	IHNC-2d		1		7		3	30
12	WBV03a		1		1	180		
12	WBV03b		1		4	580		
12	WBV04.2		1			30		

IER	Project	Steel Truck Trips Non-Local	Steel Barge Trips Total	Conc Pile Truck Trips Non-Local	Conc Pile Barge Trips Total	Aggrgte Truck Trips Non-Local	Aggrgte Barge Trips Total	Rock Barge Trips Total
12	WBV05.2		1			70		
12	WBV06.2		1			380		
12	WBV06a.2		2			360		
12	WBV07		1		1	150		
12	WBV08		1			170		
12	WBV10		1			110		
12	WBV11		1			60		
12	WBV13		1		1	150		
12	WBV14a.2		1			440		
12	WBV14g.2		2			840		1
12	WBV23		1			140		1
12	WBV33		1			220		1
12	WBV38.2		1			110		1
12	WBV44		1			470		1
12	WBV46.2		1			130		
12	WBV47.1		2					
12	WBV48.2		3			1,320		
12	WBV49.1		3			240		
12	WBV90		4		8		26	49
13	WBV09a							
13	WBV09b	260				340		
13	WBV12							1
14	WBV14b.2							1
14	WBV14c.2							1
14	WBV14d	200			3	500		
14	WBV14e.2					10		
14	WBV14f.2					40		
14	WBV14i							
14	WBV30	80				10		1
14	WBV37	60		170		170		1
15	WBV15a.2							

IER	Project	Steel Truck Trips Non-Local	Steel Barge Trips Total	Conc Pile Truck Trips Non-Local	Conc Pile Barge Trips Total	Aggrgte Truck Trips Non-Local	Aggrgte Barge Trips Total	Rock Barge Trips Total
15	WBV15b.2	230				310		
15	WBV17b.1							
15	WBV17b.2							
15	WBV18.2							
16	WBV70							
16	WBV71							
16	WBV72							1
16	WBV73	110		890		680		2
16	WBV74	190				370		1
16	WBV75	30		80		50		1
17	WBV16.2	380				770		1
17	WBV16b	120				260		1
17	WBV20	90				150		
17	WBV21	60				70		1
17	WBV22	210				210		1
17	WBV24	940				1,340		

Table 3-25. Miles By Mode of Transportation by Project Likely Scenario

IER	Project	Total Truck Miles Local	Total Truck Miles Non-Local	Total Barge Miles
1	LPV03d.2	210,900	1,420	
1	LPV04.1	423,500		
1	LPV04.2A	131,700		
1	LPV04.2B	478,800		
1	LPV05.2A	339,800		
1	LPV05.2B	926,700		
1	LPV06a.2	65,800	337,070	
1	LPV06e.2	47,400	183,820	
1	LPV06f.2	59,900	78,760	
1	LPV07b.2	10,600	148,540	
1	LPV07c.2	149,100	145,740	
1	LPV07d.2	30,400	141,000	
2	LPV03.2A	282,800		39,240
2	LPV03.2B	230,100		
3	LPV00.2	267,900		15,530
3	LPV01.2	490,800		8,050
3	LPV02.2	330,800		15,530
3	LPV09.2	177,800	903,390	1,980
3	LPV09a.2	35,200	48,130	1,730
3	LPV12a.2	24,700	38,780	580
3	LPV16.2	3,700	4,570	
3	LPV17.2	206,800	71,190	
3	LPV18.2	3,100	2,070	
3	LPV19.2	311,100		8,630
3	LPV20.2			7,480
4	LPV101.2	71,300	256,610	660
4	LPV103.01A	501,000	145,700	80
4	LPV103.01A2	485,000	49,510	80
4	LPV104.01a	385,300		

IER	Project	Total Truck Miles Local	Total Truck Miles Non-Local	Total Barge Miles
4	LPV104.02	63,400	282,070	
5	PCCP-01	42,300	9,060	2,840
6	LPV105.01	138,100	690,900	
6	LPV105.02	247,600	218,110	
6	LPV106	154,100		18,500
6	LPV106.01			9,200
6	LPV107	32,300	65,770	
7	LPV108	303,200		14,380
7	LPV109.02a	7,232,700	520	580
7	LPV109.02b	448,900		
7	LPV109.02c	167,400	65,500	
7	LPV110	158,800	35,710	
7	LPV111.01	9,611,800	262,700	
7	LPV111.02	84,800	93,380	
7	LPV113	2,529,400		
8	LPV144	43,600	12,200	3,150
9	LPV149	205,300	9,840	1,420
10	LPV145	1,233,100		39,080
10	LPV146	819,300		60,480
10	LPV147	61,400	29,080	1,420
10	LPV148.02	5,074,500		44,240
11	IHNC01			
11	IHNC-2a			12,070
11	IHNC-2b			5,800
11	IHNC-2c			49,250
11	IHNC-2d			24,950
12	WBV03a	12,200	2,150	1,500
12	WBV03b	891,500	7,100	1,750
12	WBV04.2	2,000	350	1,420
12	WBV05.2	4,800	840	1,420

IER	Project	Total Truck Miles Local	Total Truck Miles Non-Local	Total Barge Miles
12	WBV06.2	26,400	4,660	1,420
12	WBV06a.2	21,300	4,360	2,840
12	WBV07	8,600	1,810	1,500
12	WBV08	9,200	2,020	1,420
12	WBV10	6,700	1,280	1,420
12	WBV11	3,800	750	1,420
12	WBV13	8,500	1,810	1,500
12	WBV14a.2	18,300	5,410	1,420
12	WBV14g.2	143,800	10,190	3,420
12	WBV23	5,800	1,710	2,000
12	WBV33	9,100	2,680	2,000
12	WBV38.2	4,700	1,370	2,000
12	WBV44	28,100	5,770	2,000
12	WBV46.2	5,400	1,590	1,420
12	WBV47.1	447,400		2,840
12	WBV48.2	80,800	16,130	4,260
12	WBV49.1	309,200	2,910	4,260
12	WBV90			83,920
13	WBV09a	533,300		
13	WBV09b	48,700	272,120	
13	WBV12	2,146,900		580
14	WBV14b.2	674,400		580
14	WBV14c.2	1,247,700		580
14	WBV14d	536,300	294,400	250
14	WBV14e.2	1,337,100	90	
14	WBV14f.2	341,500	460	
14	WBV14i	399,700		
14	WBV30	22,700	89,220	580
14	WBV37	40,300	89,970	580
15	WBV15a.2			
15	WBV15b.2	35,500	228,240	
15	WBV17b.1	1,951,700		

IER	Project	Total Truck Miles Local	Total Truck Miles Non-Local	Total Barge Miles
15	WBV17b.2	62,100		
15	WBV18.2			
16	WBV70	1,057,900		
16	WBV71	117,900		
16	WBV72	11,711,800		580
16	WBV73	265,700	210,770	1,150
16	WBV74	43,000	234,450	580
16	WBV75	10,800	43,190	580
17	WBV16.2	194,200	421,880	580
17	WBV16b	21,000	125,710	580
17	WBV20	14,400	104,560	
17	WBV21	8,200	68,370	580
17	WBV22	26,600	217,000	580
17	WBV24	331,800	1,088,150	

4 Effects Analysis Overview

Assessment of the environmental consequences from the four alternatives for materials transport to and within greater New Orleans focuses on four primary areas:

- Effects to traffic congestion,
- Effects to transportation infrastructure (e.g., road surfaces, bridges, culverts),
- Accident risks (increased risks of fatalities, injuries, and property damage accidents), and
- Diesel emissions.

To predict the effects transportation, the quantities of materials were compiled and converted to trips as described in section 2. Within a GIS environment, the transportation of all quantities was then modeled via all modes. The alternatives described in section 3 compile rational combinations of the transportation modes for the various materials evaluated and the section 3 tables summarize quantities, trips, and distances traveled for each of the four alternatives. With these trips and distances, by alternative, the estimated consequences could be evaluated and the alternatives compared.

Functional classification is the grouping of highways, roads and streets by the character of service they provide and was developed for transportation planning purposes. Basic to this construct is the recognition that each class has a different capacity to assimilate increases in truck traffic.

LADOTD Functional Classification

The Louisiana Department of Transportation and Development (LADOTD) has published a highway functional classification for New Orleans (LADOTD, 2008), segregating the public roads into different categories (1-5, and 8) as follows:

1. Interstate – interstate highways typically receive substantial federal funding and are owned, built, and operated by the state of Louisiana. These roads are controlled access, multiple lane divided highway with the highest rates of speed for traveling in a given area. Interstate 10 is such a road within greater New Orleans.
2. Expressway - an expressway is a divided highway for high-speed traffic with at least partial control of access. The difference between an expressway and the interstate highway or freeway is that expressways have a limited number of driveways and at-grade intersections. The West Bank Expressway (US 90) is an example of this type of road in greater New Orleans.
3. Principal arterial – the principal arterial roads represent the integrated system within greater New Orleans that connect the major centers of activity, are the highest traffic volume corridors, and facilitate the longest trips. These roads carry the major portion of trips entering and leaving the area, as well as the majority of trips simply passing through New Orleans.

   Because of the nature of the travel served by the principal arterial system, almost all fully and partially controlled access roads are part of this functional system including the interstate, other expressways, and other principal arterials (with no control of access).

4. Minor arterial - The minor arterial street system interconnects with and augments the principal arterial system and provides service for trips of moderate length at a somewhat lower level of travel mobility than principal arterials. This system also distributes travel to geographic areas smaller than those identified with the principal arterial system. Such roads typically carry local bus routes, provide intra-community continuity, but typically would not penetrate identifiable neighborhoods. Airline Highway would be an example of a minor arterial.

5. Urban collector - The collector street system provides land access service and traffic circulation within residential neighborhoods, commercial, and industrial areas. It differs from the arterial system in that roads on the collector system may penetrate residential neighborhoods, distributing trips from the arterials through the area to the ultimate destination. Conversely, the collector street also collects traffic from local streets in residential neighborhoods and channels it into the arterial system.

8. Local roads – The local roads offer the lowest level of mobility and are residential or commercial where service for through-traffic movement is deliberately discouraged. Typically these roads do not have public transportation service and are linked to the urban collectors.

It is important to note that roads frequently change functional classification as the same road passes through residential, commercial, or rural areas. This is because the same road may be a 2-lane 30-mph local road with 4-way stops at most intersections (class 8), transition to a 45-mph minor arterial with 4-lane signalized intersections (class 4), and then transition to a 55-mph principal arterial with no signalized intersections (class 3).

Table 4-1 shows the number of roads, sorted by functional classification, identified for the transportation of materials under the likely scenario.[16] Examples of each road functional class are shown in the table. The table also shows that there are six different roads of functional class 1 (Interstate) used for the materials transportation and 62 different segments of local roads (functional class 8) used for materials transportation. Figure 4-1 depicts the network of roads enumerated in table 4-1 that are included in the routing of project materials deliveries under the likely scenario.

[16] Section 1.5 (Materials Delivery Assumptions) described how routes were selected for materials transportation and impact evaluation.

Table 4-1. Roads in DOTD Functional Classes Used to Transport Materials (Likely Scenario)

LADOTD Functional Classification	Classification Description	Example of Road	Number of Roads Used
1	Interstate	I-310; I-10	6
2	Expressway	Westbank Expressway	6
3	Principal Arterial	Lapalco Boulevard Airline Highway (US 61)	35
4	Minor Arterial	Tchoupitoulas Street	44
5	Urban Collector	Bayou Road	17
8	Local Road	Kenner Avenue	62

Figure 4-1. Road Network Used for Project Materials Delivery (Likely Scenario)

4.1 Congestion

4.1.1 Truck Traffic

The Highway Capacity Manual[17] (HCM) is published by the National Science Foundation's Transportation Research Board (TRB) and provides state-of-the-art techniques for estimating the capacity and determining the level of service for transportation facilities (TRB, 2000). The HCM's analyses are based on determining the capacity of a facility (e.g., road, intersection, exit ramp) compared to the demand to use the facility.

The capacity of a facility is the maximum hourly rate at which vehicles can reasonably be expected to traverse a point or a uniform section of lane or roadway during a given time period under prevailing conditions (TRB, 2000). Capacity analysis examines segments or points of a facility under uniform traffic conditions with the reasonable expectancy that the stated capacity for a given facility is a flow rate that can be achieved repeatedly for peak periods of sufficient demand (TRB, 2000). Passenger cars per hour and vehicles per hour are measures that can define capacity.

Demand is the principal measure of the amount of traffic using a given facility. The traffic demand on the facility is based on either traffic data collected or a projection of traffic anticipated to use the facility due to anticipated developments. These traffic volumes are adjusted for many factors including the types of vehicles in the traffic stream, the grade of the roadway, and the characteristics of the traffic flow during peak times. The methodology, in its simplest form, compares the demand to the capacity and identifies the operational conditions as a "level of service" (Terry, 2009).

4.1.1.1 Level of Service

Level of service (LOS) is a quality measure describing the operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, traffic interruptions, freedom to maneuver, and driving comfort and convenience (TRB, 2000). Six LOS are defined with letters A through F designating each level; LOS A representing the best operating conditions and LOS F, the worst. Each LOS represents a range of operating conditions and the driver's perception of those conditions.

Level of service A represents virtually free-flowing conditions, in which the speed of individual vehicles is controlled only by the driver's desire and by prevailing condition, not by the presence of interference from other vehicles. Ability to maneuver within the traffic stream is unrestricted. LOS A occurs late at night in urban areas and frequently in rural areas.

Level of services B, C, and D represent increasing levels of flow rate with correspondingly more interferences from other vehicles in the traffic stream. Average running speed of the stream remains relatively constant through a portion of this range, but the ability of individual drivers to freely select their speed becomes increasingly restricted as the level of serviced worsens (goes from B to C to D). LOS B would have some impingement of maneuverability; two motorists

[17] The Highway Capacity Manual is a publication of the Transportation Research Board and contains concepts, guidelines, and computational procedures for evaluating the capacity and quality of service of various highway facilities, including freeways, highways, arterial roads, roundabouts, signalized and unsignalized intersections, rural highways, and the effects of transit, pedestrians, and bicycles on the performance of these systems.

might be forced to drive side-by-side, limiting lane changes. LOS C would have more congestion than B, where ability to pass or change lanes would not always be assured.

Level of service C is the target for urban highways in many places. At LOS C most experienced drivers are comfortable, roads remain safely below but efficiently close to capacity, and posted speed is maintained. LOS D is perhaps the level of service of a busy shopping corridor in the middle of a weekday, or a functional urban highway during commuting hours: speeds are somewhat reduced, motorists are hemmed in by other cars and trucks.

Level of service E is representative of operation at or near capacity conditions. Few gaps in traffic are available, the ability to maneuver within the traffic stream is severely limited, and speeds are low. Operations at this level are unstable and a minor disruption may cause rapid deterioration of flow to level of service F. On highways, this condition is consistent with a road over its designed capacity.

Level of service F represents breakdown or forced flow, where every vehicle moves in lockstep with the vehicle in front of it, with frequent drops in speed to nearly zero mph. At this level, stop-and-go patterns and waves have already been set up in the traffic stream, and operations at a given point may vary widely from minute to minute, as would operations in short, adjacent highway segments, as congestion waves propagate through the traffic stream. Operations at this level are highly unstable and unpredictable. For LOS F, it is difficult to predict flow due to stop-and-start conditions. As a result, the Highway Capacity Manual does not include analytical methods to establish or predict the maximum flow rate for facilities at LOS F (TRB, 2000). LOS F describes a road for which the travel time cannot be predicted and facilities operating at LOS F have more demand than capacity.

4.1.1.2 Factors Affecting Capacity and LOS

In most capacity analyses, prevailing conditions differ from the base conditions, and computation of capacity, service flow rate, and level of service must include adjustments based on roadway conditions. Base conditions assume good weather, good pavement conditions, users familiar with the facility, and no impediments to traffic flow. Examples of base conditions that affect capacity include width of lanes, speed limit, terrain, and impediments to through traffic (e.g., traffic control devices or turning vehicles (TRB, 2000).

Traffic conditions that influence capacity and levels of service include the vehicle type, specifically the effect of heavy vehicles (TRB, 2000). The entry of heavy vehicles (vehicles other than passenger vehicles) into the traffic stream affects the number of vehicles that can be carried on a particular facility (i.e., capacity). Heavy vehicles adversely affect traffic in two ways: (1) they are larger than passenger cars and occupy more road space, and (2) they have poorer operating capabilities than passenger cars, particularly with respect to acceleration, deceleration, and the ability to maintain speed on upgrades (TRB, 2000). The second impact is more critical because heavy vehicles cannot keep pace with passenger cars in many situations creating large gaps in the traffic stream that are difficult to fill by passing maneuvers (TRB, 2000).

4.1.1.3 Regional Planning Commission Traffic Analysis

The Regional Planning Commission (RPC) was created in 1962 by the Louisiana state legislature and local governing body authorization to fulfill federal and state requirements for regional comprehensive and economic development planning in greater New Orleans. Five of the parishes represented in greater New Orleans (Jefferson, Orleans, Plaquemines, St. Bernard and St. Tammany Parishes) are represented by the RPC. A staff of professionals with broad experience and expertise supports the RPC in urban and regional planning, including transportation analyses.

The development, manipulation and dissemination of transportation-related data is an ongoing task for the RPC. In that role, the RPC advances original data research, collects new data sets, and formulates management strategies to make the data available (RPC, 2007). In addition, the RPC staff create needed subsets of data by maintaining an on-going reconnaiassance and transportation surveillance effort including collecting original data (e.g., vehicle counts, travel times, intersection turning movements, classification of vehicles) (RPC, 2007).

Among the tools used to analyze the compiled data is a computerized transportation demand model. This tool allows the RPC staff to simulate existing and projected traffic volumes for various transportation scenarios. The RPC has also conducted extensive travel surveys in order to amass up-to-date data on typical travel patterns within greater New Orleans. The Congestion Management Planning Process has gathered comprehensive congestion measurements (travel time data, level of service, volume to capacity ratios, speed) and linked it with existing roadway segments in a geographic information database (GIS) (RPC, 2007) to evaluate expected future traffic conditions of traffic congestion using a Congestion Management Index.

4.1.1.4 Congestion Management Index - Quantifying the Effects to LOS from HSDRRS Construction

Within greater New Orleans, the LADOTD reports ADT data at approximately 300 nodes (LADOTD, 2009); the RPC supplements the LADOTD data with additional traffic count data that typically include directional data as well as vehicle classification (passenger vs. commercial). Because of the quality of the RPC's data, the effects of the HSDRRS-traffic on the existing traffic congestion in greater New Orleans was calculated using the RPC's Congestion Management Index.

The CM Index has three primary components – Average Daily Traffic (ADT) per Lane, Travel Speed Ratio (Average Speed to Posted Speed), and percent commercially occupied vehicles (% CVO). Each roadway segment on a congestion management (CM) route is assigned an ordinal rank, 1-5, for each of these measures. Ranking categories are predetermined and summarized in the sections below. Those scores are then applied to a formula, in which each of the measures is weighted for its relative importance to overall congestion.

The formula is:

CM Index = (.75) Travel Speed Ratio Score + (.15) ADT Score + (.10) % CVO Score

The index is calculated for each segment on the region's 32 CM routes. The routes, segments, and their logical termini were determined by RPC staff in consultation with stakeholders from a variety of agencies. Together they make up a road network that carries the vast majority of the region's vehicle miles traveled. Each CM segment can have a possible Index score of 1-5, with five representing the worst congestion and one representing near-free-flow conditions. The RPC asserts that any score over 3.25 is considered "congested." Since the components of the formula are ranked on an ordinal scale, the Index provides a relative score by which the CM segments can be compared against each other. In this sense the Index provides the RPC with a more specific method for determining which of the region's roadways have the "worst" congestion than other measures. Each component of the formula is briefly described below.

Travel Speed Ratio is calculated as the average observed speed on a road segment divided by the posted speed limit. Average travel speeds are determined through actual drive-time testing utilizing GPS tracking equipment. The higher the ratio, the more quickly traffic moves on a roadway segment. The ordinal scores for Travel Speed Ratio are:

Score	Travel Speed Ratio
1	> 1
2	≤ 1
3	≤ 0.75
4	≤ 0.5
5	≤ 0.25

Average Daily Traffic (ADT) data are obtained through a variety of sources, including RPC's consultant contracts, the Parishes and municipalities, and LaDOTD's traffic data collection program. ADT per lane rankings are used in order to normalize data on road segments with varying numbers of lanes. The ADT per lane ordinal scores are:

Score	ADT Per Lane
1	< 4,999
2	≤ 9,999
3	≤ 14,999
4	≤ 19,999
5	≥ 20,000

The percentage of Commercially Operated Vehicles (%COV) is the percentage of total vehicle traffic that is comprised of Class 4 and above vehicles (See FHWA *Traffic Monitoring Guide*, section 4). This data is collected through a variety of sources, including automatic and manual counting methods. The % COV ordinal scores are:

Score	% COV
1	< 3.99%
2	≤ 6.99%
3	≤ 9.99%
4	≤ 12.99%
5	≥ 13%

This congestion management index represents the most complete characterization of the existing congestion conditions within greater New Orleans and serves as the basis for estimating the effects to congestion from the HSDRRS construction.

4.1.1.5 Truck Trip Thresholds

An additional method was used to increase the understanding and improve the communication of truck congestion resulting from materials delivery. This method was based on the need to identify individual, highly utilized roads for community-level planning and public awareness. A key component of the analysis was the establishment of truck traffic thresholds. The thresholds were used as a proxy to suggest the level of truck traffic at which the roadway users and adjacent property owners would likely perceive an increase.

Thresholds of project-related truck traffic increases were identified for each functional road class, and are shown in table 4-2. The table shows the functional-class specific thresholds as a total number of trucks within a 12-hour workday, and indicates the frequency a truck would pass a fixed location.

Table 4-2. Truck Frequency Thresholds by Functional Road Class

Functional Road Class	Materials Transportation Trucks Per 12-Hour Workday	Truck Frequency
1	1,500	30 seconds
2	1,500	30 seconds
3	360	2 minutes
4	240	3 minutes
5	150	5 minutes
8	50	15 minutes

4.1.2 Rail Congestion

In the year 2000, 17 freight railroads operated in Louisiana and these railroads carried more than 1.8 million carloads on 3,187 route-miles of track with interstate movements accounting for 94 percent of Louisiana's 74 million tons of rail traffic (LADOTD, 2003). Overall, rail was projected to grow by 40 percent, though there was a great variance across commodities and regions (LADOTD, 2003).

Because railways operate on a dedicated right-of-way, there are characteristically no congestion problems for rail transportation (MARAD, 1994). However, increased rail traffic, because of its sheer volume, can cause congestion problems for surface roads where road traffic intersects rail traffic. However, because none of the construction sites for the WBV or LPV projects have direct access or offloading facilities from rail cars to construction sites, rail use would require an intermodal transfer to trucks for local transportation to the various construction reaches. While using rail transport for commodities such as steel could decrease the number of truck miles driven, the end result--with respect to congestion--would be similar to the decrease in levels of service observed if only trucks were used to move materials. This would lead to surface road congestion and degradation of levels of service, but the "origin" of materials entering the surface road network in greater New Orleans would be at rail yards.

4.1.3 Barge Congestion

Louisiana is located at the intersection of the two largest waterway networks, the Mississippi River System and the Gulf Intra-Coastal Waterway, comprising 86 percent of the national network in terms of length and 97 percent of the system's overall tonnage (LADOTD, 2003). Louisiana domestic barge tonnage totaled 281 million tons in the Year 2000 (LADOTD, 2003). These highly developed transportation systems are efficient modes of transportation with increasing economies of scale, especially for low-value, high-volume bulk cargoes.

Water transport has few congestion problems (MARAD, 1994). Waterway operators encounter little traffic other than pleasure boaters who steer clear of commercial traffic, and as a rule, each keeps to their 'own' area within a river. The waterway industry has met the increases in additional cargo demand, by building towboats with greater horsepower that are capable of pushing more barges at a time. The result has been fewer, but bigger, tows often with 15 barges in a single tow (MARAD, 1994).

4.2 Infrastructure Impacts

The extent of damage to the existing infrastructure of the New Orleans Metropolitan Area from the Hurricanes Katrina and Rita has been the subject of ongoing investigation. In Jefferson, Orleans, Plaquemines, and St. Bernard Parishes, much of the roadway network was submerged for at least several days and in many cases for weeks (LADOTD, 2005). The South Louisiana Submerged Roads Program (www.pavinglaroads.com) is addressing more than 50 street repair projects in Jefferson, Orleans, Plaquemines, St. Bernard, and St. Tammany parishes in Phase A, but much of the remaining New Orleans Metropolitan Area has significant maintenance, rehabilitation, and reconstruction issues.[18] These roads are typically receiving a new wearing

[18] Maintenance refers to the least intensive and least costly group of activities – those designed to address minor or spot distress to make the ride more comfortable or to extend the life of the pavement by preventing deterioration. Rehabilitation refers to an intermediate level of roadwork on streets with moderate to severe distress.

course as well as other components at an average cost of approximately $500,000 per lane mile (RPC, 2009a).

According to a 2008 report by the Bureau of Governmental Research, New Orleans' last city street survey (2004) identified 32 percent of New Orleans' streets needed major rehabilitation or total reconstruction and another 34 percent were in need of immediate maintenance prior to Hurricane Katrina (BGR, 2008). The problem allegedly stems from chronic under-funding of necessary maintenance (BRG, 2008). Prior to the disaster, the city was spending $20 million to $30 million a year on major street repairs and reconstruction (BRG, 2008). The City of expects to spend $162 million of locally generated capital funds during the next three years, but spends only $3 million a year on maintenance. The Department of Public Works estimates that it would cost $3 billion to meet rehabilitation and reconstruction needs and another $40 million to $45 million a year to properly maintain the streets (BRG, 2008). While these statistics are only relative to Orleans Parish, they are assumed to be representative of the general pavement conditions within greater New Orleans.

Over the past 10 years Louisiana Department of Transportation and Development (LADOTD) has funded or conducted extensive studies on the effects of heavy load truck transportation on the roadway infrastructure of Louisiana (Roberts, et al, 2005; Roberts and Kjakfar, 1999; Fletcher, 1997) as well as estimating the effects from inundation during Hurricane Katrina (Gaspard et al, 2007). These references provide relevant examples of analyses of the effects of heavy truckloads on road surfaces as well as bridges in Louisiana. However, the vehicle axle configuration of any particular truck strongly affects roadway and bridge degradation. For example, the unit pavement cost per mile for a 3-axle 54,000 GVWR truck is 50-percent higher than the cost of a 5-axle 80,000 GVWR truck on the same road because the per-axle weight is less for the heavier truck (LADOTD, 1999). Projecting actual roadway damage and bridge fatigue is speculative because the fleet of trucks completing the work will be at the discretion contractors that are selected.

4.2.1 Truck Damage to Infrastructure

Roadway pavement, bridges, and culverts are designed and constructed to withstand the repeated loadings inflicted by the number of heavy trucks that were anticipated to use the route. The useful life of a new pavement is typically 20 years, at which point the structural integrity has been worn from the roadway and major rehabilitation is required. The total load expected over the pavement's "lifetime" due to heavy truck traffic, is the primary input in calculating the thickness of the pavement (MARAD, 2007). The design of road, bridge, and culvert construction and the robustness thereof are also, in part, based on the anticipated demand for daily usage by large trucks.

The most robust roadway designs are for the facilities designed to carry the largest number of the heaviest loads on a daily basis: the interstate, expressway, and arterial roads. The design loads expected for the minor arterial, urban collector, and local roads do not account for frequent heavy loads. As such, the effect of using the minor arterial, urban collector, and local roads to haul large quantities of heavy loads would be the accelerated wearing of road surfaces, bridges,

Reconstruction refers to the most intensive and costly approach. It applies to streets that have deteriorated to the point of failure and involves complete removal and replacement of the surface and substructure of the roadway.

and culverts. These facilities were simply not designed to support the anticipated heavy truck traffic demand needed for transporting materials for the HSDRRS.

Using GIS-based routing, distances modeled for truck transportation may be sorted according to road functional classifications of the transportation routes. Minor arterial, urban collector, and local roads are the least robust surface roads that would be used for truck transportation. These three functional classes of roads were designed anticipating the fewest heavy truckloads being applied to their surfaces. According to Louisiana DOTD's "Preliminary Assessment of Pavement Damage Due to Heavier Loads on Louisiana Highways (LADOTD, 1999)," the pavement degradation cost of a 3-axle truck at 54,000 GVWR on a local road is more than 60 times the pavement degradation cost for that same vehicle to travel on an interstate highway.

In addition to the road surfaces themselves, culverts and bridges integral to the transportation routes were designed and constructed based on the functional classification of the road they are within. A statewide examination of bridges identified 13,426 bridges in Louisiana including bridges on local roads and those within the national highway system roads (LADOTD, 2003). Of the 10,851 non-National Highway System bridges, 2,320 (21-percent) were structurally deficient[19] and 1,636 (15-percent) were functionally obsolete[20] (LADOTD, 2003). Of the 2,575 bridges within the National Highway System, 105 were classified as structurally deficient and 530 were functionally obsolete (LADOTD, 2003).

There are approximately 300 crossings where roads likely to be used for materials transportation intersect a bridge, culvert, or similar water conveyance structure. Approximately 103 of the crossings are within roadways classified as minor arterial (62), urban collector (19), or local roads (22). These locations would be the least capable of withstanding the increased burden of heavy truckloads necessary to transport materials to the construction sites.

According to LADOTD's 2005 study "Effects of Hauling Timber, Lignite Coal, and Coke Fuel on Louisiana Highways and Bridges (Roberts et al, 2005)," fatigue costs to state bridges crossed by 80,000 GVWR trucks are minimal because the stresses caused by such loads are within design load. However, parish bridges crossed by the same 80,000 GVWR trucks are subject to substantial damage (Roberts et al, 2005).

4.2.2 Rail and Barge Damage to Infrastructure

The relatively small number of train and barge trips under the Max Barge, Max Rail, and Likely Scenario would not be expected to have any discernable effects to the rail or marine terminal infrastructure in greater New Orleans.

4.3 Accident Risks

Risk identification is an organized approach to synthesizing engineering or scientific information in order to assess the extent of risk to human health, safety, or the environment. Because the assessment of transportation risk involves different modes of transportation, with varying numbers of shipments, over different routes of varying lengths, the relative risks are compared

[19] "Structurally deficient" means the bridge is in need of rehabilitation in order to carry loads for which it was originally designed (LADOTD, 2003).
[20] "Functionally obsolete" means the bridge is structurally sound, yet in most cases with width and/or clearance restrictions.

based on the average impacts estimated for each mile traveled (i.e., "per-mile" unit risks). These unit risks, and the total risks they predict when multiplied by the distances traveled, are intended for comparison purposes only and provide a benchmark with which to understand the relative differences between the risks of the different modes of transport. The unit risks in the comparison were based on data from two primary references: "State-Level Accident Rates of Surface Freight Transportation: A Reexamination" (Saricks and Tompkins, 1999), and "Large Truck Crash Facts – 2005" (USDOT, 2007).

4.3.1 Truck

Transportation of construction materials involves a risk to members of the public and accidents during transportation may cause property damage, injures, and fatalities. The U.S. Department of Transportation's Federal Motor Carrier Safety Administration's motor carrier reporting rules (49 CFR § 390.5) define an accident as an occurrence involving a commercial motor vehicle operating on a public road that results in (1) a fatality and/or (2) bodily injury to a person that requires medical treatment away from the accident scene; and/or (3) one or more involved motor vehicles incurring disabling damage as a result of the accident such that the vehicle must be towed from the scene (Saricks and Tompkins, 1999).

The most recent edition of the U.S. Department of Transportation's Large Truck Crash Facts (USDOT, 2007) contains descriptive statistics about fatal, injury, and property damage only (PDO) crashes involving large trucks from 2005. These summary statistics report the occurrence rates, in events per 100 million miles traveled, for all three categories of large truck accident (fatal, injury, PDO) nationwide. Large trucks are defined as trucks with a gross vehicle weight rating (GVRW) exceeding 10,000 pounds.

For the calendar year 2005 data, the rates of occurrence per 100,000,000 miles traveled are presented in table 4-3 (USDOT, 2007). For every 100,000,000 miles traveled for large trucks, there were 2.34 fatalities, 51.1 injuries, and 159 PDO events.

Table 4-3. Large Truck Accident Rates per 100 Million Miles

Fatalities	Persons Injured	Vehicles With Property Damage Only
2.34	51.1	159

Source: USDOT, 2007.

Estimating the number and type of accidents that could occur under the different transportation alternative scenarios requires multiplying the large truck accident rates (table 4-3) by the number of large truck miles traveled under the respective alternatives.

4.3.2 Rail

Within the Federal Railway Administration's (FRA) rules for the reporting of accidents and incidents (49 USC 20901), rail carriers must file a report with the Secretary of Transportation, not later than 30 days after the end of each month in which an accident or incident occurs, that states the nature, cause, and circumstances of the reported accident or incident.

The criteria for a reportable accident or incident currently encoded in 49 CFR Part 225 are as follows:

- An impact occurs between railroad on-track equipment and (a) a motorized or non-motorized highway or farm vehicle, (b) a pedestrian, or (c) other highway user at a highway-rail crossing,
- A collision, derailment, fire, explosion, act of God, or other event involving the operation of standing or moving railroad on-track equipment results in aggregate damage (to on-track equipment, signals, track and/or other track structures, and/or roadbed) of more than $6,700, and
- An event arising from railroad operation that results in (a) the death of one or more persons; (b) injury to one or more persons, other than railroad employees, that requires medical treatment; (c) injury to one or more employees that requires medical treatment or results in restriction of work or motion for one or more days, one or more lost work days, transfer to another job, termination of employment, or loss of consciousness; and/or (d) any occupational illness of a railroad employee diagnosed by a physician.

Accident rates for railroad operations (accidents/incidents/fatalities) were not based on train miles traveled because construction materials would not always be moved in uniform-length dedicated trains. Instead, unit risk factors for train hauling were based on the railcar-mile of movement (Saricks and Tompkins, 1999). For ease in comparison to the truck risks, these factors were converted to rates per railcar-mile.

Louisiana-specific unit risks were developed by Saricks and Tompkins (1999) by using state accident data for the years 1994-1996 in the numerator and the estimated total in-state railcar distances traveled (loaded and unloaded) as the denominator. Using these numbers, annual risk factors were developed as an accident rate per railcar-mile. The three year's risk factors were averaged to get an average rate per railcar-mi and those risk factors were then multiplied by 100,000,000 miles to provide a basis for comparison between the truck, rail, and barge risks (see table 4-4).

Table 4-4. Rail Car Accident Rates Per 100 Million Rail Car Miles

Fatalities	Persons Injured	Property Damage Only
9	33	20

Estimating the number and type of accidents that could occur under the different transportation alternative scenarios requires multiplying the rail car accident rates (table 4-4) by the number of railcar miles traveled under the respective alternatives.

4.3.3 Barge

Under 46 USC Part 61, Reporting Marine Casualties, criteria have been established required reporting (by vessel operators and owners) of marine casualties and incidents involving all US flag vessels occurring anywhere in the world and any foreign flag vessel operating on waters subject to the jurisdiction of the US. An incident must be reported within five days if it results in:

- Death of an individual,
- Serious injury to an individual,
- Substantial loss of property,
- Damage affecting the seaworthiness or efficiency of the vessel, or
- Significant harm to the environment.

Saricks and Tompkins' (1999) accident rates for waterway operations were developed by combining data from the Coast Guard's Marine Casualty and Pollution Database and summary information from USACE annual publication Waterborne Commerce of the United States. Accident types included allisions (striking of/scraping against stationary structures), collisions (between vessels or involving a vessel and another moving vehicle), barge breakaways, fires, explosions, groundings, structural failures, flooding, capsizing, and sinking that occurred in US inland waters or (identifiably) within 100 miles of the coastline (Saricks and Tomkins, 1999).

Their analyses developed unit risk factors for waterway operations (accidents, injuries, and fatalities) that standardized the risk factors to rates per 500-ton shipment mile by waterway type and by state. The ton-mile estimates were divided by the 500-ton shipment weight to produce a unit risk factor similar to "railcar" and "truckload" as shown in table 4-5.

Table 4-5. Waterborne Vessel Accident Rates per 100 Million Shipment Miles

Fatalities	Persons Injured	Property Damage Only
1	11	270

Estimating the number and type of accidents that could occur under the different transportation alternative scenarios requires multiplying the barge travel accident rates (table 4-5) by the number of railcar miles traveled under the respective alternatives.

4.4 Air Quality - Diesel Emissions

As of April 30, 2004, the four parishes surrounding the New Orleans urbanized area (Jefferson, Orleans, St. Bernard and St. Charles parishes) were determined to be in compliance with the new, 8-hour standard for ozone in accordance with the Clean Air Act Amendments of 1990 (RPC, 2009). The determination was based on three consecutive years of air quality monitoring data that demonstrated compliance with the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. On May 27, 2008, new air quality standards for ozone went into effect as promulgated by the US Environmental Protection Agency and the newer, more stringent standards may have an impact on the region's ability to meet the NAAQS (RPC, 2009).[21]

[21] This standard is currently under reconsideration by the USEPA. USEPA could propose a lower standard by December 2009 and promulgate a final ruling by August 2010.

There are three primary methods for transporting materials to and within greater New Orleans: truck, rail, and barge. However, few construction projects are accessible by barge, none are directly accessible by rail, and all are accessible by truck. To use rail or barge, the material would need to be offloaded from the bulk containers at rail yards and marine terminals, loaded onto trucks, and delivered to the construction projects. In addition, the opportunity to use rail or barge is restricted to the transport of steel, rock, and the aggregate materials used in the production of concrete because no feasible method exists for using barge or rail for earthen material delivery. As such, the emissions from the truck transport for the distribution of earthen borrow within greater New Orleans cannot be reduced by the use of rail or barge.

Sections 4.4.1 through 4.4.3 show the differences in emissions that would be produced for truck, rail, and barge transportation of materials to and within greater New Orleans.

4.4.1 Truck Emissions

The 1990 Federal Clean Air Act Amendments directed the Environmental Protection Agency (EPA) to develop two separate Federal conformity rules. Those rules (promulgated as 40 CFR Parts 51 and 93) are designed to ensure that Federal actions do not cause, or contribute to, air quality violations in areas that do not meet the national ambient air quality standards. The two rules include transportation conformity, which applies to transportation plans, programs, and projects (i.e., projects that involve the building of roads); and general conformity, which applies to all other non transportation-related projects, including the construction of the HSDRRS.

The EPA has set National Ambient Air Quality Standards (NAAQS) for six principal air quality pollutants, called “criteria” pollutants. They are carbon monoxide, nitrogen dioxide, ozone,[22] lead, particulates of 10 microns or less in size (PM-10 and PM-2.5), and sulfur dioxide.

The Clean Air Act General Conformity Rule (58 FR 63214, November 30, 1993, Final Rule, Determining Conformity of General Federal Actions to State or Federal Implementation Plans) was designed to ensure that Federal actions do not impede local efforts to control air pollution. It is called a conformity rule because Federal agencies are required to demonstrate that their actions “conform with” (i.e., do not undermine) the approved State Implementation Plan[23] (SIP) for their geographic area. The final rule dictates that a conformity review be performed when a Federal action generates air pollutants in a region that has been designated a non-attainment or maintenance area for one or more of the six NAAQS criteria pollutants.

All of the Parishes within greater New Orleans are in “attainment” of the NAAQS for each of the six criteria pollutants. Because of this, no detailed conformity analyses were required[24] for the IERs. Although not required for a conformity assessment and evaluation of Clean Air Act

[22] Ozone is the only parameter not directly emitted into the air but forms in the atmosphere when three atoms of oxygen (0^3) are combined by a chemical reaction between oxides of nitrogen (NOx) and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust and industrial emissions, gasoline vapors, and chemical solvents are some of the major sources of NOx and VOC, also known as ozone precursors. Strong sunlight and hot weather can cause ground-level ozone to form in harmful concentrations in the air.

[23] A State Implementation Plan (SIP) is the federally-approved plan by which each state identifies how it will attain and/or maintain the health-related primary and welfare-related secondary National Ambient Air Quality Standards (NAAQS).

[24] If one or more of the priority pollutants had not been in attainment, then the proposed actions would have been subject to detailed conformity determinations unless these actions were clearly *de minimus* emissions. Use of the *de minimus* thresholds assures that the conformity rule covers only major Federal actions (USEPA, 1993).

compliance, the quantification of the mobile source, direct emissions from the materials transportation is necessary to address the cumulative effects under NEPA. The Mobile Source Emission Factor (MOBILE) model is an EPA emission factor model for predicting gram per mile emissions of the priority pollutants and other toxics from on-road vehicles under various conditions.[25] The MOBILE model was used to quanitify the emissions from construction materials transportation. This analysis does not include non-road emissions from demolition, construction equipment used to build the HSDRRS, or emissions from materials transportation off of the public roads within temporary work area easements or at construction sites.

In order to use the MOBILE model to quantify on-road emissions from materials transport, three variables needed to be established:

1. Types of trucks assumed to transport materials,
2. Distances those trucks would travel to complete the project, and
3. Rates at which those trucks would emit pollutants [i.e., emissions factors (grams/mile)] during transportation.

The MOBILE model provides only two classes of heavy-duty diesel vehicles (HDDV). Class 8A are the smaller vehicles where their gross vehicle weight restriction is between 33,001-60,000 pounds; Class 8B represents the larger heavy-duty diesel vehicles where the gross vehicle weight restriction is greater than 60,000 pounds. The assumptions made regarding hypothetical distribution of truck miles traveled in each of the classes (HDDV8A and HDDV8B) are shown in table 4-6. The percentages are different for each of the construction materials based on an assumed distribution of truck size in the fleet.

Table 4-6. Assumed Distances by MOBILE 6.2 HDDV Class

	Earthen Fill	Steel	Ready-Mix Concrete	Concrete Pile	Aggregate	Rock
Assumed Percent HDDV8A	10%	20%	60%	20%	10%	20%
Assumed Percent HDDV8B	90%	80%	40%	80%	90%	80%

MOBILE 6.2 was used to generate emission factors for volatile organic hydrocarbon (VOC), carbon monoxide (CO), oxides of nitrogen (NOx), exhaust particulate matter (PM), sulfur dioxide (SO_2), ammonia (NH_3), and carbon dioxide (CO_2). The model calculates emission rates under various conditions affecting in-use emission levels (e.g., ambient temperatures, average traffic speeds).

The model includes default values for a wide range of conditions that affect emissions. These defaults are designed to represent "national average" input data values. For this analysis,

[25] Online at: http://epa.gov/OMSWWW/m6.htm

additional values were specified in the input file[26] to represent regional atmospheric and climactic conditions for the New Orleans area (e.g., elevation above sea level, time of year, daily high and low temperature, absolute humidity). Based on these input parameters, composite emissions factors or emission rates in grams/mile as well as average fuel efficiency (miles/gallon) were generated by the model, and are shown in table 4-7.

Table 4-7. Composite Emission Factors and Diesel Fuel Use

Pollutant	**Vehicle Class from Mobile 6.2**	
	HDDV8A (33,001 – 60,000 lbs GVWR) Emission Factor (g/mi)	HDDV8B (>60,000 lbs GVWR) Emission Factor (g/mi)
VOCs	0.4010	0.4800
NOx	7.1800	8.7220
CO_2	1,550.2000	1,626.6000
CO	1.7640	2.3520
PM_{10}	0.1655	0.1880
$PM_{2.5}$	0.1523	0.1731
SO_2	0.0144	0.0152
NH_3	0.0270	0.0270
Miles/Gallon	6.6000	6.3000

4.4.2 Rail Emissions

The USEPA has established emission standards for NOx, HC, CO, and PM for newly manufactured and remanufactured diesel-powered locomotives and locomotive engines (EPA, 2009). Three separate sets of emission standards have been adopted, depending on the date a locomotive was first manufactured. The first set of standards (Tier 0) apply to locomotives and locomotive engines originally manufactured from 1973 through 2001. The second set of standards (Tier 1) apply to locomotives and locomotive engines originally manufactured from 2002 through 2004. The final set of standards (Tier 2) apply to locomotives and locomotive engines originally manufactured in 2005 and later. It is important to emphasize that the emission factors provided by EPA (EPA, 2009) rely on many simplifying assumptions and therefore the emission rates calculated should be considered as approximations.

[26] The input parameters and input file as well as the output file are included as appendix A.

Calculating the non-road emission factors rely on estimates of the amount of a pollutant emitted by a particular type of equipment during a unit of use. Typically, emission factors for non-road sources are reported in grams per horsepower-hour (g/hp-hr), but they also may be reported in grams per mile, grams per hour, and grams per gallon. The EPA has established standards to calculate emissions from railroad locomotives in the form of an expected fleet average for emissions of NOx, PM_{10}, and HC emission factors by calendar year (EPA, 2009); the emissions factors for 2010 were used for this analysis and are presented in table 4-8. The emission factor used to estimate the CO emissions is from previous EPA guidance (EPA, 1997). The EPA guidance (EPA, 2009) does not provide an emission factor for ammonia (NH_4) so the data are reported as not available (N/A).

These EPA emission factors provide a method for estimating emissions when fuel gallons are known. Detailed data for train fuel consumption or composition are generally proprietary, but estimates of average fuel efficiencies have been developed and are approximately 2 to 3 gallons per mile (MARAD, 2007).

Gram per gallon emissions of sulfur dioxide (SO_2) and carbon dioxide (CO_2) are largely independent of engine parameters and are primarily dependent on fuel properties (EPA, 2009). As such, locomotive-specific emission rates are not provided by the EPA emission factor guidance (EPA, 2009). Instead, the Technical Highlights (EPA, 2009) recommends that SO_2 and CO_2 emission rates be calculated based on the properties of the specific fuel being used by the locomotives and the emission rates can be assumed to be the same as for other diesel engines operating on similar fuel. Therefore, the emission factors for SO_2 and CO_2 will be the same as was used for estimating SO_2 and CO_2 emissions for trucks.

Table 4-8. Estimated Emission Rates for Locomotives for Calendar Year 2010

	VOC grams/gal	NOx grams/gal	CO_2 grams/gal	CO grams/gal	$PM_{2.5}$ grams/gal	PM_{10} grams/gal	SO_2 grams/gal
Large Line-Haul	8.7	157.0	10,084.6	26.6	4.6	4.7	1.9

Sources: USEPA, 2009; USEPA, 1997.

4.4.3 Barge (Tug) Emissions

There are different types of tugs and barges that commonly operate on the lower Mississippi: towboats and pushboats. A river tug or pushboat is generally a flat-bottomed boat with a flat bow. The bow meets up against the flat stern of a river barge, the two are secured to each other, and the tug pushes the barge or barges up or down the river. In one variation, the pushboat has a rounded or pointed bow that fits in a notch on the stern of a barge (notch barge) and then commences to push the barge. Less commonly seen are towboats. Unlike a pushboat, the hull of the towboat does not, generally speaking, touch the barge. Instead a long line passes between the towboat and the barge as the towboat pulls the barge forward. Towboats are more commonly used for ocean going barges and on the Great Lakes than they are in the rivers (USEPA, 1999). Tows may be as large as 40 barges per tow on the lower Mississippi River (USEPA, 1999), however table 4-9 summarizes an EPA-published rule of thumb for estimating barge-to-tug ratios per tow.

Table 4-9. Barges Per Tug Assumptions

Tug Horsepower Range	Barges/Tug
3,500 and above	15
1,500-3,500	10
<1,500	5

Source: USEPA, 1999.

Strictly speaking, barges do not emit pollutants; emissions come from the tugboats that push or pull them. The EPA has promulgated emissions standards for marine vessel engines and classifies the barge tugs as non-oceangoing ships. The EPA data on non-oceangoing ships indicate that, based on a sample of approximately 100 vessels, the average rated horsepower for tugs was 4,268 hp (USEPA, 2000). The same source provides suggested load factors of 80-percent (cruise speed), 40-percent (slow cruise), and 20-percent (maneuvering) as a percent of the maximum continuous rating. These loading factors represent the varying conditions under which a tug would operate and the corresponding changes in emissions. Table 4-10 provides emission factors in grams emitted per hour of operation assuming EPA's average horsepower of 4,268 HP for non-oceangoing tugs (USEPA, 2000).

Table 4-10. Emission Factors (grams/hour) For Tugboats

NOx	CO	HC	SOx	PM 2.5	PM 10	CO_2	NO_2
42,015.6	3,501.3	1,591.5	4,144.3	768	834.9	2,132,610	63.66

Source: Capital Regional District Air Contaminant Emissions Inventory for 2004 (2008 Revision), 2008.

5 Transportation Alternatives Assessed and Compared

These analyses evaluate the effects from moving materials to, and within greater New Orleans in order to construct projects with a total cost of over $15 billion. It is important to realize that applied numerical models describe processes and make predictions about where, when and how the modeled phenomenon will occur, but have limits because of the assumptions used in the model.

The environmental consequences for transportation were modeled using materials quantities from ongoing construction designs in various stages of completion, with associated schedule changes, based on standardized truck, rail, and barge loading factors, and transported along unspecified routes to construction projects. This analysis depicts what the effects would be if there were no design or schedules changes after July 2009, and all of the simplifying assumptions described in this report were uniformly correct. Predicting traffic or road surface conditions on a particular segment of route, on a given day in the project schedule is not a realistic expectation from this analysis.

However, these limitations should not diminish the value of the analysis or the validity of the alternatives comparison. Each of the four alternatives (Max Truck, Max Barge, Max Rail, and theLikely Scenario) is evaluated to compare the effects to traffic congestion (5.1), infrastructure degradation (5.2), accidents (5.3), and emissions (5.4). The similarities and limited differences between the alternatives are valuable for the consideration of transportation alternatives. Slight differences in some of the metrics (e.g., truckloads) because of different rounding assumptions as the data were manipulated; this does not diminish the value of the assessment to decisions makers.

5.1 Congestion

Congestion resulting from project implementation was addressed using two methods: RPC's Congestion Management Index (CMI), and by defining thresholds at which the public would be likely to perceive the increase in traffic and identifying which specific roads exceeded those thresholds.

5.1.1 Congestion Impacts Evaluated using the CMI

Using the analytical approach discussed in section 4.1 Congestion, effects to local traffic were estimated for each of the transportation alternatives using the RPC's CMI. Each of the transportation routes are made up of many different road classes as the truck proceeds from origin to destination. In order to assess effects to traffic along the route, each route was parsed into segments by road class. This allows the analysis of the effects to traffic at distinct points along the route.

Likely transportation routes developed as part of this analysis were parsed into approximately 8,000 route segments. These route segments, along with schedules for delivery and the demand-driven truck trips, formed the basis for the calculation of incremental changes to the CMI.

These changes provide a relative assessment of the predicted changes in traffic. Over 3 million separate changes in the CMI were calculated for all transportation route segments, for six classes of roads, for each of the 380 weeks of the project analysis period, for each of the four alternatives, moving more than 2 million truckloads.

Table 5-1. Maximum Truck Use – Changes in CMI

	Minimum			Median			Maximum		
DOTD Class	Existing	With Project	Change	Existing	With Project	Change	Existing	With Project	Change
1	2.814	2.817	0.003	2.814	2.817	0.003	2.814	2.821	0.007
2	2.785	2.790	0.005	2.785	2.790	0.005	2.785	2.833	0.048
3	2.891	2.906	0.015	2.891	2.906	0.015	2.891	2.928	0.037
4	2.822	2.836	0.014	2.822	2.836	0.014	2.822	2.874	0.052
5	2.270	2.270	0.000	2.270	2.270	0.000	2.270	2.270	0.000
8	3.137	3.153	0.016	3.137	3.153	0.016	3.137	3.161	0.023

Table 5-2. Maximum Truck Use – Percent Change in Commercial Vehicles

	Percentile								
DOTD Class	Min	50%	60%	70%	80%	90%	95%	99%	100%
1	0	0	0	1	1	4	7	14	64
2	0	0	1	1	3	5	13	145	317
3	0	0	0	0	2	10	22	89	688
4	0	0	0	0	0	2	15	75	240
5	0	0	0	0	1	3	4	18	72
8	0	0	0	0	0	2	4	32	116

Table 5-3. Maximum Barge Use – Changes in CMI

	Minimum			Median			Maximum		
DOTD Class	Existing	With Project	Change	Existing	With Project	Change	Existing	With Project	Change
1	2.814	2.817	0.003	2.814	2.817	0.003	2.814	2.821	0.007
2	2.785	2.790	0.005	2.785	2.790	0.005	2.785	2.833	0.048
3	2.891	2.906	0.015	2.891	2.906	0.015	2.891	2.922	0.031
4	2.822	2.836	0.014	2.822	2.836	0.014	2.822	2.858	0.036
5	2.270	2.270	0.000	2.270	2.270	0.000	2.270	2.270	0.000
8	3.137	3.153	0.016	3.137	3.153	0.016	3.137	3.161	0.023

Table 5-4 Maximum Barge Use – Percent Change in Commercial Vehicles

	Percentile								
DOTD Class	Min	50%	60%	70%	80%	90%	95%	99%	100%
1	0	0	0	0	0	1	2	9	64
2	0	0	0	0	0	2	9	143	315
3	0	0	0	0	1	5	14	77	688
4	0	0	0	0	0	1	3	47	240
5	0	0	0	0	1	3	3	18	70
8	0	0	0	0	0	0	2	22	116

Table 5-5. Maximum Rail Use – Changes in CMI

	Minimum			Median			Maximum		
DOTD Class	Existing	With Project	Change	Existing	With Project	Change	Existing	With Project	Change
1	2.814	2.817	0.003	2.814	2.817	0.003	2.814	2.821	0.007
2	2.785	2.790	0.005	2.785	2.790	0.005	2.785	2.833	0.048
3	2.891	2.906	0.015	2.891	2.906	0.015	2.891	2.923	0.033
4	2.822	2.836	0.014	2.822	2.836	0.014	2.822	2.858	0.036
5	2.270	2.270	0.000	2.270	2.270	0.000	2.270	2.270	0.000
8	3.137	3.153	0.016	3.137	3.153	0.016	3.137	3.161	0.023

Table 5-6 Maximum Rail Use – Percent Change in Commercial Vehicles

	Percentile								
DOTD Class	Min	50%	60%	70%	80%	90%	95%	99%	100%
1	0	0	0	0	0	1	3	9	64
2	0	0	0	0	1	3	9	145	316
3	0	0	0	0	1	6	15	86	688
4	0	0	0	0	0	1	5	48	240
5	0	0	0	0	1	3	5	18	72
8	0	0	0	0	0	0	2	23	116

Table 5-7. Likely Scenario – Changes in CMI

	Minimum			Median			Maximum		
DOTD Class	Existing	With Project	Change	Existing	With Project	Change	Existing	With Project	Change
1	2.814	2.817	0.003	2.814	2.817	0.003	2.814	2.821	0.007
2	2.785	2.790	0.005	2.785	2.790	0.005	2.785	2.833	0.048
3	2.891	2.906	0.015	2.891	2.906	0.015	2.891	2.923	0.033
4	2.822	2.836	0.014	2.822	2.836	0.014	2.822	2.858	0.036
5	2.270	2.270	0.000	2.270	2.270	0.000	2.270	2.270	0.000
8	3.137	3.153	0.016	3.137	3.153	0.016	3.137	3.161	0.023

Table 5-8 Likely Scenario – Percent Change in Commercial Vehicles

	Percentile								
DOTD Class	Min	50%	60%	70%	80%	90%	95%	99%	100%
1	0	0	0	0	1	2	3	9	64
2	0	0	0	0	1	3	11	148	315
3	0	0	0	0	2	6	20	102	688
4	0	0	0	1	1	5	22	166	240
5	0	0	0	0	0	1	3	18	70
8	0	0	0	0	0	1	3	27	116

Table 5-9 presents the maximum calculated change in the CMI for any of the 8,000 segments within the six DOTD road classifications. These data indicate no discernable difference between the alternatives with respect to the effects on congestion.

Table 5-9. Alternative Comparison – Maximum Change in CMI

LADOTD Road Classification	Class Description	Max Truck	Max Barge	Max Rail	Likely Scenario
1	Interstate	0.007	0.007	0.007	0.007
2	Expressway	0.048	0.048	0.048	0.048
3	Principal Arterial	0.037	0.031	0.033	0.031
4	Minor Arterial	0.052	0.036	0.036	0.036
5	Urban Collector	0.000	0.000	0.000	0.000
8	Local Road	0.023	0.023	0.023	0.023

5.1.2 Congestion Impacts Evaluated using Truck Trip Thresholds

Evaluating the effects to traffic using the CMI calculations did not distinguish the predicted effects to traffic at a street level. In order to improve the public's understanding of the expected increase in truck traffic from materials transportation, truck traffic was evaluated by defining thresholds at which the public would be likely to perceive the increases in traffic. As introduced in section 4.1.1.5, this analysis identifies which specific roads exceeded those thresholds, and the duration of exceedance. Table 5-10 repeats the information shown in table 4-2, but is included again below to support communication of the analysis.

Table 5-10. Truck Frequency Thresholds by Functional Road Class

Functional Road Class	Materials Transportation Trucks Per 12-Hour Workday	Truck Frequency
1	1,500	30 seconds
2	1,500	30 seconds
3	360	2 minutes
4	240	3 minutes
5	150	5 minutes
8	50	15 minutes

Alternative-specific transportation routes, and the discrete roads within those routes, were parsed into approximately 8,000 route segments to evaluate traffic along very small segments for each route. However, to understand the overall effect on single roadways, multiple segments were dissolved into single road segments where both name and functional classification were shared. By consolidating segments in this fashion, the most impacted roads of each functional classification could be identified within the materials transportation routes.

These roads were then examined to determine how many of the roads exceeded the functional-class specific thresholds (table 5-10 above) under each of the four alternatives. Table 5-11 below summarizes the number of roads, by functional classification, that are predicted to exceed the thresholds. For example, none of the six functional class 1 or 2 roads are predicted to exceed the truck frequency threshold of 1,500 trucks per day during the project schedule. However, 19 of the 44 functional class 4 roads used in the materials transportation would be predicted to exceed the threshold of 240 trucks/day under the maximum truck alternative. Only 12 of the 44 functional class 4 roads would be predicted to exceed the threshold of 240 trucks/day for both maximum barge and likely scenarios.

With the exception of the number of functional class 8 (local roads) under the maximum truck alternative, table 5-11 indicates that a substantially similar number of roads would be predicted to exceed the truck frequency thresholds. Because the number of truck trips and routes used for the transportation of borrow is identical for all four scenarios, this result is not unexpected. Given the similarities, the remaining analyses report only the likely scenario.

Table 5-11. Numbers of Roads Exceeding Truck Frequency Thresholds by Functional Class and Alternative

DOTD Class	Maximum Truck	Maximum Barge	Maximum Rail	Likely	Used for Transport
1	0	0	0	0	6
2	0	0	0	0	6
3	7	6	7	6	35
4	19	12	13	12	44
5	10	8	8	8	17
8	41	32	35	32	62

Figure 5-1 (repeated from figure 4-1) shows the roads included in the routing of project materials deliveries under the likely scenario. Figure 5-2 shows the locations of roads within the transportation network that are expected to exceed frequency thresholds for the likely scenario.

Figure 5-1. Road Network Used for Project Materials Delivery (Likely Scenario)

Figure 5-2. Roads Exceeding Thresholds (Likely Scenario)

5.1.2.1 Likely Alternative - Duration of Truck Frequency Threshold Exceedence

Identifying the roads that exceed the truck frequency thresholds omits two important parameters: the duration of the effect (time) and the magnitude of the exceedance. The duration that truck traffic exceeds the frequency thresholds, and the extent to which the thresholds are exceeded is important in characterizing the intensity of the effect. The following four tables (5-12 through 5-15) identify the functional class-specific roads that exceed the truck frequency thresholds shown in figure 5-2. For the identified roads, the tables provide the number of months the threshold is exceeded, the minimum number of trucks per day that triggered the first exceedance, the maximum number of trucks per day, and the average number of trucks per day.

For example, table 5-12 identifies each of the six functional class 3 roads that exceed the truck frequency threshold of 360 trucks per day. In addition, table 5-12 identifies the number of months the threshold is exceeded as well as the minimum, average, and maximum number of trucks per day for the road in question. Within tables 5-12 through 5-15, the roadways are sorted in descending order by the number of months the truck thresholds are exceeded. Roads listed in these tables are those predicted to be most affected by increases in truck traffic and the durations for which these effects are expected.

Table 5-12. DOTD Road Class 3
Number of Days Threshold of 360 Material Delivery Trucks Per Day Exceeded

Roadway	Number of Months Threshold Exceeded	Statistics for Days on Which Materials Delivery Truck Count Threshold is Exceeded		
		Minimum Trucks per Day	Average Trucks per Day	Maximum Trucks per Day
US-90	15	360	1,064	2,252
Lapalco Boulevard	8	497	738	1,250
SR-39	7	372	445	457
US-61	6	383	458	640
SR-23	3	381	425	543
Walker Road	1	378	378	378

Table 5-13. DOTD Road Class 4
Number of Days Threshold of 240 Material Delivery Trucks Per Day Exceeded

Roadway	Number of Months Threshold Exceeded	Statistics for Days on Which Materials Delivery Truck Count Threshold is Exceeded		
		Minimum Trucks per Day	Average Trucks per Day	Maximum Trucks per Day
US-61	25	251	840	2,570
US-11	16	287	659	1,043
US-90	16	289	661	1,047
Michoud Boulevard	16	287	657	1,039
SR-46	12	264	459	698
Bayou Road	9	240	267	298
Ames Boulevard	8	326	842	2,147
Westwood Drive	7	291	653	1,248
Engineers Road	5	269	270	273
SR-3134	3	349	349	349
SR-45	3	347	348	349
Lakeshore Drive	2	268	315	346

Table 5-14. DOTD Road Class 5
Number of Days Threshold of 150 Material Delivery Trucks Per Day Exceeded

		Statistics for Days on Which Materials Delivery Truck Count Threshold is Exceeded		
Roadway	Months Threshold is Exceeded	Minimum Trucks per Day	Average Trucks per Day	Maximum Trucks per Day
SR-45	9	160	562	1,808
Bayou Road	9	240	267	298
Ames Boulevard	8	347	347	347
Westwood Drive	8	189	588	1,248
41st Street	3	190	190	190
Vintage Drive	3	190	190	190
Ames Boulevard	3	347	347	347
Barriere Road	2	382	382	382

Table 5-15. DOTD Road Class 8
Number of Days Threshold of 50 Material Delivery Trucks Per Day Exceeded

Roadway	Months Threshold is Exceeded	Statistics for Days on Which Materials Delivery Truck Count Threshold is Exceeded: Minimum Trucks per Day	Average Trucks per Day	Maximum Trucks per Day
Kenner Avenue	29	76	612	2,146
SR-46	27	100	332	698
Live Oak Boulevard	25	127	555	1,676
Bayou Road	19	62	144	298
Walker Road	19	52	198	756
Vintage Drive	18	52	126	348
Lapalco Boulevard	12	60	422	1,248
Concord Road	11	60	104	153
Engineers Road	11	52	142	273
Victory Drive	11	85	432	1,188
Macarthur Avenue	10	52	58	69
Almonaster Avenue	9	108	108	108
SR-3134	8	52	174	349
Carrie Lane	8	50	172	347
Mildred Street	8	57	167	392
40th Street	7	52	109	174
Loyola Drive	7	52	109	174
Beta Street	7	92	92	92
Laroussini Street	7	92	92	92
North Street	7	92	92	92
South Street	7	92	92	92
Vic A Pitre Drive	7	92	92	92
Caryota Drive	7	54	122	190
David Drive	7	54	122	190
Barriere Road	6	57	159	375
SR-23	5	165	165	165
Nashville Avenue	4	50	61	94
Hickory Avenue	3	95	95	95

5.2 Infrastructure Degradation

The relatively small number of train and barge trips under the Max Barge, Max Rail, and Likely Scenario would not be expected to have any discernable effects to the rail or marine terminal infrastructure in greater New Orleans. Therefore, the discussion of the effects to infrastructure focuses exclusively on the effects of truck transportation.

As described in section 4.2, the effects to infrastructure are a function of vehicle axle configuration, load, number of trips, road design, and the pre-project condition of the road. Estimating the effect to infrastructure from the alternatives is perforce speculative because essential factors cannot be predicted with certainty. Routes used are uncertain because contractors are allowed to select any route on public roads not specifically prohibited for use by a Parish. Rational assumptions regarding typical truck equipment can be made, but the effects to infrastructure are more highly correlated to the axle configuration of any particular truck than a vehicle's gross vehicle weight.[27] Contractors are not restricted from using any type of trucks, provided they are within the legal weight limits or are permitted as overweight. There will be multiple axle configurations for dump trucks/flatbeds/cement mixers/etc. with different weights per axle. Estimating the damage to infrastructure, based on a hypothetical fleet of trucks, on possible, but not certain routes, necessarily leads to extensive caveats on the use of the results.

When estimating the effects to roads, the concept of lane-mile is important because lane miles are a typical unit used to measure the surface area of a roadway. For example, a two-lane street that is one mile long has two lane miles, and a four-lane street that is one mile long has four lane miles. The width of lane used for this analysis was assumed to be 12 feet, so the area of a lane-mile would be the 12-foot lane width x 5,280 feet/mile = 63,360 square feet or one lane-mile.

Using the GIS route evaluation developed to estimate the effects to congestion (sections 4.1 and 5.1) and a map of the Louisiana DOTD road classifications for greater New Orleans (LADOTD, 2008) the routes used to transport materials were mapped according to their DOTD road classification. Tables 5-16 through 5-19 provide the single path length and the approximate conversion of these distances to lane miles, for each alternative. For each of the alternatives, there were a small number of miles (< 1 %) that could not be classified according to the DOTD road classification for New Orleans and they are reported as "unknown."

To estimate the additional number of lane miles that could be affected by the Contractor Furnished earthen material (~ 9 million cubic yards for which routes are not yet available), the lane miles for DOTD road classes 4, 5, and 8 were multiplied by a scaling factor of 1.428. The scaling factor represents the additional truckloads of Contractor-Furnished earthen fill for which routes are not yet available (9 million cy / 21 million cy = 0.428 or 42.8%). The scaling factor was not applied to the DOTD classes 1-3 as the road segments of this classification within greater New Orleans have already been accounted for in the materials routing.

The number of estimated lane-miles, by road classification is summed in each table to provide an alternative-specific total number of lane miles. When the total number of lane miles is juxtaposed to the total number of truckloads (taken from section 3), the similarity between the alternatives is noteworthy. Regardless of which alternative was implemented, between 1,100 and 1,300 lane miles of roadway within greater New Orleans would be traversed with between

[27] As described in section 4.2, the unit pavement cost per mile for a 3-axle 54,000 GVWR truck is 50-percent higher than the cost of a 5-axle 80,000 GVWR truck on the same road (LADOTD, 1999).

2.19 and 2.35 million truck trips. These similarities derive from the fact that the extent of truck transportation under each of the alternatives is substantially the same with earthen fill more than 85-percent of all trips for each of the alternatives. There are no stark contrasts between the alternatives with respect to the number of lane miles potentially affected by the project with greater New Orleans.

Table 5-16. Maximum Truck Use – Local Truck Transportation Distance and Lane Miles by Functional Road Classification

LADOTD Road Classification	Class Description	Length in Miles	Estimated Number of 12-ft Lane Miles	Number of Truckloads
1	Interstate	111.3	334.0	
2	Expressway	32.4	64.9	
3	Principal Arterial	229.8	459.5	
4	Minor Arterial	109.5	312.6	
5	Urban Collector	19.6	28.0	
8	Local Road	40.3	57.6	
Unknown	Unknown	7.4	10.6	
		Total	1,267.2	2,351,000

Table 5-17. Maximum Barge Use – Local Truck Transportation Distance and Lane Miles by Functional Road Classification

LADOTD Road Classification	Class Description	Length in Miles	Estimated Number of 12-ft Lane Miles	Number of Truckloads
1	Interstate	98.4	295.3	
2	Expressway	24.4	48.7	
3	Principal Arterial	207.2	414.4	
4	Minor Arterial	106.2	303.2	
5	Urban Collector	18.5	26.4	
8	Local Road	38.6	55.1	
Unknown	Unknown	7.3	10.4	
		Total	1,153.7	2,188,400

Table 5-18. Maximum Rail Use – Local Truck Transportation Distance and Lane Miles by Functional Road Classification

LADOTD Road Classification	Class Description	Length in Miles	Estimated Number of 12-ft Lane Miles	Number of Truckloads
1	Interstate	84.0	252.1	
2	Expressway	22.4	44.7	
3	Principal Arterial	209.0	418.0	
4	Minor Arterial	107.7	307.5	
5	Urban Collector	19.3	27.5	
8	Local Road	41.1	58.7	
Unknown	Unknown	5.8	8.3	
		Total	1,116.8	2,273,200

Table 5-19. Likely Scenario– Local Truck Transportation Distance and Lane Miles by Functional Road Classification

LADOTD Road Classification	Class Description	Length in Miles	Estimated Number of 12-ft Lane Miles	Number of Truckloads
1	Interstate	111.9	335.6	
2	Expressway	32.1	64.3	
3	Principal Arterial	240.8	481.5	
4	Minor Arterial	109.0	311.3	
5	Urban Collector	21.4	30.6	
8	Local Road	40.4	57.7	
Unknown	Unknown	7.4	10.6	
		Total	1,291.6	2,190,400

As described in section 4.2, the potential to damage infrastructure is not limited to the road surfaces, but also includes bridges, culvert, and any other crossings. Using GIS layers depicting the bridges and other crossings within the surface road network (provided by the Regional Planning Commission), an intersection of the alternative-specific routing and the RPC's bridges data was performed in GIS. The results have been sorted by DOTD road classification and are presented in table 5-20. As with the road surface, between 4 and 6-percent of the crossings were outside the classified roads, but the majority is identified. For all alternatives, more than 85-percent of all crossings are within roads classes 1, 2, or 3. The robustness of design and construction for these crossings should enable them to withstand an increased load of truck traffic. However, only 8-percent of crossings (23-25 depending on the alternative) are within road classes 4, 5, and 8. These roads are the least able to withstand the effects of large truck traffic and significant increases in loads beyond their design assumptions.

Table 5-20. Local Bridge, Culvert, or Crossings: Materials Routes by Road Type

LADOTD Road Classification	Class Description	Max Truck	Max Barge	Max Rail	Likely Scenario
1	Interstate	205	204	203	205
2	Expressway	81	52	54	81
3	Principal Arterial	71	62	70	71
4	Minor Arterial	25	24	23	25
5	Urban Collector	3	3	3	3
8	Local Road	4	4	5	4
Unknown	Unknown	16	23	18	16
	Total	405	372	376	405
Percent Class 1, 2, and 3		88%	85%	87%	88%
Percent Class 4, 5, and 8		8%	8%	8%	8%

Segments of interstate, expressway, and arterial roads (classifications 1, 2, and 3) have the largest number of truck-trips because these are the most-shared links (i.e., bottle-necks) within most routes. However, these road classifications are the most robust being designed to handle large numbers of trucks on a daily basis. The facility designs for the minor arterial, urban collector, and local roads (classifications 4, 5, and 8) carry fewer trips, but were not designed to support frequent heavy loads. The effect of extensively using the minor arterial, urban collector, and local roads to haul large quantities of heavy loads would be the accelerated wearing of road surfaces, bridges, and culverts.

Section 4.2 cites the Submerged Roads Program cost per lane mile (RPC, 2009a) to rehabilitate roads at approximately $500,000 per lane mile and this cost is assumed to include repair to road surfaces and crossings (i.e., bridges) within the roadway. Table 5-21 summarizes the alternative-specific data from tables 5-16 through 5-19, and approximates a cost to infrastructure for each of the alternatives assuming that all of the lane miles used in the truck transportation would need repair after the project was complete. The costs are similar because between 1,100 and 1,300 lane miles of roadway within greater New Orleans would be traversed with between 2.19 and 2.35 million truck trips, regardless of the alternative.

Table 5-21. Alternative Comparison - Lane Miles by Functional Road Classification

LADOTD Road Classification	Class Description	Max Truck	Max Barge	Max Rail	Likely Scenario
1	Interstate	334.0	295.3	252.1	335.6
2	Expressway	64.9	48.7	44.7	64.3
3	Principal Arterial	459.5	414.4	418.0	481.5
4	Minor Arterial	312.6	303.2	307.5	311.3
5	Urban Collector	28.0	26.4	27.5	30.6
8	Local Road	57.6	55.1	58.7	57.7
Unknown	Unknown	10.6	10.4	8.3	10.6
Estimated Total Miles		1,267	1,154	1,117	1,292
Estimated Total Truckloads (millions)		2.4	2.2	2.3	2.2
Estimated Infrastructure Cost ($ millions)[28]		633.6	576.8	558.4	645.8

5.3 Accident Risks

Using the analytical approach discussed in section 4.3 Accident Risks, the transportation risks were estimated for each of the transportation alternatives. For each alternative, the total collective risk for property damage only, injury only, or fatalities represents the aggregate of risks from each mode of transportation assumed under that alternative. Tables 5-22 through 5-25 present the estimated accident risks for each of the alternatives.

As show in table 5-26, Projected Accidents - Comparison of the Alternatives, Maximum Truck reflects the greatest collective risk of all three types of accidents. This is because of the significantly larger distance of truck travel (150 million miles traveled vs. less than 70 million) required under the Maximum Truck alternative when compared to the other three alternatives. The accident risks for the other three alternatives are substantially the same and primarily derive from the approximately 60-70 million miles of truck travel that is unavoidable. When transporting materials from remote locations to greater New Orleans by rail or barge, accident risks decrease.

[28] Cost of approximately $500,000 per lane mile based on cost per lane mile from the Submerged Road Program (RPC, 2009a).

Table 5-22. Projected Accidents - Maximum Truck

Mode	Estimated Miles Traveled	Projected Accidents		
		Property Damage Only	Injury Only	Fatality
Truck	150,426,000	230.2	76.9	3.1
Barge	0	0	0	0
Rail	0	0	0	0
SUM		230.2	76.9	3.1

Table 5-23. Projected Accidents - Maximum Barge

Mode	Estimated Miles Traveled	Projected Accidents		
		Property Damage Only	Injury Only	Fatality
Truck	59,662,300	91.3	30.5	1.2
Barge	732,860	19.8	0.8	0.1
Rail	0	0.0	0.0	0.0
SUM		111.1	31.3	1.3

Table 5-24. Projected Accidents - Maximum Rail

Mode	Estimated Miles Traveled	Projected Accidents		
		Property Damage Only	Injury Only	Fatality
Truck	61,761,400	94.5	31.6	1.3
Barge	188,870	5.1	0.2	0.0
Rail	80,380	5.0	2.7	0.7
SUM		104.6	34.5	2.0

Table 5-25. Projected Accidents – Likely Scenario

Mode	Estimated Miles Traveled	Projected Accidents		
		Property Damage Only	Injury Only	Fatality
Truck	68,457,410	104.7	35.0	1.4
Barge	522,440	1.4	0.1	0.0
Rail	0	0.0	0.0	0.0
SUM		106.2	35.1	1.4

Table 5-26. Projected Accidents - Comparison of Alternatives

Mode	Estimated Miles Traveled	Projected Accidents		
		Property Damage Only	Injury Only	Fatality
Max Truck	150,426,000	230.2	76.9	3.1
Max Barge	60,395,160	111.1	31.3	1.3
Max Rail	62,030,650	104.6	34.5	2.0
Likely Scenario	68,943,520	106.2	35.1	1.4

5.4 Emissions

Utilizing the alternative-specific distances traveled from section 3, emissions were calculated using the emissions factors described in section 4.4. To enhance the comparison, the total distance traveled (miles) and the calculated quantity of diesel fuel needed (gallons) is also provided. Truck miles have also been segregated into local (within greater New Orleans) and non-local miles to indicate the quantity of local emissions. Because all of the Parishes are currently designated as “in attainment” of all criteria pollutants, further requirements by the Clean Air Act general conformity rule (Section 176.(c)) would not apply. Emissions were therefore not segregated by Parish or separated by the calendar year in which the emissions would occur. Tables 5-27 through 5-30 illustrate the alternative-specific emissions estimated and table 5-31 compares the emissions, by alternative. While the Max Truck requires significantly more miles to be traveled, the per mile emissions from truck transportation are considerably less than emissions from barges or locomotives. Therefore, the alternatives that include the usage of barge or rail transportation have greater emissions of VOCs, NOx, CO, and PM than when truck transportation alone was assumed.

Table 5-27. Maximum Truck Use – Diesel Emissions (tons)

Mode	Miles	Gallons of Diesel	VOCs	NOx	CO_2	CO	$PM_{2.5}$	PM_{10}	SO_2	NH_3
Local Truck	68,276,000	10,717,500	35.5	643	121,768.50	172	12.9	14.0	1.1	2
Non-Local Truck	82,150,000	12,715,600	41.4	750	143,593.00	199	15.1	16.4	1.3	2.4
TOTALS	150,426,000	23,433,000	76.8	1,393	265,361.60	371	27.9	30.3	2.5	4.4

Table 5-28. Maximum Barge Use – Diesel Emissions (tons)

Mode	Miles	Gallons of Diesel	VOCs	NOx	CO_2	CO	$PM_{2.5}$	PM_{10}	SO_2	NH_3
Local Truck	59,662,300	9,417,500	31.0	563.0	106,451.0	150.6	11.2	12.2	1	1.8
Tug / Barge	732,860	16,222,320	135.4	3,393.9	172,266.6	282.8	62.0	67.4	334.8	N/A
TOTALS	60,395,160	25,639,820	166.4	3,956.9	278,717.6	433.5	73.3	79.7	335.8	1.8

Table 5-29. Maximum Rail Use – Diesel Emissions (tons)

Mode	Miles	Gallons of Diesel	VOCs	NOx	CO_2	CO	$PM_{2.5}$	PM_{10}	SO_2	NH_3
Local Truck	61,761,400	9,742,600	32.1	582.7	110,190.2	155.9	11.6	12.6	1.0	1.8
Tug/Barge	188,870	4,181,100	33.1	874.7	44,399.6	72.9	16.0	17.4	86.3	N/A
Rail	80,380	3,399,700	32.8	588.4	37,789.6	99.7	17.1	17.6	7.0	N/A
TOTALS	62,030,650	17,323,400	98.0	2,045.7	192,379.4	328.5	44.7	47.6	94.4	1.8

Table 5-30. Likely Scenario – Diesel Emissions (tons)

Mode	Miles	Gallons of Diesel	VOCs	NOx	CO_2	CO	$PM_{2.5}$	PM_{10}	SO_2	NH_3
Local Truck	60,526,470	9,538,000	31.5	571.4	108,054.4	152.9	11.4	12.4	1.0	1.8
Non-Local Truck	7,894,610	1,212,860	3.9	71.5	13,696.3	19.0	1.4	1.6	0.1	0.2
Tug / Barge	522,440	11,564,600	96.5	2,419.5	122,805.8	201.6	44.2	48.1	*238.6	N/A
TOTALS	68,943,520	22,315,460	131.9	3,062.4	244,556.5	373.5	57.1	62.0	*239.8	2.0

*No separate emission factor used for SO_2 for tug emissions. Reported as SO_x.

Table 5-31. Comparison of the Alternatives – Diesel Emissions (tons)

Alternative	Miles (millions)	Gallons of Diesel (millions)	VOCs	NOx	CO_2	CO	$PM_{2.5}$	PM_{10}	SO_2	NH_3
Max Truck	150.4	23.4	76.8	1,393	265,362	371.0	27.9	30.3	2.5	4.4
Max Barge	60.4	25.6	166.4	3,957	278,718	433.5	73.3	79.7	335.8	1.8
Max Rail	62.0	17.3	98.0	2,046	192,379	328.5	44.7	47.6	94.4	1.8
Likely Scenario	68.9	22.3	131.9	3,062	244,557	373.5	57.1	62.0	*239.8	2.0

*No separate emission factor used for SO_2 for tug emissions. Reported as SO_x.

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Appendix A – MOBILE 6.2 Input File Parameters and Output File

MOBILE 6.2 INPUT FILE

```
MOBILE6 INPUT FILE : EMISSION FACTOR CALCULATION FOR HSDRRS MATERIALS TRANSPORTATION
*CEMVN NOLA HSDRRS MATERIALS TRANSPORTATION AIR QUALITY MODEL
POLLUTANTS       : HC  CO  NOx CO2
PARTICULATES     : SO4 LEAD SO2 NH3 BRAKE TIRE OCARBON ECARBON GASPM
DATABASE OUTPUT   :
WITH FIELDNAMES   :
EMISSIONS TABLE   : NOLARUN.TB1 REPLACE
*EMISSIONS TABLE  : REPLACE
DATABASE VEHICLES : 11111 11111111 1 111 11111122 111
AGGREGATED OUTPUT :
AIR TOXICS        :
*ALL VALUES FOR AIR TOXICS BELOW ARE DUMMY VALUES FOR THE GASOLINE FUEL PROPERTIES, EMISSIONS ARE FOR DIESEL ONLY
*GAS AROMATIC%    : 25
*GAS OLEFIN%      : 15
*GAS BENZENE%     : 1.5
*E200             : 50
*E300             : 85
*OXYGENATE        : MTBE   15.1    0.50
*                 : ETBE   17.6    0.05
*                 : ETOH   10.0    0.45
*                 : TAME    6.0    0.00
REPORT FILE       : NOLARPT.TXT REPLACE
RUN DATA
EXPRESS HC AS VOC :

FUEL RVP          : 9.0
*FUEL REID VAPOR PRESSURE - SUMMER RVP LIMIT IS 9 PSI OR 7.8 PSI.
MIN/MAX TEMPERATURE: 65.  90.
NO REFUELING      :
EXPAND HDDV EFS   :
EXPAND EXHAUST    :
```

```
EXPAND EVAPORATIVE :
IDLE PM EMISSIONS  :
SCENARIO RECORD    : NEW ORLEANS, LA
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 7
*EVALUATION MONTH 7 IS JULY
ABSOLUTE HUMIDITY  : 130.0
*ABSOLUTE HUMIDITY CONVERSION AT www.vaisala.com/humiditycalculator/vaisala_humidity_calculator.html?lang=eng
ALTITUDE           : 1
*VALUE OF 1 FOR ALTITUDE IS "LOW"
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE      : 10
*REPEAT RUN WITH PARTICLE SIZE 10.0 TO GET THE OTHER DATA SET?
DIESEL SULFUR      : 15.00
*HDDV 8A (GVRW 33,001 - 60,000 LBS) AND 8B (>60,000 LBS GVWR)
*AVERAGE SPEED     : CONDUCT MULTIPLE RUNS WITH THIS ADJUSTED TO ILLUSTRATE THE EFFECT OF SPEED ON EMISSIONS
*DIESEL RQD TO BE <15PPM PER EPA RULE
END OF RUN
```

Mobile 6.2 Output File (NOLARPT.txt)

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* NEW ORLEANS, LA
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
        there are no sales for vehicle class HDGV8b

* Reading Ammonia (NH3) Basic Emissiion Rates
* from the external data file PMNH3BER.D

* Reading Ammonia (NH3) Sulfur Deterioration Rates
* from the external data file PMNH3SDR.D
```

Calendar Year: 2010
Month: July
Altitude: Low
Minimum Temperature: 65.0 (F)
Maximum Temperature: 90.0 (F)
Absolute Humidity: 130. grains/lb
Nominal Fuel RVP: 9.0 psi
Weathered RVP: 8.6 psi
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: No
Evap I/M Program: No
ATP Program: No
Reformulated Gas: NA (See Air Toxics Output)

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.3478	0.3890	0.1336		0.0359	0.0003	0.0020	0.0860	0.0054	1.0000
Fuel Economy (mpg):	24.1	18.6	14.3	17.2	9.7	32.4	17.0	7.2	50.0	16.5
Composite Emission Factors (g/mi):										
Composite VOC :	0.795	0.812	1.393	0.961	0.978	0.180	0.439	0.392	2.58	0.862
Composite CO :	8.81	9.92	13.63	10.87	9.64	0.903	0.757	1.751	15.85	9.328
Composite NOX :	0.488	0.599	0.920	0.682	2.242	0.415	0.724	6.868	0.97	1.204
Composite CO2 :	368.2	477.8	620.5	514.3	914.7	314.2	597.0	1417.3	177.4	553.75
Exhaust emissions (g/mi):										
VOC Start:	0.153	0.195	0.309	0.224		0.062	0.153		0.398	
VOC Running:	0.169	0.208	0.349	0.244		0.118	0.286		1.225	
VOC Total Exhaust:	0.322	0.403	0.658	0.468	0.282	0.180	0.439	0.392	1.62	0.410
CO Start:	2.10	3.29	4.88	3.70		0.354	0.311		3.386	

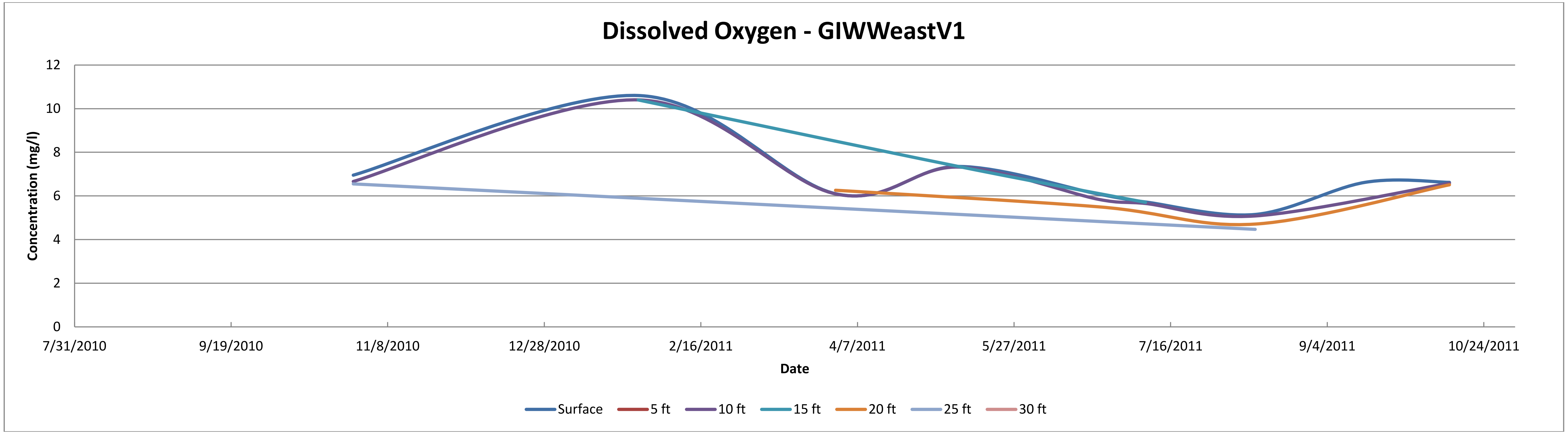
```
       CO Running:    6.71    6.63    8.75    7.17            0.549   0.446           12.460
  CO Total Exhaust:    8.81    9.92   13.63   10.87    9.64   0.903   0.757   1.751   15.85   9.328

        NOx Start:   0.078   0.110   0.169   0.125           0.017   0.029           0.306
      NOx Running:    0.409   0.489   0.751   0.556           0.399   0.695           0.667
 NOx Total Exhaust:   0.488   0.599   0.920   0.682   2.242   0.415   0.724   6.868    0.97   1.204
 -------------------------------------------------------------------------------------------------
Non-Exhaust Emissions (g/mi):
    Hot Soak Loss:   0.156   0.140   0.252   0.169   0.223   0.000   0.000   0.000   0.338   0.152
     Diurnal Loss:   0.029   0.027   0.047   0.032   0.057   0.000   0.000   0.000   0.284   0.030
     Resting Loss:   0.074   0.077   0.149   0.095   0.142   0.000   0.000   0.000   0.332   0.082
     Running Loss:   0.207   0.155   0.278   0.187   0.265   0.000   0.000   0.000   0.000   0.179
   Crankcase Loss:   0.008   0.010   0.010   0.010   0.010   0.000   0.000   0.000   0.000   0.009
   Refueling Loss:   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000
 Total Non-Exhaust:   0.474   0.409   0.735   0.494   0.696   0.000   0.000   0.000   0.953   0.452
 -------------------------------------------------------------------------------------------------
        Veh. Type:  HDDV2B   HDDV3   HDDV4   HDDV5   HDDV6   HDDV7  HDDV8A  HDDV8B
                    ------  ------  ------  ------  ------  ------  ------  ------
          VMT Mix:  0.0091  0.0028  0.0028  0.0013  0.0065  0.0094  0.0112  0.0400
 Fuel Economy (mpg):    12.9    11.6    10.2     9.9     8.7     7.5     6.6     6.3
-------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
   Composite VOC :   0.163   0.174   0.233   0.246   0.314   0.389   0.401   0.480
   Composite CO  :   0.612   0.644   0.923   0.937   1.046   1.312   1.764   2.352
   Composite NOX :   2.454   2.569   3.632   3.787   4.787   5.971   7.170   8.722
   Composite CO2 :   789.1   875.2  1000.9  1032.7  1171.4  1352.5  1550.2  1626.6
-------------------------------------------------------------------------------------------------
Exhaust emissions (g/mi):
 VOC Total Exhaust:   0.163   0.174   0.233   0.246   0.314   0.389   0.401   0.480
  CO Total Exhaust:   0.612   0.644   0.923   0.937   1.046   1.312   1.764   2.352
 NOx Total Exhaust:   2.454   2.569   3.632   3.787   4.787   5.971   7.170   8.722
-------------------------------------------------------------------------------------------------
Non-Exhaust Emissions (g/mi):
    Hot Soak Loss:   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000
```

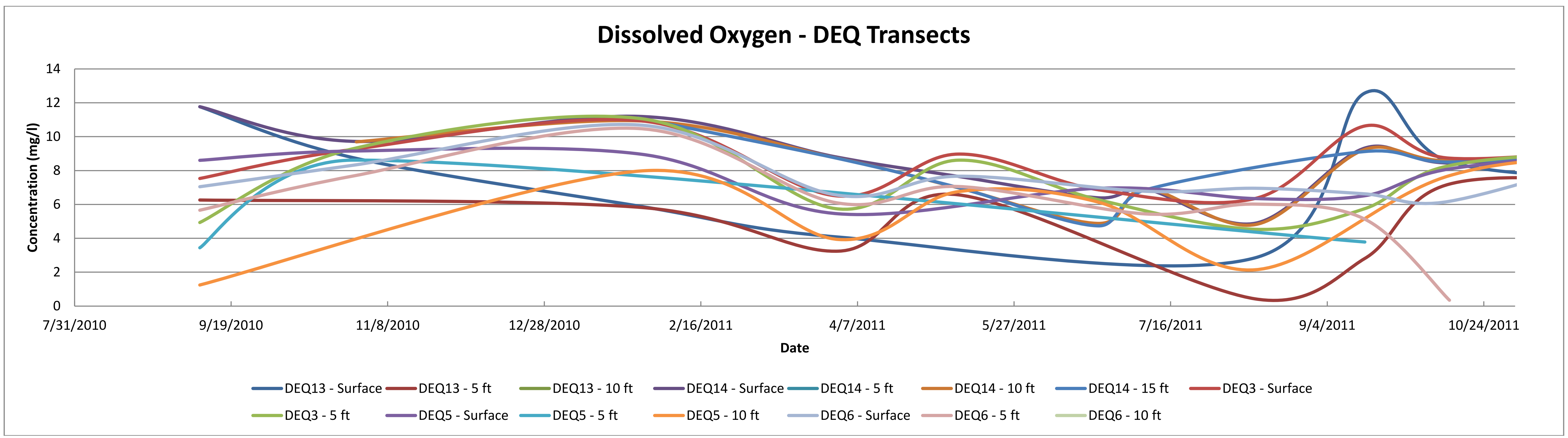
Diurnal Loss:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Resting Loss:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Running Loss:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crankcase Loss:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Refueling Loss:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Non-Exhaust:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

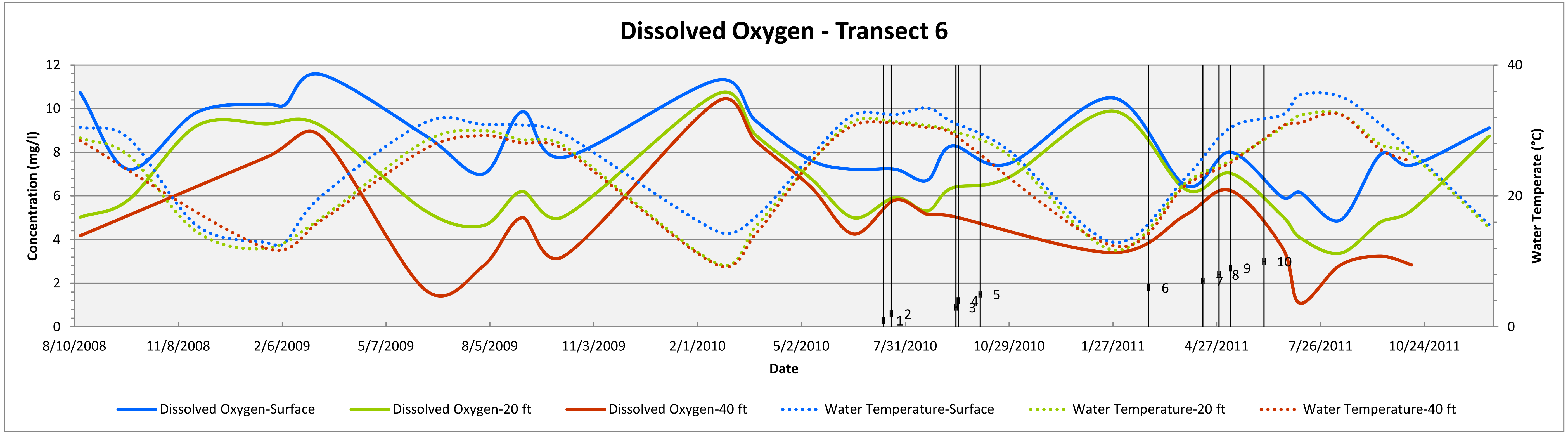
APPENDIX G
PRELIMINARY MONITORING DATA OR ANALYSIS

Appendix G contains the MRGO closure synoptic water quality data collected by the U.S. Geological Survey. The data include dissolved oxygen and salinity collected during monitoring efforts from August 2008 through December 2011.

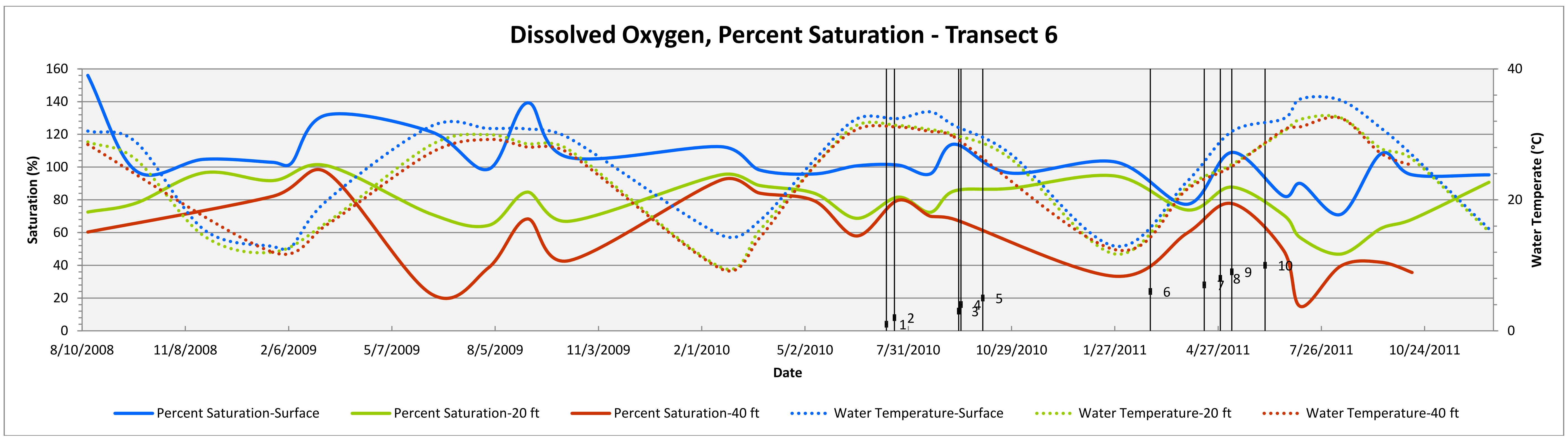
			2008					2009												2010											2011										
			August	September	October		November	January	February	March	June				July	September	October	November		February	March		May		June	July	August	September	October		January		March	April	May	June	July	August	September	October	December
Site	Transect	Distance from Left Descending Bank (ft)	15	26	9	11	24	23	8	11	10	17	22	23	30	2	8	6	13	18	23	24	7	10	16	22	19	9	28	29	27	28	31	1	9	23	8	12	16	13	19
DEQ13																												9.015	8.535			5.85		3.655	6.57			1.635	7.695	7.86	7.355
DEQ14																												9.015		9.705	11.0766667		8.76666667		7.21666667	5.33333333	6.9	4.85	9.23	8.50666667	9.363333333
DEQ3																												6.23	9.27			10.995	6.13		8.73	6.565		5.44	8.19	8.51	9.415
DEQ5																												4.426666667	8.88			8.47		4.685	6.75	6.54		4.24	5.145	7.895	9.22
DEQ6																												6.35	7.995		10.585		6.335		7.26		6.105	6.485	5.875	3.265	9.9
GIWWeastV1	GE																												6.72		10.4666667		6.15		7.34333333	5.5775	5.69333333	4.8525	5.875	6.57	
GIWWeastV2	GE																											6.7675	6.3975		10.34		6.1025		7.26666667	5.3825	5.55	4.885	5.435	6.635	9.77
GIWWeastV3	GE																											6.983333333			10.6366667		6.1		7.305		32.5666667	4.975	5.4975	6.2875	9.826666667
GIWWwestV1	GW																									4.5975	5.7025	5.665	5.958	6.3975		10.3075		6.9175		6.794		6.465	4.568	3.644	5.926	
GIWWwestV2	GW																									3.82833333	5.726	3.83666667	6.034			10.276		6.38166667		6.30166667		5.03	4.376	3.908333333	6.044	
GIWWwestV3	GW																									5.336	5.3675	6.00666667	6.735	6.72333333		10.402		7.024		7.255		7.04	5.04	5.72	6.2125	
LB	LB							10.675		10.15	7.97					8.03	4.475			13.535				7.845	7.39	6.245								7.255							
LB_New	LB																																	6.765	7.135		6.055		4.825	6.825	10.06
LB1	LB		10.845	9.195			9.9																																		
T1V1	1	90	6.08	6.1			9.81			9.1	5.655				7.265	6.28	6.13	7.605		11.19		9.54		6.78		7.58	7.76								8.44		4.85			5.485	
T-1V1	-1	100													4.24666667	8.575	6.845						8.29			6.92															
T1V2	1	180	5.58625	7.032			8.903333333			9.52666667	0.96		8.12		2.54	6.626666667	6.09	7.53		10.995		3.10333333		6.77333333	3.43666667	7.375	5.885								8		2.1925			5.2075	
T-1V2	-1	200													3.05	6.1325	6.545									2.97															
		300																					5.04333333																		
T1V3	1	290	5.8205	6.7275			8.744			8.716	2.516				2.358	3.794	3.334	4.69		8.998		4.86666667	4.88333333		1.55666667	4.6	2.51833333								5.44666667		1.97833333			5.19833333	
T-1V3	-1	300										2.18166667			2.546	6.132	3.16833333									5.734															
T1V4	1	400	6.36	6.84			8.86			8.652	3.34666667				7.735	3.484	3.394	6.8925		8.45833333		4.13571429		3.62857143	1.33428571	4.692	2.46833333								5.3		1.475			4.7725	
T-1V4	-1	400													3.77	6.8125																									
		405															3.11						5.384			6.82666667															
T1V5	1	485	6.255	7.675			9.815			9.65	3.24			8.24	8.025	8.7	6.52	7.91		11.36		9.19		6.38	3.555	8.975	6.23								7.27		3.675			5.185	
		486															7.08	7.99		11.4																					
T-1V5	-1	500													7.28	9.21	5.79333333						6.85			9.625															
T2V1	2	120	6.47	7.05			9.765	11.24		9.1	4.695				3.055	2.13	5.8	7.81		10.52		8.955	6.62		3.56333333	9.8	5.725			7.72			7.48		7.815					4.87	
T-2V1	-2	110										2.80333333																													
		144															4.705						6.62			6.235															
T2V2	2	190	6.395	6.76			9.66	10.955		9.165	2.03				2.256	3.07	5.425	8.165		10.745		8.65		7.21	3.41333333	9.21	3.885			4.5925			6.33		7.53					5.255	
T-2V2	-2	220										3.41																													
		240															2.104						3.89			2.6															
T2V3	2	340	5.543333333	6.88	6.44		8.12	10.6		8.576	2.3				2.5	0.872	3.586	5.792		6.80666667		4.06666667		4.03166667	1.525	5.4075	1.96			5.248			3.07285714		4.64					4.542	
T-2V3	-2	365															2.088						3.99			4.40333333															
T2V4	2	340														5.75																									
		445	5.425	6.92			8.12	10.7225		8.272	1.25		8.38		7.745	1.048	3.11166667	6.0925		8.15		4.04833333		4.23	1.415	3.49666667	2.252			6.70666667			4.668		5.306					4.5575	
T2V5	2	445														6.22																									
		570	6.21	8.17			10.005	10.945		9.415	1.25		7.7		7.42	4.885	4.1525	8.11		10.425		8.47		7.135	3.96	7.17				6.02			6.715		7.325					6.475	
T3V1	3	80	5.391666667	6.726666667			8.186	10.9		8.83666667	5.1575				8.62	4.834	3.906	6.968		10.968		8.5225		5.468		6.635	4.49			5.11333333		10.3266667	5.478		6.19		6.5675				
T3V2	3	150	5.436666667	6.5725			8.138333333	10.556		8.352	3.93				4.81666667	3.87875	3.06857143	5.955		10.6614286		6.35333333		4.43		3.736	3.725			4.65		7.76333333	4.755		4.94		4.425				
T3V3	3	250	5.7	6.52			8.4525	10.45		9.11	4.798				6.79	5.8	4.156	7.973333333		11.135		7.73833333		5.086		6.62	3.90333333			6.195		8.24666667	6.1325		5.31		6.7225				
T4V1	4	60	6.455	6.735			9.48																																		
		90						11.1833333		9.71333333	6.3375				6.315	6.2075	8.045	8.02		12.305	10.075			5.64666667	6.49666667	7.425	6.68			7.63	10.415		6.94666667		6.66	4.7025	4.405	5.86333333	5.25	6.88	10.53666667
T4V2	4	120	6.316666667	6.37			9.2175																																		
		180						10.676		8.752	5.08				2.56	4.256666667	4.15333333	7.9575		11.644	8.118			5.238	4.388	3.972	3.97428571			6.286	8.836		4.92333333		5.782	4.175	3.25	3.44	4.118333333	5.332	7.343333333
T4V3	4	180	5.993333333	6.5625			7.958																																		
		270						11.85		8.9625	6.8				2.41	6.2725	4.975	7.5375		12.31	8.9125			4.76166667	4.47666667	7.18	3.74166667			7.7575	10.185		5.384		6.7775	5.51666667	6.03666667	4.71	5.9025	6.45	10.17666667
T4V4	4	240	5.814	6.73		5.17	7.574																																		
T4V5	4	300	6.246666667	8.245			9.795																																		
T5AV1	5A	60									7.32																														
		80		8.615			9.515	11.13							6.22333333	8.105	6.505		6.85666667	12.715	9.04			7.345	6.8	6.935	7.84	7.033333333	7.63333333		11.38		6.575		7.655		5.185	6.325	4.326	8.09	9.555
		90								9.935																															
T5AV2	5A	120									6.635																														
		160		6.96			8.54	10.092							3.7375	7.504	3.968		6.17	11.832	8.102			5.676	4.816	6.38333333	6.82333333	6.636	5.388		8.68		4.906		6.072		2.79333333	2.74666667	3.845	5.802	9.1125
		180								9.058																															
T5AV3	5A	180									6.164																														
		240		9.033333333			9.1425	10.8466667							7.425	8.074	4.4675			11.64	8.7925			5.65	6.13	6.265	5.226	5.393333333	7.67666667		10		6.62		6.156		3.19	3.176	6.453333333	5.86	9.186666667
		270								10																															
T5AV4	5A	240									6.55666667																														
T5AV5	5A	300									8.07																														
T5BV	5B																														8.88416667										
T5BVV1	5B	80																															5.324		7.23		3.192	2.50833333	4.326	5.725	8.98
T5BVV2	5B	160																															4.23142857		5.956		3.192	3.332	3.845	4.548	8.426
T5BVV3	5B	240																															6.31666667		6.36333333		5.03	5.05333333	6.453333333	5.00666667	9.353333333
T5V1	5	80	5.63	6.55				10.6725		8.7525	7.34333333				5.32333333	4.54	4.9725		7.944	11.868	7.5725			6.704	4.68		5.9675	6.222	6.71666667		10.25										
		90					8.87																																		
T5V2	5	80														11.99																									
		160	5.223333333	5.775				10.34		8.884	5.0712				3.7375	6.293333333	3.99		7.9	11.305	7.552				3.385		5.746	6.338	4.63333333		9.692										
		170					9.71																																		
T5V3	5	240	5.496666667	7.586666667				11.21		9.23333333	5.94				4.47	9.863333333	6.01333333		5.735	11.9166667	8.83666667			7.08333333	5.46		5.92333333	6.796666667	6.72		6.85										
		260					8.456																																		
T5V4	5	335					8.54																																		
T5V5	5	425					9.77																																		
T6V1	6	80	6.345	6.41			9.2225	9.175	10.16	9.96	6.1675				5.6675	6.825	5.91			11.005	9.0425			7.035	5.91333333	6.1675	5.94	7.003333333	6.624		10.23		6.246		7.0625	5.51666667	4.4975	3.53	5.03	6.0975	8.792
T6V2	6	160	6.186666667	6.325			9.132	9.05		9.796	5.252				4.994	6.614	5.236			10.5866667	8.88			6.875	5.155	6.44166667	5.596	6.732	6.624		8.454		6.08333333		6.866	4.984	3.51833333	3.562	4.953333333	5.708	8.626
T6V3	6	240	6.3325	6.566666667			9.345	8.976		10.0725	5.542				6.07333333	7.2325	5.6125			10.8075	9.006			6.9975	5.4825	7	5.645	7.02	7.26333333		9.916		6.36333333		7.68666667	4.37666667	4.5175	3.67	5.35	6.0075	8.76
VC	VC										6.736																							2.41666667							
VC1	VC		6.0375				8.172																																		


Dissolved Oxygen - GIWWeastV1
Concentration (mg/l)
12
10
8
6
4
2
0
7/31/2010
9/19/2010
11/8/2010
12/28/2010
2/16/2011
4/7/2011
5/27/2011
7/16/2011
9/4/2011
10/24/2011
Date
Surface
5 ft
10 ft
15 ft
20 ft
25 ft
30 ft

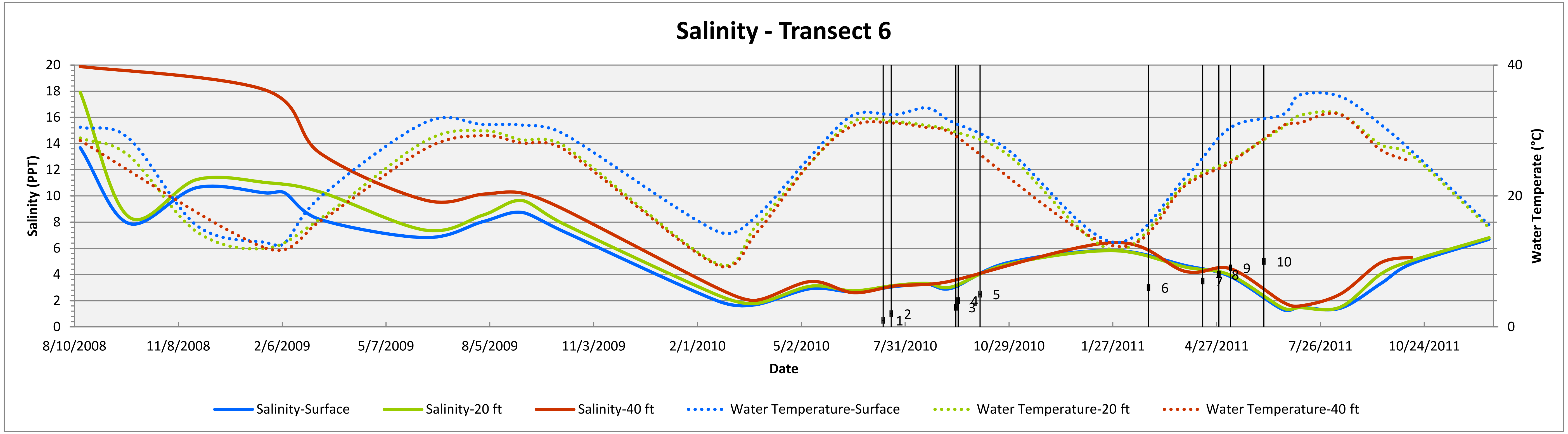

Dissolved Oxygen - DEQ Transects
Concentration (mg/l)
14
12
10
8
6
4
2
0
7/31/2010
9/19/2010
11/8/2010
12/28/2010
2/16/2011
4/7/2011
5/27/2011
7/16/2011
9/4/2011
10/24/2011
Date
DEQ13 - Surface
DEQ13 - 5 ft
DEQ13 - 10 ft
DEQ14 - Surface
DEQ14 - 5 ft
DEQ14 - 10 ft
DEQ14 - 15 ft
DEQ3 - Surface
DEQ3 - 5 ft
DEQ5 - Surface
DEQ5 - 5 ft
DEQ5 - 10 ft
DEQ6 - Surface
DEQ6 - 5 ft
DEQ6 - 10 ft



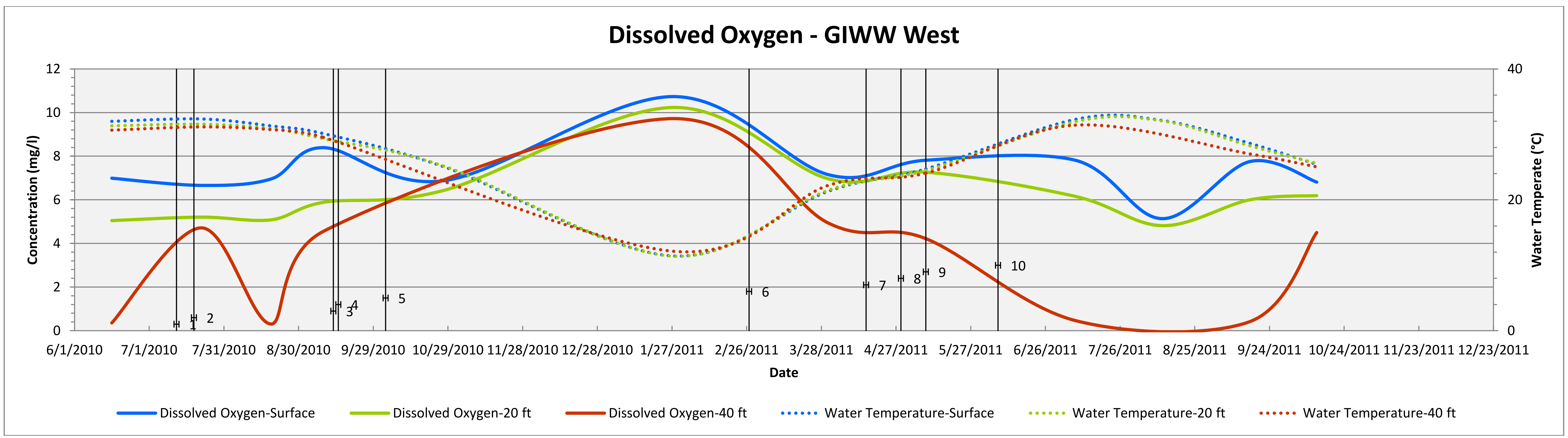
Dissolved Oxygen - Transect 6
Concentration (mg/l)
Water Temperate (°C)
0
2
4
6
8
10
12
20
40
1
2
3
4
5
6
7
8
9
10
8/10/2008
11/8/2008
2/6/2009
5/7/2009
8/5/2009
11/3/2009
2/1/2010
5/2/2010
7/31/2010
10/29/2010
1/27/2011
4/27/2011
7/26/2011
10/24/2011
Date
Dissolved Oxygen-Surface
Dissolved Oxygen-20 ft
Dissolved Oxygen-40 ft
Water Temperature-Surface
Water Temperature-20 ft
Water Temperature-40 ft



Dissolved Oxygen, Percent Saturation - Transect 6
Saturation (%)
Water Temperate (°C)
0
20
40
60
80
100
120
140
160
20
40
1
2
3
4
5
6
7
8
9
10
8/10/2008
11/8/2008
2/6/2009
5/7/2009
8/5/2009
11/3/2009
2/1/2010
5/2/2010
7/31/2010
10/29/2010
1/27/2011
4/27/2011
7/26/2011
10/24/2011
Date
Percent Saturation-Surface
Percent Saturation-20 ft
Percent Saturation-40 ft
Water Temperature-Surface
Water Temperature-20 ft
Water Temperature-40 ft



Salinity - Transect 6
Salinity (PPT)
Water Temperate (°C)
Date
0
2
4
6
8
10
12
14
16
18
20
40
20
0
8/10/2008
11/8/2008
2/6/2009
5/7/2009
8/5/2009
11/3/2009
2/1/2010
5/2/2010
7/31/2010
10/29/2010
1/27/2011
4/27/2011
7/26/2011
10/24/2011
1
2
3
4
5
6
7
8
9
10
Salinity-Surface
Salinity-20 ft
Salinity-40 ft
Water Temperature-Surface
Water Temperature-20 ft
Water Temperature-40 ft



Dissolved Oxygen - GIWW West
Concentration (mg/l)
Water Temperate (°C)
Date
0
2
4
6
8
10
12
40
20
0
6/1/2010
7/1/2010
7/31/2010
8/30/2010
9/29/2010
10/29/2010
11/28/2010
12/28/2010
1/27/2011
2/26/2011
3/28/2011
4/27/2011
5/27/2011
6/26/2011
7/26/2011
8/25/2011
9/24/2011
10/24/2011
11/23/2011
12/23/2011
1
2
3
4
5
6
7
8
9
10
Dissolved Oxygen-Surface
Dissolved Oxygen-20 ft
Dissolved Oxygen-40 ft
Water Temperature-Surface
Water Temperature-20 ft
Water Temperature-40 ft

APPENDIX H
TABLE OF HSDRRS IER CONTRACTS

APPENDIX H
Summary Table of the HSDRRS Risk Reduction Contracts
(as of May 9, 2012)

IER #	Contract	Contract Title	Awarded Amount (Millions)	Award Date	Construction Complete or Anticipated Complete Date
IER #1					
1	LPV-03d.2	Airport Runway 10 Levee	1.85	28-Sep-2010	30-Dec-2011
1	LPV-04.2A	Levee Reach 1A from Cross Bayou to St Rose and Gulf South Floodwall	9.05	28-Sep-2009	01-Jun-2011
1	LPV-05.2A	Levee Reach 2A Shell Pipeline to Goodhope and Shell Pipeline Floodwall	6.64	17-Dec-2009	22-Jan-2011
1	LPV-05.2B	Levee Reach 2B	12.19	24-Nov-2009	23-Dec-2010
1	LPV-06a.2	Bayou Trepagnier Complex Floodwall-Phase 2	5.90	23-Dec-2009	14-Jan-2011
1	LPV-06b.2	Shell Pipeline Floodwall-Phase 2	1.62	09-Dec-2010	16-May-2011
1	LPV-06c.2	Goodhope Floodwall	2.40	18-Dec-2009	17-Sep-2010
1	LPV-06e.2	Floodwall Under I-310-Phase 2	11.18	23-Apr-2010	31-May-2011
1	LPV-04.2B	Levee-Reach !B From I-310 to Walker Drainage Structure-Phase 2	7.97	17-Dec-2009	01-Jun-2011
1	LPV-06f.2	Illinois Central RR Gate-Phase 2	4.29	24-Jun-2010	01-Jul-2011
1	LPV-07b.2a	Cross Bayou Access Bridge and Pile Load Test	1.04	15-Oct-2009	N/A
1	LPV-07c.2	St. Rose Drainage Structure	6.42	30-Dec-2009	19-May-2011
1	LPV-07d.2	Almedia/Walker Drainage Structures-Phase 2	6.58	14-Aug-2009	09-Sep-2010
1	LPV-07b.2	Cross Bayou Drainage Structure, Phase 2	9.51	02-Mar-2010	07-Jun-2011
IER #2					
2	LPV-03.2A	West Return Floodwall Southern Segment –Phase 2	36.87	30-Jul-2010	14-May-2012
2	LPV-03.2B	West Return Floodwall Northern Segment Phase 2	82.64	15 -Jul-2010	15-Sep-2012
2	LPV-13.1	Pump station recurve floodwall	1.01	02-May-2007	
IER #3					
3	LPV-00.2	Reach 1 Lakefront Levee Phase 2	3.16	18-Aug-2009	10-Sep-2010
3	LPV-01.1	Reach 2 Lakefront Levee	3.55	14-Jul-2009	05-Jan-2011
3	LPV-01.2	Foreshore Protection A Phase 2	22.57	17-Sep-2010	30-Jun-2012
3	LPV-02.2	Reach 3 Lakefront Levee-Phase 2	3.56	14-Jul-2009	10-Sep-2010
3	LPV-09a.2	Pumping Stations Breakwaters	9.15	07-May -2009	30-Apr-2010
3	LPV-09.2	Pumping Stations 1,2,3, 4	174.15	15-Apr-2010	Aug-2013
3	LPV-10.2	Contract was not awarded			
3	LPV-11.2	Contract was not awarded			
3	LPV-12a.2	Pumping Station 4 Duncan Breakwater Phase II	7.99	21-Aug-2009	N/A
3	LPV-16.2	Floodwall and Gate at Bonnabel Boat Launch	3.02	15-Dec-2009	15-Oct-2010

IER #	Contract	Contract Title	Awarded Amount (Millions)	Award Date	Construction Complete or Anticipated Complete Date
3	LPV-17.2	Bridge Abutment and Floodwall Causeway Bridge	43.19	24-Aug-2010	08-Nov-2012
3	LPV-18.2	Floodwall and Gate at Williams Blvd. Boat Launch Phase 2	3.33	10-Sep-2009	11-Oct-2010
3	LPV-19.2	Reach 4 Lakefront Levee-Phase 2	2.62	03-Sep-2009	08-Sep-2010
3	LPV-20.1	Reach 5 Lakefront Phase 1 and 2	2.91	27-Oct-2008	13-Oct-2010
3	LPV-20.2	Foreshore Protection B, Phase 2	18.32	19-Aug-2010	30-Jun-2012
IER #4					
4	LPV-101.02	Lakefront Levee OEB-17th St Canal to Topaz St.	33.25	31-Jul-2009	05-May-2012
4	LPV-102.01	Lakefront Levee OEB-Topaz to Orleans Canal	1.09	03-Oct-2007	02-Sep-2008
4	LPV-103.01	Lakefront Levee OEB-Orleans Canal to London Avenue	5.20	03-Dec-2007	24-Jul-08
4	LPV-103.01A2	Gate Structure Lakefront OEB-Orleans Canal to London Ave	5.42	22-Jul-2010	01-Aug-2011
4	LPV-103.1A1	Lakefront Levee OEB17th Street Canal to London	10.17	07-Aug-2009	08-Nov-2010
4	LPV-104.01	Lakefront Levee OEB- London Ave Canal to IHNC	1.29	13-Jul-2007	01-May-2008
4	LPV-104.01a	Lakefront Levee London Ave Canal to IHNC Phase 1A	14.07	21-Oct-2009	12-May-2012
4	LPV-104.02	Lakefront Levee OEB-London Avenue Canal to IHNC	5.13	19-Jan-2010	29-Aug-2012
IER #5					
5*	PCCP-01	Outfall Canal Closures (Permanent Pump Stations)	675.00	13-Apr-2011*	Contract protested.
IER #6					
6	LPV-105.01	Lakefront Airport Floodwalls	12.49	09-Apr-2010	29-Jun-2011
6	LPV-105.02	T-Wall Existing Alignment-Lakefront Airport- East	19.47	13-May-10	05-Jul-2012
6	LPV-106	Replace Levee W/T-Citrus Lakefront Levee (West of Paris Road)	15.99	13-May-2010	05-Jun-2012
6	LPV-107	Lincoln Beach Gate Replacement	7.33	12-May-2010	28-Jul-2011
IER #7					
7	LPV-108	Raise Levee-Paris Road to South Point	15.49	21-Nov-2008	26-May-2010
7	LPV-109.02a	New Orleans East Back Levee-CSX RR to Michoud Canal	112.25	30 -Mar-2010	31-Aug-2011
7	LPV-109.02b	I-10 Floodwall and Crossing	16.99	08-Apr-2010	15-Jul-2011
7	LPV-109.02c	Awarded as part of LPV-109.02a contract	Not a separate contract		
7	LPV-110	New Orleans East Modify CSX RR Gate	3.38	16-Apr-2010	25-Jul-2011

IER #	Contract	Contract Title	Awarded Amount (Millions)	Award Date	Construction Complete or Anticipated Complete Date
7	LPV-111.01	New Orleans East Back Levee CSX RR to Michoud Canal	403.08	29-Jun-2009	31-Aug-2011
7	LPV-111.02	Awarded as part of the LPV-111.01 contract	Not a separate contract		
		IER #8			
8	LPV-144	Chalmette Loop Levee-Bayou Dupre Floodgate	36.37	22-Jan-2010	29-Feb-2012
		IER #9			
9	LPV-149	Caernarvon Canal at La 39/Railroad Replace Floodgates	49.44	15-Jun-2010	20-Dec-2011
		IER #10			
10	LPV-145	Chalmette Loop- Bayou Bienvenue to Bayou Dupre	488	14-Jul-2009	25-Jul-2011
10	LPV-146	Chalmette Loop-Bayou Dupre to Hwy 46 Floodwall	452	06-Aug-2009	08-Jul-2011
10	LPV-147	Chalmette Loop Levee-Hwy 46 Floodgates	5.32	19-Mar-2010	10-Jul-2011
10	LPV-148.02	Chalmette Loop-Levee-Hwy 46 to River	317	23-Feb-2010	13-Dec-2011
		IER #11			
11	LPV-115	Citrus Back Levee-Michoud Slip to IHNC	1.10	21-Dec-06	30-May-2007
11	LPV-116	EB-IHNC-GIWW/MRGO to Almonaster	1.50	30-Dec-06	31-May-2007
11	LPV-117.01	Eastbank IHNC Almonaster to Lakefront Floodwall	2.39	06-May-2009	21-Sep-2009
11	LPV-117.02	IHNC Reach II Emergency Interim Repair	2.41	11-Dec-2009	01-Apr-2010
11	LPV-120.01	Westbank IHNC Almonaster to Lakefront Floodwall	4.61	27-Feb-2009	09-Oct-2009
11	LPV-192.03	Reach 3 Restoration and Repair	2.18	18-Feb-2011	02-Aug-2011
11	LPV-192.02.bs	IHNC01 LFA Restoration	3.38	18-Feb-2011	02-Sep-2011
11	LPV-192.01	Reach 1 Repair Restore	N/A	14-Jun-2012	07-Nov-2012
11	LPV-192.02	Reach 2 Repair Restore	3.38	18-Feb-2011	17-Jun-2011
11	IHNC-01	IHNC Flood Protection Seabrook	181.45	18-Feb-2010	May-2012
11	IHNC-02	IHNC Flood Protection GIWW/MRGO	1,199.47	03-Apr-2008	13-Jun-2012
		IER #12			
12	WBV-14.g.2	Estelle Pump Station Vicinity Floodwalls	20.57	21-Aug-2009	21-Jul-2011
12	WBV-01	Sector Gate at Boomtown Floodwall	132.13	01-Feb-2008	11-May-2010
12	WBV-2.a	Boomtown Floodwalls	48.45	17-Jul-2008	17-Jun-2010

IER #	Contract	Contract Title	Awarded Amount (Millions)	Award Date	Construction Complete or Anticipated Complete Date
12	WBV-3.a	Hero Pump Station to Algiers Canal Floodwalls	62.28	11-Jul-2008	08-Jun-2011
12	WBV-3.b	Hero Pump Station to Algiers Canal Floodwall	32.01	08-Dec-2008	15-Jul-2010
12	WBV14.a. 2	Harvey Canal West Bank Levees-Phase 2 Estelle PS to Vicinity of Lapalco Overpass	13.06	12-Nov-2010	15-May-2012
12	WBV-02b	Boomtown to Hero Pump Station Floodwalls	56.10	26-Mar-2007	08-Aug-2008
12	WBV-33	Old Estelle Pump Station Fronting Protection and Modifications	22.57	16-Sep-2009	16-Aug-2011
12	WBV-46.2	Cousins Canal Walls-Destrehan Bridge to Sector Gate	3.50	18-May-2010	06-Dec-2011
12	WBV-38.2	Cousins Pump Station and Discharge Channel Floodwalls Phase 2	11.17	26-Oct-2010	15-Aug-2012
12	WBV-44	Whitney Barataria Pump Station Floodwall Modifications	7.35	17-Aug-2010	06-Oct-2011
12	WBV-90	GIWW West Closure Complex	834.01	17-Apr-2009	08-Dec-2012
12	WBV-04.2	Belle Chasse Hwy to Hero Cutoff Reach 1 Phase 2	4.21	30-Sep-2010	12-Jan-2012
12	WBV-05.2	Belle Chasse Hwy to Hero Cutoff Reach 2 Phase 2	3.94	30-Sep-2010	09-Dec-2011
12	WBV-06.2	Belle Chasse Hwy to Hero Cutoff Reach 3 & 4 Phase 2	21.73	14-Dec-2010	15-Jun-2012
12	WBV-06.2a	Belle Chasse Hwy to Hero Cutoff (West) Phase 2	2.91	30-Sep-2010	17-Jun-2011
12	WBV-07	Planters Pump Station Fronting Protection	33.07	28-Sep-2009	21-Dec-2011
12	WBV-23	New Estelle Pump Station Fronting Protection and Modifications	8.00	19-Apr-2010	21-Sep-2011
12	WBV-08	Sewerage and Water Board Pump Station #13 Fronting Protection	29.98	24-Sep-2009	15-Aug-2012
12	WBV-10	Belle Chasse Pump Station #1 Fronting Protection	31.71I	24-Sep-2009	15-Nov-2012
12	WBV-11	Belle Chase Pump Station #2 Fronting Protection Modifications	11.39	05-Nov-2010	31-Jul-2012
12	WBV-47.1	Algiers Lock to Belle Chasse Hwy West Phase 1	5.84	18-Nov-2010	16-Aug-2011
12	WBV-48.2	Belle Chasse to Algiers Lock Phase 2	1.58	19-Nov-2010	31-Mar-2011
12	WBV-49.1	Hero Levee to Belle Chase Phase 1	1.31	22-Oct-2010	03-Jun-2011
12	WBV-13	Fronting Protection and Modification	21.40	25-Sep-2009	15-May-2012
IER #13					
13	WBV- 09a	Hero Canal to Oakville Levees	33.41	21-Jun-2010	01-Nov-2011
13	WBV- 09b	Hero Canal to Oakville Structures	26.47	14-May-2010	25-Aug-2012
13	WBV- 09c	Hero Canal to Oakville Highway Structures	7.28	09-Jul-2010	30-Jun-2012
13	WBV- 12	Hero Canal Reach 1, 2nd Enlargement	11.75	29-Apr-2010	08-Dec-2012

IER #	Contract	Contract Title	Awarded Amount (Millions)	Award Date	Construction Complete or Anticipated Complete Date
IER #14					
1 4	WBV.14.c.2	New Westwego Pump Station to Orleans Village Phase 2	26.54	14-Jun-2010	09-Dec-11
14	WBV-30	Westminster Pump Station Fronting Protection and Modifications	13.69	18-Sep-2009	25-Aug-2011
14	WBV-14.b.2	Orleans Village to Hwy 45 Levee-Phase 2	11.06	25-Sep-2009	29-Oct-2011
14	WBV-37	Ames/Mt. Kennedy PS Fronting Protection	22.50	23-Jun-2010	01-Jul-2012
14	WBV-14.f.2	Hwy 45 Levee Phase 2	4.94	17-Sep-2009	22-Oct-2010
14	WBV-14.d	V-Line Floodwall	17.15	02-Jul-2009	31-Mar-2011
14	WBV- 14.i	V-Line Levee, LA 3134 Hwy Crossing	13.08	24-Mar-2010	13-Mar-2012
14	WBV-14.j	Utility Crossings	8.40	13-Dec 2010	02-Dec-2011
14	WBV-14.e.2a	V-Line Levee east of Vertex	13.85	21-Jan-2011	20-Oct-2011
IER #15					
15	WBV17.b2	Hwy 90 to Lake Cataouatche Pump Station Levee	5.30	02-Nov-2010	16-Nov-2011
15	WBV18.2	Hwy 90 to Lake Cataouatche Pump Station Phase 2	12.31	21-Aug-2009	10-Oct-2011
15	WBV-15.b.2	Lake Cataouatche Pump Station Fronting Protection Modifications	23.74	10-Apr-2009	15-Aug-2012
15	WBV-15.a.2	Lake Cataouatche Pump Station to Segnette State Park Phase 2	41.31	04-Feb-2010	22-Nov-2011
IER #16					
16	WBV-70	Western Tie-In Levees Dewatering Cells	10.90	25-Sep-2009	08-Jul-2010
16	WBV-71	Western Tie-In Levees (North-South)	5.33	25-Sep-2009	10-Sep-2012
16	WBV-72	Western Tie-In Levees (East West)	30.22	22-Mar-2010	15-Oct-2012
16	WBV-73	Western Tie-In Hwy 90 Crossing	38.48	06-Jul-2010	21-Nov-2012
16	WBV-74	Western Tie-In Closure Structure	28.95	30-Apr-2010	30-May-2012
16	WBV-75	Western Tie-In BNSF Railroad Crossing	4.42	24-Jun-2011	10-Apr-2012
16	WBV-76	Western Tie-In Hwy 90 Pump Station	6.99	10-Jan-2011	20-Aug-2012
16	WBV-77	Western Tie-In UP Railroad and LA-18 Crossing	8.37	18-Jul-2011	31-Aug-2012
IER #17					
17	WBV-24	Segnette State Park Floodwall	20.87	23-Dec-2009	30-Jun-2012
17	WBV-16.b	Segnette Pump Station Fronting Protection Modifications	19.57	25-Jan-2010	10-Aug-2012
17	WBV-16.2	Bayou Segnette Complex	42.81	10-Feb-2010	15-Jun-2012
17	WBV-21	Old Westwego Pump Station Fronting Protection and Modifications	3.56	15-Apr-2010	10-Aug-2011
17	WBV-22	Westwego Floodwall	7.49	22-Oct-2009	16-Dec-2010

IER #	Contract	Contract Title	Awarded Amount (Millions)	Award Date	Construction Complete or Anticipated Complete Date
17	WBV-20	New Westwego Pump Station Fronting Protection	14.68	02-Oct-2009	01-Sep-2011
27	OFC-03	Remediation Floodwalls on the London Avenue Canal	17.90	07-Dec-2010	27-Jun-2011
27	OFC-04A	Orleans Avenue SWE Remediation	4.95	18-Feb-2011	25-Jun-2011
27	OFC-05	17th Street Canal SWE Remediation	10.25	09-Dec-2010	30-Jun-2011
27	OFC-06	Orleans Avenue Outfall Canal SWE Remediation-Earthwork	0.41	23-Dec-2010	31-Mar-2011
33***	WBV-MRL-1.1	Oak Pt-Oakville	16.9	02 Apr-2011	23-Oct-2011
33***	WBV-MRL-3.1	Belle Chasse-Oak Pt.	10.48	02 Apr-2011	10-Nov-2011
33***	WBV-MRL-4.1	Oak Rd. Belle Chasse	6.41	02 Apr-2011	18-Jan-2012
33***	WBV-MRL-6.1	Parish Line-Coast Guard Facility	4.44	02 Apr-2011	26-Oct-2011
33***	WBV-MRL-7.1	West Crossover Pt. Parish Road	2.41	17 Feb-2011	05-Mar-2012
33***	WBV-MRL 01.2A	Augusta to Oakville (A) Resilient Features	N/A	01-Oct-2012	04-Mar-2014
33***	WBV-MRL-01.2B	Augusta to Oakville (B) Resilient Features	N/A	26-Jan-2013	03-Dec-2013
33***	WBV-MRL-02.2	Oak Point to Augusta Resilient Features	N/A	11-Nov-2012	06-Sep-2014
33***	WBV-MRL-03.2	Belle Chasse to Oak Point Resilient Features	N/A	30-Jan-2013	29-Oct-2014
33***	WBV-MRL-0.42	English Turn Bend to Belle Chasse Resilient Features	N/A	03-Dec-2012	17-Jun-2014
33***	WBV-MRL-05.2	English Turn Bend Resilient Features	N/A	10-Mar-2013	22-Apr-2014
TOTAL AMOUNT AWARDED**		**$6,641,610,000**			

Note: Greater New Orleans Metropolitan Area HSDRRS 100-year work based on contract numbers provided in the IERs and through CEMVN data mining.

*The IER #5 PCCP-01 Outfall Canal Closures (Permanent Pump Stations): Temporary pump stations have been constructed. Contract for permanent pump stations has been protested and construction activities have not begun.

**The Total dollar amount reflects the awarded contract amount and as work is ongoing for many contracts or 100 percent funding close out is not complete and the final total construction costs will vary due to contract modifications.

***This IER was not analyzed in the CED Phase I version.

APPENDIX I
TABLES OF HSDRRS IERS ANALYZED AND NOT ANALYZED IN THE CED

APPENDIX I

Table 1. HSDRRS IERs Analyzed in the CED (Decision Records Signed by November 15, 2010)

Alternative NEPA Arrangments Document	Basin	Sub-Basin	Parish	Descriptor Title	Type of HSDRRS Action	Date of Signed Decision Record
IER #1	LPV	St. Charles	St. Charles	La Branche Wetlands Levee	Risk Reduction	June 9, 2008
IER Supplemental #1	LPV	St. Charles	St. Charles	La Branche Wetlands Levee Supplemental	Risk Reduction	June 29, 2009
IER #2	LPV	Jefferson East Bank	St. Charles, Jefferson	West Return Floodwall	Risk Reduction	July 18, 2008
IER Supplemental #2	LPV	Jefferson East Bank	St. Charles, Jefferson	West Return Floodwall Supplemental	Risk Reduction	October 29, 2009
IER #3	LPV	Jefferson East Bank	Jefferson	Lakefront Levee	Risk Reduction	July 25, 2008
IER Supplemental #3.a	LPV	Jefferson East Bank	Jefferson	Lakefront Levee Supplemental	Risk Reduction	December 18, 2009
IER #4	LPV	Orleans East Bank	Orleans	New Orleans Lakefront Levee, West of Inner Harbor Navigational Canal	Risk Reduction	March 19, 2009
IER #5	LPV	Orleans East Bank	Orleans	Outfall Canal Closure Structures, 17th Street Canal, Orleans Avenue Canal and London Avenue Canal	Risk Reduction	June 30, 2009
IER #6	LPV	New Orleans East	Orleans	Citrus Lakefront Levee	Risk Reduction	June 25, 2009
IER Supplemental #6	LPV	New Orleans East	Orleans	Citrus Lakefront Levee Supplemental	Risk Reduction	February 8, 2010
IER #7	LPV	New Orleans East	Orleans	New Orleans East Lakefront to Michoud Canal	Risk Reduction	June 19, 2009
IER Supplemental #7	LPV	New Orleans East	Orleans	New Orleans East Lakefront to Michoud Canal Supplemental	Risk Reduction	May 3, 2010
IER #8	LPV	Chalmette Loop	St. Bernard	Bayou Dupre Control Structure	Risk Reduction	June 23, 2009
IER #9	LPV	Chalmette Loop	St. Bernard	Caernarvon Floodwall	Risk Reduction	February 8, 2010
IER #10	LPV	Chalmette Loop	St. Bernard	Chalmette Loop Levee	Risk Reduction	May 26, 2009
IER #11 Tier 1 Pontchartrain and Borgne	LPV	New Orleans East	Orleans	Improved Protection on the Inner Harbor Navigation Canal	Risk Reduction (Programmatic)	March 14, 2008
IER #11 Tier 2 Pontchartrain	LPV	New Orleans East	Orleans	IHNC, Pontchartrain	Risk Reduction	April 1, 2010
IER #11 Tier 2 Borgne	LPV	New Orleans East	Orleans	IHNC, Borgne	Risk Reduction	October 21, 2008
IER Supplemental #11 Tier 2 Borgne	LPV	New Orleans East	Orleans	IHNC, Borgne Supplemental	Risk Reduction	December 10, 2009
IER #12	WBV	Gretna-Algiers	Jefferson, Orleans, Plaquemines	GIWW, Harvey and Algiers Canal Levee and Floodwalls	Risk Reduction	February 18, 2009
IER #13	WBV	Belle Chasse	Plaquemines	Hero Canal Levee and Eastern Terminus	Risk Reduction	December 4, 2009
IER #14	WBV	Harvey-Westwego	Jefferson	Westwego to Harvey Levee	Risk Reduction	August 26, 2008
IER Supplemental #14.a	WBV	Harvey-Westwego	Jefferson	Westwego to Harvey Levee Supplemental	Risk Reduction	February 9, 2010
IER #15	WBV	Lake Cataouatche	Jefferson	Lake Cataouatche Levee	Risk Reduction	June 12, 2008
IER #16	WBV	Lake Cataouatche	Jefferson	Western Terminus Levee	Risk Reduction	June 12, 2009
IER Supplemental #16.a	WBV	Lake Cataouatche	Jefferson	Western Terminus Levee Supplemental	Risk Reduction	August 24, 2010
IER #17	WBV	Lake Cataouatche	Jefferson	Company Canal Floodwall	Risk Reduction	January 21, 2009

Alternative NEPA Arrangments Document	Basin	Sub-Basin	Parish	Descriptor Title	Type of HSDRRS Action	Date of Signed Decision Record
IER #18	N/A	New Orleans East, Chalmette Loop, Belle Chasse, Lake Cataouatche	Plaquemines, St. Bernard , St. Charles	Government Furnished Borrow #1	Borrow	February 21, 2008
IER #19	N/A	New Orleans East, Chalmette Loop, Lake Cataouatche	Iberville, Plaquemines, Hancock County	Contractor Furnished Borrow #1	Borrow	February 14, 2008
IER #22	N/A	Belle Chasse, Lake Cataouatche	Plaquemines	Government Furnished Borrow #2	Borrow	May 30, 2008
IER #23	N/A	N/A	Plaquemines, St. Bernard, St. Charles, Hancock County	Contractor Furnished Borrow #2	Borrow	May 6, 2008
IER #25	N/A	New Orleans East, Lake Cataouatche	Plaquemines	Government Furnished Borrow #3	Borrow	February 3, 2009
IER #26	N/A	Lake Cataouatche	Plaquemines, St. John the Baptist, Hancock County	Pre-Approved Contractor Furnished Borrow #3	Borrow	October 20, 2008
IER #27	LPV	Jefferson East Bank, Orleans East Bank	Orleans, Jefferson	Outfall Canal Remediation on the 17th Street, Orleans Avenue, and London Avenue Canals	Risk Reduction	October 11, 2010
IER #28	N/A	Chalmette Loop, Lake Cataouatche	Plaquemines	Government Furnished Borrow #4	Borrow	July 31, 2009
IER #29	N/A	New Orleans East	St. John the Baptist, St. Tammany	Contractor Furnished Borrow #4	Borrow	September 8, 2009
IER #30	N/A	Chalmette Loop	St. James, Hancock County	Contractor Furnished Borrow #5	Borrow	September 28, 2009
IER #31	N/A	Chalmette Loop, Lake Cataouatche	East Baton Rouge, Lafourche, Plaquemines, St. Bernard, St. Tammany, Hancock County	Contractor Furnished Borrow #7	Borrow	October 29, 2010
IER #32	N/A	N/A	Ascension, Plaquemines, St. Charles	Contractor Furnished Borrow #6	Borrow	January 22, 2010

Table 2. HSDRRS IERs NOT Included or Analyzed in the CED
(Decision Record Signed after November 15, 2010 or IER Anticipated as of September 2011)

Alternative NEPA Arrangments Document	Basin	Sub-Basin	Parish	Descriptor Title	Type of HSDRRS Action	Date of Signed Decision Record
IER Supplemental #1b	LPV	St. Charles	St. Charles	La Branche Wetlands Levee Supplemental	Risk Reduction	July 6, 2011
IER Supplemental #2.b	LPV	Jefferson East Bank	St. Charles, Jefferson	West Return Floodwall Supplemental	Risk Reduction	
IER Supplemental #5	LPV	Orleans East Bank	Orleans	Outfall Canal Closure Structures, 17th Street Canal, Orleans Avenue Canal and London Avenue Canal Supplemental	Risk Reduction	
IER Supplemental #10	LPV	Chalmette Loop	St. Bernard	Chalmette Loop Levee Supplemental	Risk Reduction	
IER Supplemental #11.b Tier 2	LPV	New Orleans East	Orleans	IHNC, Borgne Supplemental	Risk Reduction	November 29, 2010
IER Supplemental #11.c Tier 2	LPV	New Orleans East	Orleans	IHNC, Borgne Supplemental	Risk Reduction	March 22, 2011
IER Supplemental #11.d Tier 2 Pontchartrain	LPV	New Orleans East	Orleans	IHNC, Pontchartrain Supplemental	Risk Reduction	
IER Supplemental #12	WBV	Gretna-Algiers	Jefferson, Orleans, Plaquemines	GIWW, Harvey and Algiers Canal Levee and Floodwalls Supplemental	Risk Reduction	November 20, 2010
IER Supplemental #12.a	WBV	Gretna-Algiers	Jefferson, Orleans, Plaquemines	GIWW, Harvey and Algiers Canal Levee and Floodwalls Supplemental	Risk Reduction	February 23, 2011
IER Supplemental #12 / 13	WBV	Belle Chasse	Plaquemines	12/13 Waterline WBV	Risk Reduction	February 4, 2011
IER Supplemental #13a	WBV	Belle Chasse	Plaquemines	Hero Canal Levee and Eastern Terminus Supplementa	Risk Reduction	April 21, 2011
IER Supplemental #15.a	WBV	Lake Cataouatche	Jefferson	Lake Cataouatche Levee Supplemental	Risk Reduction	September 7, 2011
IER Supplemental #15.b	WBV	Lake Cataouatche	Jefferson	Lake Cataouatche Levee Supplemental	Risk Reduction	
IER Supplemental #16.b	WBV	Lake Cataouatche	Jefferson	Western Terminus Levee Supplemental	Risk Reduction	
IER Supplemental #25.a	N/A	New Orleans East	Orleans	Government Furnished Borrow #3: Stumpf Stockpile Clearance Supplemental	Borrow	
IER Supplemental #27.a	LPV	Jefferson East Bank, Orleans East Bank	Orleans, Jefferson	Outfall Canal Remediation on the 17th Street, Orleans Avenue, and London Avenue Canals Supplemental	Risk Reduction	April 15, 2011
IER #33	WBV	Belle Chasse	Orleans, Plaquemines	Co-located MRL Levee	Risk Reduction	December 31, 2010
IER Supplemental #33.a	WBV	Belle Chasse	Orleans, Plaquemines	Co-located MRL Levee Supplemental	Risk Reduction	
IER #35	N/A			Contractor Furnished Borrow #8	Borrow	
IER #36	LPV/WBV	N/A	N/A	HSDRRS Mitigation	Mitigation	
IER #37	LPV/WBV	N/A	N/A	HSDRRS Mitigation	Mitigation	

APPENDIX J
INTERAGENCY ENVIRONMENTAL TEAM

APPENDIX J: MEMBERS OF INTERAGENCY ENVIRONMENTAL TEAM

Kyle Balkum	Louisiana Dept. of Wildlife and Fisheries
Elizabeth Behrens	U.S. Army Corps of Engineers
Jack Bohanan	U.S. Fish and Wildlife Service
Agaha Brass	Louisiana Dept. of Natural Resources
Catherine Breaux	U.S. Fish and Wildlife Service
Michael Brown	U.S. Army Corps of Engineers
Mike Carloss	Louisiana Dept. of Wildlife and Fisheries
David Castellanos	U.S. Fish and Wildlife Service
Getrisc Coulson	U.S. Army Corps of Engineers
Frank Cole	Louisiana Dept. of Natural Resources
Jennifer Darville	U.S. Army Corps of Engineers
Robert Dubois	U.S. Fish and Wildlife Service
Greg Ducote	Louisiana Dept. of Natural Resources
John Ettinger	U.S. Environmental Protection Agency
David Felder	U.S. Fish and Wildlife Service
Heather Finley	Louisiana Dept. of Wildlife and Fisheries
Michelle Fischer	U.S. Geological Survey
Deborah Fuller	U.S. Fish and Wildlife Service
Mandy Green	Louisiana Dept. of Natural Resources
Tom Griggs	Louisiana Dept. of Environmental Quality
James Harris	U.S. Fish and Wildlife Service
Jeffrey Harris	Louisiana Dept. of Natural Resources
Richard Hartman	NOAA National Marine Fisheries Service
Brian Heimann	Louisiana Dept. of Wildlife and Fisheries
Jeffrey Hill	NOAA National Marine Fisheries Service
Christina Hunnicutt	U.S. Geologic Survey
Barbara Keeler	U.S. Environmental Protection Agency
Kirk Kilgen	Louisiana Dept. of Natural Resources
Tim Killeen	Louisiana Dept. of Natural Resources
Patricia Leroux	U.S. Army Corps of Engineers
Brian Lezina	Louisiana Dept. of Wildlife and Fisheries
Ken Litzenberger	U.S. Fish and Wildlife Service
Lissa Lyncker	U.S. Army Corps of Engineers
Brian Marcks	Louisiana Dept. of Natural Resources
Ismail Merhi	Coastal Protection and Restoration Authorit
David Muth	U.S. National Park Service
Elizabeth Nord	U.S. Army Corps of Engineers
Bonnie Obiol	U.S. Army Corps of Engineers
Gib Owen	U.S. Army Corps of Engineers
Clint Padgett	U.S. Geologic Survey
Jamie Phillippe	Louisiana Dept. of Environmental Quality
Molly Reif	U.S. Geologic Survey
Jim Rives	Louisiana Dept. of Environmental Quality
Kevin Roy	U.S. Fish and Wildlife Service
Manuel Ruiz	Louisiana Dept. of Wildlife and Fisheries
Reneé Sanders	Louisiana Dept. of Natural Resources
Sandra Stiles	U.S. Army Corps of Engineers
Danielle Tommaso	U.S. Army Corps of Engineers
Angela Trahan	U.S. Fish and Wildlife Service
Lee Walker	U.S. Army Corps of Engineers

Nancy Walters	U.S. Fish and Wildlife Service
David Walther	U.S. Fish and Wildlife Service
Laura Lee Wilkinson	U.S. Army Corps of Engineers
Patrick Williams	NOAA National Marine Fisheries Service

APPENDIX K
IER ENVIRONMENTAL REEVALUATIONS

Appendix K

IER Environmental Reevaluations
(as of November 15, 2010)

Revaluation for IER #	Title of Re-evaluation	Need for Re-evaluation	Date and CZM Number	Date of ESA Consultation	Date Signed by CEMVN
IER #1	LPV 06b.2/5.2A, Shell Pipeline T-wall	Shell Pipeline utility relocation from levee back to floodwall	NA	NA	September 2, 2010
IER #4	LPV 104.02, University of New Orleans Ramp	Construction of ramp at the University of New Orleans	December 28, 2009 C20080597 mod	January 19, 2010	January 29, 2010
IER# 6	LPV 105.02, East Lakefront	Installing underground electrical conduits	May 21, 2010 C20090065	March 15, 2010	June 1, 2010
IER #6	LPV 105.02	Road closures	NA	NA	July 9, 2010
IER #7	LPV 109.02b, additional staging areas	Designate additional staging areas along I-10/I-68 interchange	NA	NA	January 29, 2010
IER #9	LPV 149, Caernarvon floodwall construction	Construction of temporary work yard on existing gravel lot (two options)	NA	NA	July 9, 2010
IER #10	LPV 147, Bayou Road gate	Twelve month road closure	NA	November 5, 2009	May 20, 2010
IER #11, Tier 2 Pontchartrain	Seabrook railroad barricade and track disconnect	Expansion of temporary work easement and use of existing roadway for access and installation of railroad barricades	NA	August 24, 2010	August 26, 2010
IER #12	WBV 46.2	Relocations of Entergy power line and Cox communications lines	August 25, 2010 C20080483	September 21, 2010	September 21, 2010
IER #13	WBV 09c, AT&T relocation	Relocate AT & T remote terminal station outside of project right-of-way	March 10, 2010 C20090082 mod 1	February 24, 2010	March 16, 2010
IER #13	WBV 09b	Swing gate modification	March 22, 2010 C20090082 mod 2	February 24, 2010	March 22, 2010
IER #13	WBV 09b, Hero Canal dredging	Change dredging depth from -7 ft to -9 ft	NA	NA	September 1, 2010
IER #13/22	WBV-12, borrow IER unauthorized clearing	Site N installation of silt fencing along boundary	August 6, 2010 C20070509	NA	June 21, 2010
IER #14	WBV14i-, stockpile generated material at West Jefferson Levee District Drake Yard	Temporarily stockpile material generated during excavation activities for later reuse by West Jefferson Levee District	February 9, 2010 C20080048 mod 2	December 21, 2009	February 17, 2010
IER #15	WBV-15.a.2, berm toe armoring	Floodside levee berm toe armoring	February 9, 2010 C20080049 mod 1	December 21, 2009	February 11, 2010

Revaluation for IER #	Title of Re-evaluation	Need for Re-evaluation	Date and CZM Number	Date of ESA Consultation	Date Signed by CEMVN
IER #15	WBV 15.a.2, temporary access bridge/road	Construction of road and two access bridges	April 21, 2010 C20080049 mod 2	April 12, 2010	June 1, 2010
IER #15	WBV-17.b.2, contract access and crossing	Alternate access through landfill and crossing over inner Cataouatche Canal	October 22, 2010 C20080049 mod 4	November 4, 2010	November 5, 2010
IER #16	WBV-73, u-turn bridge approach extensions	Construct truck u-turn and extend the length the bridge approaches within Hwy 90 right-of-way	March 9, 2010 C20080324 mod 2	February 24, 2010	March 10, 2010
IER #16	WBV-75, temporary relocations	Temporary relocations on Mississippi Levee toe	November 5, 2010 C20080324 mod 3	September 24, 2010	November 8, 2010

APPENDIX L
OTHER REGIONAL PRESENT AND FUTURE PROJECTS

APPENDIX L:

OTHER REGIONAL PRESENT AND FUTURE PROJECTS

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Storm Damage Reconstruction

Project	Parish	Status	Overview	Agency/Entity/Program
Bridge Painting H.P. Long	Jefferson	Construction	Repairs due to Hurricane Katrina	Louisiana Department of Transportation and Development (La DOTD)
Lapalco Bridge Operator House	Jefferson	Construction	Repairs due to Hurricane Katrina	La DOTD
Live Oak Boulevard (US 90 to Willswood)	Jefferson	Construction	Repairs due to Hurricane Katrina	La DOTD
Old Hammond Highway (17th St. to Carrollton)	Jefferson	Construction	Repairs due to Hurricane Katrina	La DOTD
Repair Damge to Walking Path Lights	Jefferson	Repair Rehabilitation	Repairs due to Hurricane Katrina	La DOTD
USACE Regulatory Permit MVN-2007-2517-EMM	Jefferson	Permit Issued	Deposit fill from the dredging of an un-named canal for debris clean up. Located off Louisiana Highway 1 near Grand Isle and 0.21 acre of non-vegetated waterbottoms would be filled; 0.7 acre of TNW in review area.	Alphonse G. Cassagne, III
USACE Regulatory Permit MVN-2007-554-EGG	Jefferson	Permit Issued	Dredging of approximately 13,440 cy of material from non-vegetated water bottoms, construction of approximately 2,785 feet of bulkhead, installation of piling for construction of approximately 20 boat slips, and deposition of 1,877 cy of hauled-in fill material for stabilization, including 420 cy of rip-rap material for the purpose of erosion control and hurricane damage repair. Located on 1, 2, 3, and 4 East Central Avenue, Grand Isle.	Webb Cheramie
Building Permits from August, 2005 through July 2011 for Orleans Parish	Orleans	Building Permits	A total of 343,220 total applicable building permits. Building Type descriptors-Residential, Commercial, Demolition. See next sheet for Orleans Parish building permits specifics.	City of New Orleans
Chef Menteur Bridge & Approaches	Orleans	Construction	Bridge replacement	La DOTD
E-R Program Support	Orleans	Construction	Submerged Roads Program support	La DOTD
Louisiana Alternative Housing Pilot Program Project, Fischer Group Site Environmental Assessment	Orleans	Construction	Redevelopment of the Fischer-Algiers site with Louisiana Cottages on existing site footprint	Federal Emergency Management Agency (FEMA)

Project	Parish	Status	Overview	Agency/Entity/Program
Louisiana Alternative Housing Pilot Program Project, Jackson Barracks Environmental Assessment	Orleans	Construction	Reconstruction of base housing for emergency personnel	FEMA
Louisiana Alternative Housing Pilot Program Project, Orleans Parish Programmatic Environmental Assessment	Orleans	Construction	Construction of 160 Louisiana cottages throughout Orleans Parish, in existing lots throughout the East Bank, to facilitate storm damage reconstruction.	FEMA
USACE Regulatory Permit MVN-2006-0848-EFF	Orleans	Permit Issued	The construction and maintenance of two high level fixed concrete girder span bridges located between Orleans and St. Tammany Parishes, on Interstate I-10, and removal of the existing Twin Span bridges at Lake Pontchartrain on I-10 between New Orleans and Slidell, LA. The project would impact approximately 24.2 acres of Waters of the U.S..	La DOTD
USACE Regulatory Permit MVN-2008-0787-EFF	Orleans	Permit Issued	Excavate and deposit fill to construct a home site, driveway, install rip rap, and construct a pier and boat house for residential use. Located on Chef Menteur Highway, in Lake St. Catherine, LA. As compensation for project related impacts, the permittee has agreed to donate $2,286.00 to the Louisiana Coastal Restoration Fund for the restoration of 0.09 of an acre of impacted marsh habitat.	Eugene Larroux
Joe Brown Center	Orleans	Design and Planning	Multipurpose community center would undergo a $20 million major renovation. Bath house would undergo major renovations. Pool and grounds (including baseball fields and shelter) would receive major enhancements.	City of New Orleans
Muncipal Yacht Harbor Repairs	Orleans	Design	Harbor facility will be will be repaired so it can reopen, including piers, bulkheads, pilings, and rental slips	City of New Orleans
St. Roch Market	Orleans	Design	Former produce market will be restored	The Faubourg St. Roch Project and City of New Orleans
Various library demolitions	Orleans	Unknown	Demolition of damaged facilities	City of New Orleans
USACE Regulatory Permit MVN-2008-3259-EOO	Plaqemines	Permit Issued	Install and maintain three aids to navigation at three locations within the shipping fairway of Southwest Pass in the Mississippi River Delta Region, as a response to hurricane damage.	USCG Civil Eng Unit Miami

Storm Damage Reconstruction

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2009-0269-ETT	Plaquemines	Permit Issued	Replace and maintain an existing pump station with 0.16 acre affected by a project located on an existing drainage pump station traversing a levee located in Braithwaite, LA. Approximately 0.07 acre of EFH would be impacted.	Plaquemines Parish
USACE Regulatory Permit MVN-2010-0966-EPP	Plaquemines	Permit Issued	Maintenance dredging for access and marina basin, deposition of dredge material in a manner to induce marsch creation/nourishment, demolition of existing structures and removal of debris, and installation and maintenance of docks, walkways, boat slips, and other appurtenant structures associated with the reconstruction of Port Eads Marina. Located off South Pass approximately 20 miles south of Venice, LA. The project would impact 23.76 acres of non-vegetated waterbottom and ptentially cause impacts on 24.09 acres of EFH.	Port Eads Marina Reconstruction
Rowley St. (LA 46 - LA 39)	St. Bernard	Construction	Rehabilitation (Phase 1 Submerged Roads Program)	La DOTD
USACE Regulatory Permit MVN-2008-2955-EBB	St. Bernard	Permit Issued	Rebuild a 70 ft wide by 36 ft deep boat shed destroyed by Hurricane Katrina. No excavation or fill would occur and the project is located in Bayou Terre aux Boeuf, at 5913 Delacroix Highway, Delacroix, LA. The proposed project would result in the destruction or alteration of 0.06 acres of EFH.	Betty Borne
USACE Regulatory Permit MVN-2008-3107KM-EUU	St. Bernard	Permit Issued	Construct and maintain a camp house, walkway, and covered boat dock with slips affecting 0.006 acre approximately 4.1 miles east-northeast of Violet, LA and approximately 900 ft southeast of its intersection with Bayou Dupre. Approximately 0.006 acre of EFH could be impacted by this proposed project.	Dennis Diaz
USACE Regulatory Permit MVN-2009-0105-EBB	St. Bernard	Permit Issued	Install and maintain a pier and walkway post-Hurricane Katrina damage. Affecting 0.02 acre on Bayou Terre aux Boeufs, adjacent to Delacroix Island (6204 Delacroix Highway).	Sweet Guide Service, Lodging, Boat Slip, & Dry Dock Rentals, LLC
Community Development Block Grants	Multiple	Repair Rehabilitation Construction	Housing and infrastructure repair and rehabilitation, as well as new housing and infrastructure construction.	State of Louisina and Louisiana Recovery Authority

Storm Damage Reconstruction

Project	Parish	Status	Overview	Agency/Entity/Program
Long Term Community Recovery Project	Multiple	Repair Rehabilitation Construction	Hurricanes Katrina and Rita infrastructure rebuilding projects across coastal Louisiana.	State of Louisina and Louisiana Recovery Authority
The Road Home Program	Multiple	Repair Rehabilitation Construction	Provides assistance to homeowners who are rebuilding or reconstructing homes and also restores rental units that were damaged, due to Hurricanes Katrina and Rita.	U.S. Department of Housing and Urban Development

Orleans Parish Building Permits
(Post-Hurricane Katrina)

	Year							
Permit Type	2005	2006	2007	2008	2009	2010	2011	All Years
Residental - Miscellaneous	993	37,009	948	135	0	0	0	39,085
Residential - 2 family unit		1,981	2,554	2,532	1,721	1,590	1,349	11,727
Residential - Half of party wall	20	12	18	25	12	17	7	111
Residential - Repair	8,690	50,962	45,509	39,828	24,208	19,042	11,791	200,030
Residential - Single Family unit Repair	3,602	4,966	6,410	5,069	4,370	4,316	3,192	31,925
Residential Sub-Total	13,305	94,930	55,439	47,589	30,311	24,965	16,339	282,878
Commercial - Accessory Structure	4	12	50	19	16	10	7	118
Commerical - Additions	5	34	24	17	21	32	25	158
Commerical - No descriptor	799	4,341	7,185	7,671	7,309	5,396	2,716	35,417
Commerical - Emergency Permit	607	1,723	662	319	268	110	80	3,769
Commerical - Renovations	47	409	602	804	665	982	593	4,102
Commercial - New	5	104	299	287	81	120	75	971
Commercial Sub-Total	1,467	6,623	8,822	9,117	8,360	6,650	3,496	44,535
Demolition - Residential - Single familty unit	119	5,257	2,761	1,825	1,711	1,038	1,119	13,830
Demolition - Commercial - interior only	2	35	57	82	51	41	57	325
Commercial - Demolition	22	300	384	413	252	156	125	1,652
Demolition Sub-Total	143	5,592	3,202	2,320	2,014	1,235	1,301	15,807
Total All Permit Types per Year	14,915	107,145	67,463	59,026	40,685	32,850	21,136	343,220

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2004-2721 EKK	Jefferson	Permit Issued	Permit modification for change in use to include soil processing and staging areas for borrow material; located north of Hwy 90 and west of Live Oak Boulevard in Avondale, LA. The proposed project would impact approximately 29 acres of coast.	Hwy-90 LLC
USACE Regulatory Permit MVN-2004-3327-EKK	Jefferson	Permit Issued	Construct a 60 ft by 5,200 ft canal and associated maintenance servitudes. Project will start from Louisiana Highway 3134 to Pipeline Canal, in Estelle. As compensatory mitigation for direct impacts on 7.2 acres of wetlands, the permittee will restore BLH on 10 acres of pasture land.	Jefferson Parish Department of Engineering, c/o Shaw Coastal Inc.
USACE Regulatory Permit MVN-2006-1020-EII	Jefferson	Permit Issued	Construct and maintain a private recreational pier, 5 ft wide and 350 ft in length with a deck 10 ft by 20 ft. Approximately 0.05 acre of EFH would be affected. Beginning from Lot 32a-2b of the Bougerol subdivision, on Grand Isle, LA, extending approximately 350 ft into Caminada Bay.	Scott Robichaux
USACE Regulatory Permit MVN-2006-1724-EKK	Jefferson	Permit Issued	Clear, grade, and deposit fill for the construction of Water Oaks Subdivision and extension of Dandelion Drive and is located off Live Oak Boulevard, in Waggaman. Project implementation will require the deposition of approximately 28,210 cy of fill material, permanently impacting approximately 21.49 acres of BLH wetland habitat. The permittee will restore BLH on 30 acres of abandoned agricultural land to compensate for 21.49 acres of BLH adversly affected by project.	Water Oaks Subdivision / Cliff Baldwin
USACE Regulatory Permit MVN-2006-2815-EMM	Jefferson	Permit Issued	Deposit fill for the construction of a boat access and parking area. Approximately 0.03 acre of saline marsh will be filled with sand and concrete. Located off Louisiana Highway 1 near Grand Isle. The permittee will contribute funds to the Louisiana Coastal Restoration Fund for the restoration of 0.03-acre of saline marsh habitat. Proposal would not be a substantial adverse impact on EFH.	Richard L. Spaulding

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2006-3732-MJ	Jefferson	Permit Issued	Clear, grade, excavate and deposit fill material to construct a public school, sheriffs's substation and other amentieies associated with a public park/playground area in Parc Des Familles located near Marrero. The permittee will compensate for the impacts on 226.6 acres of forested wetlands by the restoration of forested wetlands on 267.9 acres at the Paradis Mitigation Bank.	Jefferson Parish Department of Parc des Familles
USACE Regulatory Permit MVN-2006-3803-EMM	Jefferson	Permit Issued	Construct a walking pier and deck off Bienville Lane near Grand Isle. The pier will have shading effects for 0.035 acre of marsh.	Martha Ham
USACE Regulatory Permit MVN-2007-002421-EKK	Jefferson	Permit Issued	Construct 2,590 linear ft of access road approximately 22 ft wide and install six work pads, 60 ft by 32 ft each, for the installation of 6 new guy wire foundations for the WWL radio transmission towers. Approximately 1,500 ft south of the intersection at Louisiana Highway 45 and Pritchard Road, Barataria, LA. The permittee will contribute funds to the Louisiana Coastal Restoration Fund for the restoration of 1.61 acres of fresh marsh habitat to compensate for EFH impact.	Entercom New Orleans
USACE Regulatory Permit MVN-2007-005065-EKK	Jefferson	Permit Issued	Deposit fill for the development of two residential lots, each consisting of a 25 ft by 50 ft elevated camp and limestone parking area. Project implementation will require the deposition of approximately 590 cy of fill material, permanently impacting approximately 0.12 acre of saline marsh. The project is located off Plum Lane, on Lots 6 and 7, in Grand Isle. The permittee will contribute funds to the Louisiana Coastal Restoration Fund for the restoration of 0.12-acre of saline marsh habitat.	Raleigh J. Galiano, Jr.
USACE Regulatory Permit MVN-2007-03463-EPP	Jefferson	Permit Issued	Repair a pinhole leak on the Grand Isle Gas & Condensate Line. The line will be pressured up and tested and repaired with the use of divers. Located near Caminada Pass, approximately 6.8 miles from Grand Isle. No impacts are anticipated.	Exxon Mobil

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2007-04249-EPP	Jefferson	Permit Issued	Reclaim land for a parking area as well as construct a bait stand with attached wharf and pier with boat slips. Located at 1018 Louisiana Highway 1, Grand Isle, 0.578 acre of Traditional Navigable Water in review area. Project implementation will require the deposition of approximately 60 cy of sand into a 0.02 acre area of tidal waters as well as 0.56 acre docking facility over tidal waters.	Chris Camardelle
USACE Regulatory Permit MVN-2007-0554-EPP	Jefferson	Permit Issued	Dredge, fill, and construct pier and remove, transport, and deposit fill material at previously permitted site located at 1119 LA 1. Approximately 0.8 acre of EFH are in project area, but will not be substantially impacted.	Cheramie's Landing LLC
USACE Regulatory Permit MVN-2007-3370-EOO	Jefferson	Permit Issued	Excavate and deposit fill to drive four concrete piles for a tower crane pedastal on the batture of the Mississippi River. Located along the right descending bank of the Mississippi River, mile marker 104, at Nine Mile Point.	T.T. Coatings, Inc.
USACE Regulatory Permit MVN-2007-3856-EOO	Jefferson	Permit Issued	Construct a residential camp site with a dock and boat slip on an existing private canal with access to Bayou Barataria. The camp will be constructed on an existing residential lot and directly connected to a proposed second story dock with two boat slips extending 23 ft into the channel. Located off Privateer Boulevard (Highway 3257) on Kaylee Lane, in Barataria.	Duane and Cynthia Abadie
USACE Regulatory Permit MVN-2008-00046-EKK	Jefferson	Permit Issued	Deposit fill for the construction of an amphitheater, stage, and temporary tent structure on the batture of the Mississippi River. Located off First Street, along the bank of the Mississippi River, at Mississippi River Mile Marker 97, in Gretna, LA. Approximately 0.006 acre of wetland impact would occur and 0.16 acre of EFH impacts would be altered or destroyed.	City of Gretna

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2008-00525-EPP	Jefferson	Permit Issued	Install and maintain a ramp, dock, two anchor buoys and appurtenant structures for the construction of a ship dock facility. Located on the bank of the Mississippi River, at about 102.45 miles above Head of Passes, Bridge City, LA. The proposed project would result in the destruction or alteration of 1.5 acres of EFH.	Kinder Morgan Terminals
USACE Regulatory Permit MVN-2008-0496-EII	Jefferson	Permit Issued	Installation and maintenance of a 2-inch, 6-line hydraulic umbilical in the Gulf of Mexico beginning in Grand Isle Area, Block 115, and ending in Ewing Bank Area, Block 878.	Walter Oil and Gas Corporation
USACE Regulatory Permit MVN-2008-1105-EII	Jefferson	Permit Issued	To install and mainain an artificial reef by the placement of BP's platform jacket in the WF-70H reef site, for the purpose of enhancing fishing opportunities off the coast of Louisiana within the Gulf of Mexico, West Delta Block 70.	LDWF, Artificial Reef Program
USACE Regulatory Permit MVN-2008-1108-EII	Jefferson	Permit Issued	To install and maintain an artificial reef by the placement of BP's platform jacket in the WD-94G reef site, for the purpose of enhancing fishing opportunities off the coast of Louisiana within the Gulf of Mexico, West Delta Block 94.	LDWF, Artificial Reef Program
USACE Regulatory Permit MVN-2008-1804-EMM	Jefferson	Permit Issued	Install and maintain dry dock vessel moorings in the GIWW at the Harvey Canal, on Peters Road, approximately 1.25 miles south from Lapalco Boulevard, in Harvey, LA.	FMT Shipyard & Repair, LLC
USACE Regulatory Permit MVN-2008-2669-EPP	Jefferson	Permit Issued	Install and maintain a 58 by 53 ft bulkhead and deposit fill for recreational parking vehicles. A total of 0.07 ac of EFH affected by the proposed project on Bay St. Honore, at Hwy 1, Grand Isle, LA.	Walter L. Cain Sr.
USACE Regulatory Permit MVN-2008-3148-EPP	Jefferson	Permit Issued	Replace existing pilings for a 30 ft by 28 ft boathouse with hoist which is located at 5234 Privateer Boulevard, Barataria, LA.	Eric Morgan
USACE Regulatory Permit MVN-2009-0782-EBB	Jefferson	Permit Issued	Install and maintain a camp with a boathouse and deck located at Lot 56 on Fran Lane, Bayou Harbor, in Barataria, LA.	Dylan Bourg

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2009-1017-EBB	Jefferson	Permit Issued	Install and maintain two covered boat houses with boat hoists located at 4969 Joan Marie Drive, Barataria, LA.	Dominick Impastato
USACE Regulatory Permit MVN-2009-1367-EBB	Jefferson	Permit Issued	Install and maintain a 4 by 270 ft pier and pilings, and post for six 250 ft longlines with oyster bags, all to facilitate a new bivalve hatchery research farm. A total of 0.47 total acre of EFH will be affected by this proposed project located at Caminada Bay, near Ludwig Lane, Grand Isle, LA.	Louisiana State University
USACE Regulatory Permit MVN-2009-2675-EFF	Jefferson	Permit Issued	Install and maintain concrete revetment, piling, breasting dolphins, and structures in order to replace an existing ship/barge dock facility. Located on the bank of the Mississippi River, at river mile 101.4, near New Orleans, LA. The proposal would result in the destruction or alteration of 0.20 acre of EFH.	Blackwater Midstream Corporation
USACE Regulatory Permit MVN-2009-3046-EOO	Jefferson	Permit Issued	Excavation of approximately 17 linear miles of canoe trails, removal of woody debris, and spray dredging detrital material into adjacent wetlands located in JLNHP. The proposed project would impact 26.56 acres of vegetated water bottoms and 98.86 acres of non-vegetated water bottoms within 605 acres of coastal areas and 605 acres of EFH impacted.	National Park Service
USACE Regulatory Permit MVN-2010-0201-EOO	Jefferson	Permit Issued	Excavation and degradation of existing spoil bank material, and backfill oil and gas canals. Located in JLNHP with approximately 49.5 acres of EFH impacts anticipated.	National Park Service
USACE Regulatory Permit MVN-2010-2554-EII	Jefferson	Permit Issued	Remove 60 ft of abandoned 12-inch line, cap rest of remnants to remain in place off the Grand Isle coastline with the potential to impact 0.014 acresof Waters of the U.S. resulting in 0.014 acre of impacts on EFH.	Exxonmobil Pipeline Company
USACE Regulatory Permit MVN-2006-0209-EPP	Jefferson	Permit Issued	Installation of six proposed dolphins affecting 60 acres at 87 First Street, Gretna, LA. A total of 900 linear ft with 0.04 acre of non-vegetated waterbottom fill area would be impacted.	John W. Stone Oil Distributer

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2008-3465-EII	Jefferson	Permit Issued	Installation and maintenance of an 18-inch produced waters pipeline. A total of 16.5 total acres affected by project from the ExxonMobil, Grand Isle station to ExxonMobil, Grand Isle block 19 platform. Excavation of 14.616 acres of non-vegetated waterbottom and 0.095 acre of non-wet areas with fill areas of 14.9 acres of non-vegetated waterbottom and 1.6 acres of non-wet areas would occur. 14.7 acres of EFH would be impacted.	ExxonMobil Pipeline Company
Carrollton Area Sewer Rehabilitation, Sewer Rehabilitation No. 2 (SSERP)	Orleans	Final Design	The proposed work consists of sewer main, manhole, associated service connection and lateral replacements, manhole rehabilitation, CIPP lining and point repairs. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	Sewerage and Water Board of New Orleans (SWBNO)
City Park Festival and Recreational Complex, 1 Palm Drive	Orleans	Bid and award process	Sports and festival complex will be built over 62 acres	City Park Improvement Association and City of New Orleans
Citywide Public Greenspace Tree Replacement, Phase I	Orleans	Construction: underway	Greenspace will be created and trees replaced.	City of New Orleans
Citywide Public Greenspace Tree Replacement, Phase II	Orleans	Design process	Greenspace will be created and trees replaced.	City of New Orleans
Citywide Public Safety and Criminal Justice (Various)	Orleans	Unknown	Future investments will be made to improve the overall approach to public safety	City of New Orleans
Lafitte Greenway	Orleans	Bid and Award	A linear park will be built from Treme to Lakeview	City of New Orleans
Lincoln Beach Redevelopment	Orleans	Planning	$477 million project to include green space, entertainment complex, gathering areas, recreation, commercial and hospitality areas, residential facilities and support areas, and a commuter train stop. Residential housing would include 400 condominiums and a 500-vehicle parking garage	Nolatown, Covina, International Performance Packaging Co., Nardi Associates
Mid-City Area Sewer Rehabilitation Project - Sewer Rehabilitation No. 9	Orleans	Final Design	The proposed work generally consists of sewer main replacements, point repairs, replacement of associated service connections and laterals, CIPP lining and manhole rehabilitation. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2006-1742 EKK (Lake Pontchartrain) 84	Orleans	Permit Issued	Relocation of two, 20-inch pipelines, and one, 30-inch pipeline. The project is located in the GIWW, in eastern New Orleans, LA. and would impact 4.71 acres of coastal area.	Southern Natural Gas Company
USACE Regulatory Permit MVN-2007-000613-EKK	Orleans	Permit Issued	Hydraulically dredge sand from the Mississippi River and stockpile into the existing Algiers sand pit on the batture to be used as commericial fill material. Approximately 180,000 cy of sand would be pumped into the stockpile area twice per year for duration of 15 days for each pumping. The hydraulic dredge would operate between 500 ft and 1,200 ft from the low water reference plan. Located in the Mississippi River, between two points at about 83.4 and 84.4 miles above Head of Passes, in Algiers.	Kass Bros. Inc., c/o Lambert Engineers
USACE Regulatory Permit MVN-2007-0342-EFF	Orleans	Permit Issued	Excavate and deposit fill to maintenance dredge an existing channel, conduct water control structure refurbishments, restore existing roads and parking areas, and install and maintain rock dike breakwaters as bankline stablization. Located in Bayou Sauvage NWR, off of US 90 and 11.	USFWS NWR
USACE Regulatory Permit MVN-2007-1290-EQ	Orleans	Permit Issued	To install five mooring dolphins, and nine anchor piles with chains to moor standard size barges eight wide by seven long extending 2,000 ft channelward at the upstread end of the project, and four wide by two long extending 1,000 ft channelward at the downstream end of the project. Also to construct and maintain a new 14 ft wide levee crossing and associated parking area on the batture. Located on the bank of the Mississippi River, at a point about 86.7 miles above the Head of Passes the proposed project would impact 0.48 acre of batture wetlands. The permittee will restore 0.7 acre of BLH credits. Although, there are 0.19 acre of EFH in our project area, none will be substantially impacted.	Turn Services

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2008-2485-EII	Orleans	Permit Issued	To moor up to 16 barges, (two long and eight wide) from the eastern bank extending into the canal approximately 290 ft. with two additional barges to be moorded in an existing slip located in the Michoud Canal, along the eastern bank at an existing dock facility, at 14900 Intracoastal Drive, New Orleans, LA.	AEP River Operations
USACE Regulatory Permit MVN-2010-02947-EKK	Orleans	Permit Issued	Installation and maintenance of approximately 100 steel piles and 1,700 timber piles, a truck marshalling area, refrigerated shed, and an office building. Located on the left descending bank of the Mississippi River, at a point about 101.1 miles above Head of Passes, at New Orleans, LA. No impact on wetlands are anticipated.	Port of New Orleans
USACE Regulatory Permit MVN-2010-1712-EQ	Orleans	Permit Issued	Installaton and maintenance of fill to extend the working area of the existing weight scales and to stockpile concrete. Located at 9130 Almonaster Avenue, New Orleans, LA. The project would impact approximately 1.2 acres of coast.	Hamp's Enterprise, LLC
USACE Regulatory Permit MVN-2011-0098-EFF	Orleans	Permit Issued	Maintenance of two broken piles located approximately 2 to 3 ft below the mud line in Chef Menteur Pass. The proposed project is located within Chef Menteur Pass, west of Lake Borne, near Venitian Isles, LA. No disturbance of wetland, EFH, or Waters of the U.S. would have any long term effects.	BP America Production Company
Algiers Regional Library	Orleans	Construction	Library will be replaced as a "wellness branch" with regular services of the main library, a children's reading room, Wi-Fi hotspot, enterprise area, and meeting rooms	City of New Orleans
Arthur Monday Center	Orleans	Design	Health clinic and meeting rooms will undergo major renovations	City of New Orleans
Bartholomew Concession Building	Orleans	Design	Concessions building at first tee of golf course will be renovated	City of New Orleans
Behrman Center Gym and Pool	Orleans	Planning and Design	Facilities will be repaired	City of New Orleans
Behrman Park	Orleans	Design	Behrman Stadium football playing surface will be replaced with artificial turf	City of New Orleans
Behrman Soccer Stadium Phase I	Orleans	Design	Sites will be prepared to build new soccer fields	City of New Orleans

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
Behrman Soccer Stadium Phase II	Orleans	Design	New soccer stadium and fields complex will be built	City of New Orleans
Brechtel Memorial Park	Orleans	Design	Eighteen-hole golf course,driving range, club house, and cart storage building will be renovated	City of New Orleans
Carrollton Area Sewer Rehabilitation, Line Replacement No. 1 (SSERP)	Orleans	Final Design	The proposed work generally consists of sewer mainline replacement and associated service connections and laterals. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
Carrollton Area Sewer Rehabilitation, Point Repair No. 6 (SSERP)	Orleans	Final Design	The proposed work consists of point repairs, service repairs, associated service connections and lateral replacements. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
Carrollton Area Sewer Rehabilitation, Sewer Rehabilitation No. 1 (SSERP)	Orleans	Final Design	The proposed work consists of sewer main, manhole, associated service connections and lateral replacements, manhole rehabilitation, CIPP lining and point repairs. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
Carrollton Area Sewer Rehabilitation, Sewer Rehabilitation No. 3 (SSERP)	Orleans	Final Design	The proposed work consists of sewer main, manhole, associated service connections and lateral replacements, manhole rehabilitation, CIPP lining and point repairs. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
Carrollton Area Sewer Rehabilitation, Sewer Rehabilitation No. 4 (SSERP)	Orleans	Final Design	The proposed work consists of sewer main, manhole, associated service connection and lateral replacements, manhole rehabilitation, CIPP lining and point repairs. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO

Project	Parish	Status	Overview	Agency/Entity/Program
Carrollton Hollygrove Senior Center	Orleans	Planning: Project needs further definition, community input, financing, a new location or City Council approval	Health clinic and community center will be repaired or replaced	City of New Orleans
Cita Hubbell Library	Orleans	Design	Roof and structure will undergo major repairs	City of New Orleans
City Hall (various projects)	Orleans	Completed & CNO closeout	Major/minor renovations, repairs, and demolition	City of New Orleans
City-owned Pools	Orleans	CNO closeout	Retrofit of pool structures	City of New Orleans
Comiskey Park and Playground	Orleans	Design	Park and playground equipment will be renovated	City of New Orleans
Criminal justice facilities (various projects)	Orleans	Completed, design, CNO closeout	Infrastructure repairs	City of New Orleans
Criminal justice facilities (various projects)	Orleans	Unknown	Demolition	City of New Orleans
Cut Off Center	Orleans	Bid and Award	Algiers Community Center Facility interior and grounds will be renovated	City of New Orleans
Desire/Florida Multi-Service Center	Orleans	Planning	A multipurpose community center will be built	City of New Orleans
Di Benedetto Playground	Orleans	Planning	Playground will be repaired	City of New Orleans
Digby Park	Orleans	Design	Playground will undergo a major renovation	City of New Orleans
Eastern New Orleans Hospital	Orleans	Design	The city will open a hospital at the site of the former Methodist Hospital	City of New Orleans
Gernon Brown Gym	Orleans	Design	Gym will be repaired, including a multipurpose room	City of New Orleans
Gert Town Community Pool	Orleans	Design	Pool facility will be replaced	City of New Orleans
Harrell Stadium	Orleans	Construction	Pool, pool house, and community center will be repaired. Pool will get a new chlorination system	City of New Orleans
Hunter's Field	Orleans	Design	Field and concession building will be renovated	City of New Orleans
Joseph Bartholomew Golf Course	Orleans	Design	Club house and maintenance warehouse building will be repaired	City of New Orleans

Project	Parish	Status	Overview	Agency/Entity/Program
Kingswood Playground	Orleans	Bid and Award	Lighting will undergo minor repairs	City of New Orleans
Louis Armstrong Park & Old Fire Station (Phase 2)	Orleans	Construction	Repairs and renovations	City of New Orleans
Louis Armstrong Park & Old Fire Station (Phase 3)	Orleans	Construction	Repairs and renovations	City of New Orleans
Lower Ninth Ward Area Sewer Rehabilitation, Sewer Rehabilitation No. 3 (SSERP)	Orleans	Awaiting Notice to Proceed	The proposed work generally consists of sewer main replacements, point repairs, replacement of associated service connections and laterals, sewer line rehabilitation by CIPP lining and manhole rehabilitation. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
Lower Ninth Ward Area Sewer Rehabilitation, Sewer Rehabilitation No. 4	Orleans	Awaiting Notice to Proceed	The proposed work generally consists of sewer main replacements, point repairs, replacement of associated service connections and laterals, sewer line rehabilitation by CIPP lining and manhole rehabilitation. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
Lower Ninth Ward Area Sewer Rehabilitation, Sewer Rehabilitation No. 5	Orleans	Final Design	The proposed work generally consists of sewer main replacements, point repairs, replacement of associated service connections and laterals, sewer line rehabilitation by CIPP lining and manhole rehabilitation. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
Lower Ninth Ward Area Sewer Rehabilitation, Sewer Rehabilitation No. 6	Orleans	Final Design	The proposed work generally consists of sewer main replacements, point repairs, replacement of associated service connections and laterals, sewer line rehabilitation by CIPP lining and manhole rehabilitation. Includes temporary and final restoration, sewer flow control, traffic maintenance and control	SWBNO
Lower Ninth Ward Area Sewer Rehabilitation, Sewer Rehabilitation No. 7	Orleans	Final Design	The proposed work generally consists of sewer main replacements, point repairs, replacement of associated service connections and laterals, sewer line rehabilitation by CIPP lining and manhole rehabilitation. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO

Project	Parish	Status	Overview	Agency/Entity/Program
Lower Ninth Ward Area Sewer Rehabilitation, Sewer Rehabilitation No. 8	Orleans	Final Design	The project will include the rehabilitation of existing main line sanitary sewers via full-length CIPP lining, full length mainline replacements including sanitary sewer service connections and manhole rehabilitation. The project work area is bounded by Franklin Avenue and Almonaster Avenue to the west, Florida Avenue to the north, Chartres Street and North Peters Street to the south, and the St. Bernard Parish line to the east.	SWBNO
Lyons Center	Orleans	Design	Pool facility will be replaced	City of New Orleans
Mid-City Area Sewer Rehabilitation Project - Sewer Rehabilitation No. 4	Orleans	Final Design	The proposed work generally consists of sewer main replacements, point repairs, replacement of associated service connections and laterals, CIPP lining and manhole rehabilitation. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
Mid-City Clean, CCTV and Repair (SSERP)	Orleans	Final Design	The proposed work consists of pre-rehabilitation cleaning and CCTV inspections, sewer main replacements, point repairs, replacement of associated service connections and laterals, CIPP lining. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
Milne Boys Home, 5420 Franklin Ave	Orleans	Design	Several buildings will be renovated	City of New Orleans
Muncipal Yacht Harbor	Orleans	Bid and Award	First floor interior will be renovated, along with minor exterior repairs	City of New Orleans
Muncipal Yacht Harbor Boat House	Orleans	Design	Interior quarters of Fire Department boat house will be renovated. Boat slip will be repaired	City of New Orleans
New Orleans East Area Cleaning, CCTV and Repair (SSERP)	Orleans	Final Design	The proposed work generally consists of pre-rehabilitation cleaning and CCTV inspection, sewer main replacements, point repairs, associated service connections and laterals and cured-in-place pipe (CIPP) lining. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
New Orleans East Area Sewer Rehabilitation - Manhole Rehabilitation No. 1 (SSERP)	Orleans	Certification	The project consisted of manhole rehabilitation including temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO

Project	Parish	Status	Overview	Agency/Entity/Program
New Orleans East Area Sewer Rehabilitation - Sewer Rehabilitation No. 1 (SSERP)	Orleans	Final Design	The proposed work generally consists of sewer main replacements, point repairs, associated service connections and laterals, CIPP lining and manhole rehabilitation. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
New Orleans East Area Sewer Rehabilitation - Sewer Rehabilitation No. 2	Orleans	Final Design	The proposed work generally consists of sewer main replacements, point repairs, associated service connections and laterals, CIPP lining and manhole rehabilitation. Includes temporary and final restoration, sewer flow control, traffic maintenance and control.	SWBNO
New Orleans East Community Health Clinic	Orleans	Design	A community health clinic center will be built	City of New Orleans
New Orleans East Regional Library	Orleans	Construction	Library will be replaced as a "technology/innovation branch", with regular services of the main library, a children's reading room, Wi-Fi hotspot, enterprise area, and meeting area	City of New Orleans
New Orleans Fire Department various projects	Orleans	Contract closure	Renovations to New Orleans Fire Department facilities.	City of New Orleans
New Orleans Museum of Art	Orleans	Design	Museum facilities will be renovated	New Orleans Museum of Art and City of New Orleans
NOFD Engine 10	Orleans	Award	Station, including equipment bay and living quarters will be renovated	City of New Orleans
NOFD Engine 26	Orleans	Award	Equipment bay and living quarters will be repaired	City of New Orleans
NOFD Engine 31	Orleans	Contracting	Station will be replaced to include two equipment bays and living quarters	City of New Orleans
NOFD Engine Nos. 22 and 39	Orleans	Contracting	Combined two-company three-bay fire station will be built, including living quarters	City of New Orleans
NOPD 5^{th} District Police Station	Orleans	Design	Station will be replaced	City of New Orleans
NOPD 7^{th} District Police Station	Orleans	Construction	Elevated, two-story station will be built	City of New Orleans
NOPD infrastructure repairs, renovations, & alternate facilities	Orleans	Unknown	Unknown	City of New Orleans
NOPD Police Stables	Orleans	Design	Stables housing patrol horses and K-9 dogs will be repaired	City of New Orleans

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
Nora Navra Library	Orleans	Construction	Library will be replaced in a new location as a "neighborhood branch", with basic collection, meeting rooms and enterprise space	City of New Orleans
Norman Mayer Library	Orleans	Construction	Library will be replaced as a "music branch" with print and non-print materials, enterprise space, a children's area, and a Wi-Fi hotspot	City of New Orleans
Norwood Thompson Playground	Orleans	Design	Playground will undergo minor renovations	City of New Orleans
Oliver Bush Playground	Orleans	Design	Community basketball, baseball and tennis areas will be repaired	City of New Orleans
Parks & Parkways Gentilly Facility	Orleans	Design	Facility will be renovated	City of New Orleans
Ponchartrain Park	Orleans	Design	Grounds enhancements will be made	City of New Orleans
Ponchatrain Park Lights	Orleans	Bid and Award	Concession buildings and lights will be completely renovated	City of New Orleans
Reinventing the Crescent	Orleans	Planning	The east bank riverfront from Jackson Avenue to the industrial Canal will be redeveloped to include a recreational, entertainment, and exhibit atractions	City of New Orleans
Robert E. Smith	Orleans	Construction	Library will be replaced as a "community branch", with a Wi-Fi hotspot, enterprise space, and meeting rooms	City of New Orleans
Rosenwald Center	Orleans	Design	Facility will be replaced to include a gym, community center, and pool	City of New Orleans
Saenger Theatre Renewal Project	Orleans	Design	The historic entertainment venue will undergo a major renovation	City of New Orleans
Sam Bonart Playground & Pool	Orleans	Design	Facility, including concessions, fields and shelter, will be repaired	City of New Orleans
Sanchez (Copelin-Byrd) Center	Orleans	Design	Facility will be replaced to include a gym, community center, health clinic, and police substation	City of New Orleans
Sanchez (Copelin-Byrd) Center Pool	Orleans	Design	Pool facility will be replaced to include showers, lockers, and restrooms	City of New Orleans
Sanchez Center (Copelin-Byrd)	Orleans	Implementation process	Land will be aquired to accommodate planned renovations	City of New Orleans

Project	Parish	Status	Overview	Agency/Entity/Program
South Shore Area Sewer Rehabilitation, Manhole Rehabilitation No. 1 (Sewer System Evaluation and Rehabilitation Program [SSERP])	Orleans	Construction Start Date: 12/21/2009 Construction End Date: 9/17/2010	The project consists of manhole rehabilitation; including temporary and final restoration, sewer flow control, traffic maintenance and control. The construction cost is estimated at $824,457.	SWBNO
St. Roch Market	Orleans	Temporary repairs	Roof repair	City of New Orleans
St. Roch Pool and Park	Orleans	Design	Pool, park facility, service buildings and park grounds will be renovated	City of New Orleans
Stallings St. Claude Community Center	Orleans	Design	New center will be built to include basetball court, multipurpose rooms for dance, music, and activities. Pool will undergo major renovations, including restrooms, lockers and showers	City of New Orleans
Treme Center	Orleans	Design	Facility's pool and gym will be repaired and will be made handicapped accessible	City of New Orleans
Tulane University Community Health Clinic	Orleans	Design	A health clinic will be opened at the site of the former Ruth's Chris Steak House	Tulane University, Mary Queen of Vietnam Community Development, Qatar Katrina Fund, and City of New Orleans
USACE Regulatory Permit MVN-2009-0959-ETT	Orleans	Permit Issued	Install and maintain an electric cable under the IHNC bottom, by directional bore method. Approximately 0.08 total acre would be affected within the IHNC, New Orleans, LA.	Entergy New Orleans, Inc.
Various libraries design-build	Orleans	Construction	New construction at various city libraries	City of New Orleans
Various parks & recreation facilities	Orleans	Minor renovations	Field lighting installation and renovations	City of New Orleans
Various parks, pools	Orleans	Unknown	Recreation facilities major/minor renovations	City of New Orleans
Veterans Affairs Medical Center	Orleans	Construction	A new hospital complex will be built in lower Mid-City	City of New Orleans
Wesley Barrow Stadium	Orleans	Design	Baseball stadium and viewing stands will undergo major renovations	City of New Orleans
USACE Regulatory Permit MVN-2003-2278-EOO-8	Plaquemines	Permit Issued	Install and maintain five salvaged oil rig platforms into an existing artificial reef area. Located in the Federal waters of the West Delta Area, Block 89, approximately 25 southwest of Venice in the Gulf of Mexico.	LDWF, Artificial Reef Program

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2005-1498-EGG	Plaquemines	Permit Issued	Locate and maintain one oil/gas jacket to enhance fishing opportunities off the coast of Louisiana. Located in the Gulf of Mexico, Main Pass Planning Area, Block 300.	LDWF, Artificial Reef Program
USACE Regulatory Permit MVN-2005-1498-EMM	Plaquemines	Permit Issued	Convert Apache's Main Pass 312 platform into an artificial reef in Main Pass 300, to enhance and maintain fishing opportunities off the coast of Louisiana. Located in the Gulf of Mexico, approximately 35 miles east of Venice.	LDWF, Artificial Reef Program
USACE Regulatory Permit MVN-2005-2340-ELL	Plaquemines	Permit Issued	Install and maintain appurtenant structures for drilling the SL 18148 Well #2. Located in Lake Washington, approximately 11 miles southwest of Port Sulphur, LA.	Swift Energy
USACE Regulatory Permit MVN-2006-000857	Plaquemines	Permit Issued	Clear, excavate, grade and deposit fill to construct house pads, driveways, roadways and a walking path for the purpose of developing a residential subdivision. The 207-acre site (reduced to 149 acres) is located on and east of Highway 406 along Planters Canal. Compensatory mitigation of 16.5 acres of BLH with avoidance of 2 acres of wetland on site would occur.	Parks of Plaquemines (Classic Homes)
USACE Regulatory Permit MVN-2006-2948-EFF-2	Plaquemines	Permit Issued	Excavate and deposit fill to construct two recreational fishing lakes and a camp development planned in a fishing community development. Spoil to be removed from the site is presently under review by the USACE as potential material to be utilized for rehabiliation of hurricane protection levees in the Parish. Located on the south side of Highway 23, near Point Celeste. Compensation for impacts on 53 acres (previous determination of 62 acres of wet pastureland) of jurisdictional wetland pasture will be accomplished through the creation of approximately 24 acres of freshwater marsh habitat on site.	Duckland/William Nungesser, Jr.
USACE Regulatory Permit MVN-2006-3627-EOO	Plaquemines	Permit Issued	Maintenance dredging and drilling structure to service proposed Cockrell No. 5 ST Well; 29.406797, -89.809647. Potential impact on approximately 0.35 acre of navigable waters in the project area.	Hilcorp Energy

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2006-5087-EMM	Plaquemines	Permit Issued	Construct three satellite artificial reefs in West Delta Blocks 103 and 104 from three platforms that were destroyed, to enhance and maintain fishing opportunities off the coast of Louisiana. Located in the Gulf of Mexico, approximately 18 miles southeast of Southwest Pass, in West Delta Block 103 and 104.	LDWF, Artificial Reef Program
USACE Regulatory Permit MVN-2007-001142-EE	Plaquemines	Permit Issued	Install and maintain a 6.625-inch-diameter gas pipeline for a distance of about 2.4 miles. The pipeline would cross the MRGO Safety fairway Anchorage. The pipeline would be buried 10 ft below the waterbottoms at depths of approximately 40 ft. Located in Federal waters offshore Lousiana in Mississippi River Gulf Outlet anchorage, in the Breton Sound Area.	Chevron
USACE Regulatory Permit MVN-2007-0798-EOO	Plaquemines	Permit Issued	Locate and maintain the platform jacket for Apaches's WD-75 H in WD-75 reef site, to enhance fishing opportunities off the coast of Louisiana. Located in the Gulf of Mexico, approximately 31 miles southeast of Grand Isle in West Delta Block 75.	LDWF, Artificial Reef Program
USACE Regulatory Permit MVN-2007-109-EKK	Plaquemines	Permit Issued	Proposed 20-inch pipeline to be directionally drilled under the Mississippi River; approximately 2.14 miles northwest of Buras, LA. A total of 20.09 acres of wetland excavation and 23.10 acres of wetland fill area would be impacted with the project.	Chevron Pipe Line Company
USACE Regulatory Permit MVN-2007-3664-EKK	Plaquemines	Permit Issued	Construct and maintain an elevated camp, a driveway, a levee access ramp, a boat launch ramp and a boat dock for a recreational fishing camp that is located on the bank of the Mississippi River, at a point about 11.5 above Head of Passes, in Venice, LA. The proposed project would result in the destruction or alteration of up to 0.006 acre of EFH.	Venice Group

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2007-3814-EPP	Plaquemines	Permit Issued	Install and maintain a 12-inch waterline along Lake Hermitage Road for the sole purpose of providing potable water to approximately 160 campsites. Adjacent to Lake Hermitage Road, in Lake Hermitage, LA. The project would directly impact 3.41 acres of jurisdictional wetlands and the destruction or alteration of 3.41 acres of EFH.	Plaquimines Parish Government
USACE Regulatory Permit MVN-2008-00759-EPP	Plaquemines	Permit Issued	Dredge, install, and maintain fill in an existing borrow area. Affected area is 3.2 acres on the bank of the Mississippi River, at about 67 miles above Head of Passes, in Braithwaite, LA. Impacts would occur on 3.2 acres of excavated non-vegetated waterbottom and 12.69 acres non-wet area for fill.	JA Chorens Investment
USACE Regulatory Permit MVN-2008-01199-EKK	Plaquemines	Permit Issued	Construction of a driveway with two wings, a board road and drillsite to access and re-enter the Haspel & Davis No. 1 Well, located approximately 1.58 miles southeasterly from Point a la Hache, LA. As compensatory mitigation, the permittee has agreed to the restoration of forested wetlands on 1.3 acres at the Paradis Mitigation Bank.	Martin-Marks Operating Company
USACE Regulatory Permit MVN-2008-01421 EPP	Plaquemines	Permit Issued	Excavation and deposition of fill and installation and maintenance of bulkheads around an existing marine facility. Located on Grand Pass, Venice, LA. The proposed project would affect approximately 2.03 acres of coast resulting in approximately 2.03 acres of EFH impacts.	Venice Port Complex
USACE Regulatory Permit MVN-2008-0160-EOO	Plaquemines	Permit Issued	Proposed intallation of a main service dock to erect the widening truss members for the Huey P. Long Bridge widening. Located in Harahan, LA.	MTI, a Joint Venture
USACE Regulatory Permit MVN-2008-02443-EUU	Plaquemines	Permit Issued	Install and maintain BP America, Inc. 8 pile structure, for the purpose of enhancing fishing opportunities off the coast of Louisiana. In the Gulf of Mexico, South Pass, Block 89, off the coast of Plaquemines Parish, LA.	LDWF, Artificial Reef Program

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2008-2422-EOO	Plaquemines	Permit Issued	This project would use explosives for the removal of West Black Bay Tank Batteries 1, 2, and 3, located in West Black Bay Field, 10 miles northeast of Port Sulphur, LA. Approximately 46.3 acres on non-vegetated waterbottoms (EFH) may be impacted as a result of this project. Protective measures will be utilized for native species, especially the sea turtle.	Anadarko Petroleum Corporation
USACE Regulatory Permit MVN-2009-00600 EPP	Plaquemines	Permit Issued	Utilize a dredge to construct a 1,179 ft chanel and slip for the purpose of preparing a well site to drill the Lake Washington Prospect. Located in Lake Washington field approximately 7 miles southwest of Port Sulphur, LA. Excavations would impact 2.602 acres of non-vegetated waterbottom. Fill areas would impact 23.08 acres of wetland.	Hilcorp Energy Corporation
USACE Regulatory Permit MVN-2009-0397-EBB	Plaquemines	Permit Issued	Installation of a 12 ft by 38 ft manufactured home on top of a previously permitted deck on Harlem Back Levee Canal, at 201 Harlem Lane, Braithwaite, LA.	Jacob Kansas
USACE Regulatory Permit MVN-2009-0709-EII	Plaquemines	Permit Issued	Install and maintain a covered boathouse and open deck. Affected area is 0.04 acre at Lot 121, adjacent to the Martin Canal at 564 Martin Lane, Port Sulpur, LA.	Edmond Tassin
USACE Regulatory Permit MVN-2009-1448-EII	Plaquemines	Permit Issued	Construct and maintain a private recreational wharf and boathouse, with approximated 0.01 total acres affected. Located at 324 Myrtle Grove Road, Port Sulphur, LA. Approximately 0.25 acre of EFH impact would occur.	Fredrick Edgecombe
USACE Regulatory Permit MVN-2009-1634-EII	Plaquemines	Permit Issued	Install and maintain a gas lift line, approximately 14,851 ft (2.81 miles) in length. A total of 1.04 acres would be affected in the Gulf of Mexico, beginning in Main Pass block 68, and ending in Main Pass block 64. The pipeline begins in Plaquemines Parish and ends in Federal waters.	Medco Energi US LLC
USACE Regulatory Permit MVN-2010-1204-EQ	Plaquemines	Permit Issued	Repair of an existing dock located on the Mississippi River, right descending bank at a point about 24 miles above Head of Passes near Buras, LA. The proposed project would result in approximately 0.02 acre of EFH impacts.	Gaston Pace

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2010-1461-EPP	Plaquemines	Permit Issued	Clearing grading, and deposition of fill for the construction of a camp, driveway, bulkhead, and a boathouse. Located off Highway 23, in Empire, LA. The project would impact approximately 0.092 acre of EFH.	Johnny Johnson
USACE Regulatory Permit MVN-2010-1478-EKK	Plaquemines	Permit Issued	Installation and maintenance of five steel piles in Coup Pass Abel. Located at the entrance of Barataria Bay, near Grand Terre Islands, LA. The proposed project would impact approximately 5 acres of Waters of the U.S..	BP America Production Company
USACE Regulatory Permit MVN-2010-1558 EPP	Plaquemines	Permit Issued	Proposed construction of a slip with a wing along the location of a typical drill barge and a well head protector. Located 1.62 miles northwest from Pointe a la Hache, LA. Anticipated impacts on 7.98 acres of coast and 2.3 acres of EFH.	BOPCO, L.P.
USACE Regulatory Permit MVN-2010-2171-EPP	Plaquemines	Permit Issued	Lowering of the existing 16 inch Cypress Crude Pipeline via jetting and excavation at six different work sites. The proposed project is located near Ostrica, LA, and would impact 11.32 acres of non-vegetated waterbottom and 27.7 acres of EFH.	Chevron Pipeline Company
USACE Regulatory Permit MVN-2010-2320-EII	Plaquemines	Permit Issued	Proposed pipeline and structure removal at Block 84, Main Pass Area.	Brigham Oil & Gas
USACE Regulatory Permit MVN-2010-2914-EQ	Plaquemines	Permit Issued	Installation and maintenance of two navigational signs along the right descending bank, and five navigation signs along the left descending bank of the Mississippi River, 63 miles above Head of Passes. The proposed project would impact approximately 0.009 acre of non-vegetated waterbottom.	Entergy Louisiana, LLC
Florida Ave. Bridge (Tupelo to Paris Road)	St. Bernard	Construction	New bridge	La DOTD
Grade Separation (Railroad overpass)	St. Bernard	Construction	Railroad grade separation	La DOTD
Jean Lafitte Drainage	St. Bernard	Construction	Roadway drainage	La DOTD
Packenham / Jackson (LA 46 - LA 39)	St. Bernard	Construction	Reconstruction	La DOTD
Patricia St. (Jean Lafitte to Cougar)	St. Bernard	Construction	Rehabilitation (Phase 1 SRP)	La DOTD
Reggio Canal Bridge	St. Bernard	Construction	Bridge replacement	La DOTD

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2005-00794 EKK (Mississippi River) 1068	St. Bernard	Permit Issued	Installation and maintenance of an aggregate unloading conveyor on an existing permitted dock and construction of a levee ramp. Located on the left descending bank of the Mississippi River, at a point about 83.2 miles above Head of Passes, at Violet LA.	Violet Dock Port, Inc.
USACE Regulatory Permit MVN-2007-4569-ETT	St. Bernard	Permit Issued	Construct and maintain a residential dock for Lot # 70 of the Hopedale Canal residential camp community located in Hopedale, LA.	Kenneth Boos
USACE Regulatory Permit MVN-2008-03361-EUU	St. Bernard	Permit Issued	Construct and maintain a covered boat house on pilings on Bayou Terre Aux Boeufs, Lot # 172, across from 6241 Delacroix Highway (Hwy 300), Delacroix, LA. The project would result in the destruction or alteration of 0.03 acre of EFH.	Kenneth Cook
USACE Regulatory Permit MVN-2008-1422-EOO	St. Bernard	Permit Issued	Install and maintain 20 pilings along an existing bulkhead for a boat dock containing three boat slips. Located on the bank of Bayou La Loutre at 5701 Hopedale Highway, in Hopedale, LA.	Pintail Fishing Club, Inc.
USACE Regulatory Permit MVN-2008-1495-ETT	St. Bernard	Permit Issued	Construct and maintain six covered boat slips and decking at 3924 Delacroix Highway, Delacroix Island. The proposed project would result in the destruction or alteration of 0.013 acre of EFH.	Hooks & Shells
USACE Regulatory Permit MVN-2008-2331-EUU	St. Bernard	Permit Issued	Replace and maintain a bulkhead, and repair and maintain a covered boat dock with slips at 5732 Delacroix Highway, Delacroix, LA. The proposed project would result in the destruction or alteration of up to 0.05 acre of EFH.	Errol Dennis
USACE Regulatory Permit MVN-2008-2436-EOO	St. Bernard	Permit Issued	Proposed repair sites along 20-inch CAL-KY Pipeline located in the Breton Sound area to the Chandeleur Sound area.	Chevron Pipe Line Company

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2009-00281-EPP	St. Bernard	Permit Issued	Dredge to move an existing production facility back to its original location. 18.2 acres would be affected. Adverse local long term effects on soil substrate, water movement and circulation, and wetland aquatic habitat. Located within Chandeleur Sound Area, approximately 17 mile southeasterly of Hopedale, LA. Excavation and fill of 9.1 acres non-vegetated waterbottom. 18.2 acres of EFH potentially impacted.	Yuma Exploration and Production Company
USACE Regulatory Permit MVN-2009-0105-EBB	St. Bernard	Permit Issued	Installation and maintenance of a pier and walkway on Bayou Terre aux Boeufs, left descending bank, adjacent to Delacroix Island, at 6204 Delacroix Highway (LA Hwy 300), Delacroix, LA. Approximately 0.02 acre of non-vegetated water bottom affects would cause 0.02 acre of EFH impacts.	Sweetwater Guide Service, Lodging, Boat Slip & Dry Dock Rentals, LLC
USACE Regulatory Permit MVN-2009-0589-EII	St. Bernard	Permit Issued	Install and maintain a fishing camp and covered boat shed adjacent to an existing wharf. Potentially affects 0.04 acre, adjacent to Happiness Bayou, near the intersection with the Lake Borgne canal, approximately 3.8 miles east from Violet, LA.	Ronald E. Adams Jr.
USACE Regulatory Permit MVN-2009-1953-EPP	St. Bernard	Permit Issued	Clear, grade, excavate, and fill for the construction of Gauthier Elementary School complex; located at 1201 Bayou Road, St. Bernard, LA. As compensatory mitigation for the clearing and filling of 2.72 acres of jurisdictional BLH habitat, the permittee has agreed to the restoration of forested wetlands on 3.7 acres at the Paradis Mitigation Bank.	St. Bernard Parish School Board
USACE Regulatory Permit MVN-2009-2634-EOO	St. Bernard	Permit Issued	Clearing, grading, excavation, and deposition of fill for the construction of a hospital facility. The project would be located on and south of LA 39 (West Judge Perez Drive), adjacent to the Guerengeh Canal, in Chalmette, LA. Anticipated impact of 2.3 acres of coast.	St. Bernard Parish Hospital Service District

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2009-3141-EQ	St. Bernard	Permit Issued	Construct and maintain a boat shed with a total footprint of 300 square ft. Located at Lot #57 of the Fernandez subdivision off of Delacroix Highway, Delacroix, LA. The proposed project would result in the destruction or alteration of 0.007 acre of EFH utilized by various life stages of red drum and penaeid shrimp.	Milton Guarino Jr.
USACE Regulatory Permit MVN-2010-01252 EKK	St. Bernard	Permit Issued	Installation and maintenance of a covered boat storage, located on the left descending bank of Bayou Terre aux Boeufs at 6424 Delacroix Highway, St. Bernard, LA. The proposed project would affect approximately 0.02 acre of the coast.	Norman J. Naquin, Jr.
USACE Regulatory Permit MVN-2010-01372-EKK	St. Bernard	Permit Issued	Installation and maintenance of pilings for the construction of additional boat mooring at Breton Sound Dock. Located on the Bayou La Loutre, at 7600 Highway 624, in Hopedale, LA. The project would impact approximately 0.3 acre of non-vegetated waterbottom.	Amigo Enterprises
USACE Regulatory Permit MVN-2010-0968-EII	St. Bernard	Permit Issued	Installation and maintenance of four covered boat slips at Shell Beach Bayou, 1936 Yscloskey Highway, Shell Beach, LA. The proposed project would impact approximately 0.01 acres of EFH.	40th Street Properties Management, L. L. C.
USACE Regulatory Permit MVN-2010-1251-EQ	St. Bernard	Permit Issued	Rebuilding and maintenance of a boatshed at 6326 Delacroix Highway, Delacroix, LA. The proposed project would impact 0.03 acre of EFH.	David Acquistapace
USACE Regulatory Permit MVN-2011-0155-EII	St. Bernard	Permit Issued	Installation and maintenance of a covered boat shed. Located in Bayou Terre Aux Boeuf at 4205 Delacroix Highway. The project would impact approximately 0.05 acre of EFH.	Vernon Alfonso Jr.
Cypress Gardens (gym)	St. Bernard	Demolition/ construction	Unknown	St. Bernard Parish Government
Fred Sigur Sr. Civic Center	St. Bernard	Construction begins Sept. 2008	Remediation of facility	St. Bernard Parish Government
Gauthier (gym)	St. Bernard	Demolition/site preparation	Unknown	St. Bernard Parish Government

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
Sebastien Roy (gym)	St. Bernard	Demolition/site preparation	Unknown	St. Bernard Parish Government
St. Bernard Parish Council on Aging	St. Bernard	Construction complete	Old building demolished; new building constructed	St. Bernard Parish Government
St. Bernard Parish Council on Aging	St. Bernard	Construction complete	Old building demolished; new building constructed	St. Bernard Parish Government
St. Bernard Parish Government Complex	St. Bernard	Renovations complete	Government complex renovations	St. Bernard Parish Government
St. Bernard Parish Government Complex	St. Bernard	Renovations complete	Remediation of facility	St. Bernard Parish Government
Various parks in St. Benard	St. Bernard	Unknown	Restored fields, improved facilities, and reestablished park concessions at various parks	St. Bernard Parish Government
LA 48 - LA 50	St. Charles	Construction	Guard rail improvements	La DOTD
Miss River Bridge cable replacement	St. Charles	Unknown	1.6 miles of cable replacement	La DOTD
Paul Mallard Road	St. Charles	Technical study	Stage 0 Feasibility Study	La DOTD
USACE Regulatory Permit MVN-2004-2805-EII	St. Charles	Permit Issued	Proposed development of a commercial industrial park located at the Town of St. Rose, LA.	James II, L.L.C.
USACE Regulatory Permit MVN-2006-1797-EFF	St. Charles	Permit Issued	Clear, grade, excavate and fill to construct a commercial storage facility, roads, drainage amenities, and parking. Located off of Highway 90 and JB Green Road, near Boutte. Mitigation for the impacts on 4.8 acres of BLH will occur through the purchase of 4.8 acres of BLH credits from the Greenwood Mitigation Bank.	Paul Hogan
USACE Regulatory Permit MVN-2007-002686-EOO	St. Charles	Permit Issued	Construct a road, install culverts, and a ring levee, and a well pad to drill and produce the Simoneaux Well No. 001. Located approximately 5.5 miles southeast of Paradis. Potential impact on Waters of the U.S. and esuarine dependant fishery habitat. Implementation of the proposed project will impact fresh marsh wetlands via depostion of fill; as compensation for unavoidable project-related impacts, the permittee has agreed to donate funds to the Louisiana Coastal Restoration Fund for the restoration of 6.42 acres of fresh marsh habitat.	Castex Energy

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2007-003129-EE	St. Charles	Permit Issued	Clear, grade and maintain fill to construct South Lakewood subdivision containing 85 single-family homes, roads, driveways, and sub-surface drainage. Located in the Willow Ridge area, south of Louisiana Highway 90. The 35-acre project site contains approximately 6 acres of wooded wetlands, of which all will be impacted. The restoration of 10.2 acres of offsite abandoned agricultural land has been agreed as compensatory mitigation.	RJM Enterprises
USACE Regulatory Permit MVN-2007-3286-EOO	St. Charles	Permit Issued	Wheelwash, dredge, and install appurtenant structures to service Simoneaux Well No. 003. Located approximately 5.5 miles southeast of Des Allemands, on an existing oil and gas canal off Bayou Gauche and the Simoneaux Ponds. As compensation for project related impacts, the permittee will restore 3.5 acres of fresh marsh habitat, 2.6 acres of non-vegetated waterbottom and 0.03 acre of SAV will be affected.	Castex Energy
USACE Regulatory Permit MVN-2008-00079_EKK	St. Charles	Permit Issued	Install and maintain a floating barricade located on the left descending bank of Baie Des Deux Chenes, in Des Allemandes.	Michael Arcement
USACE Regulatory Permit MVN-2008-0030-ETT	St. Charles	Permit Issued	Clear, grade, excavate and deposit fill to construct an expansion for an existing oil refinery with access roads and stormwater management system adjacent to the existing Valero Oil Refinery and abutting Airline Highway in Norco. As compensatory mitigation, the permittee will enhance and preserve 218.5 acres of bald cypress-tupelo swamp wetlands.	Valero St. Charles Refinery
USACE Regulatory Permit MVN-2009-1867-EPP	St. Charles	Permit Issued	Clear and maintain a portion of the existing Clovelly-Norco 24-inch pipeline ROW and install and maintain pipeline markers. Located off of U.S. 90, near St. Rose, LA, the project would impact approximately 21.62 acres of jurisdictional forested wetlands.	Shell Pipeline Company
USACE Regulatory Permit MVN-2009-2960-EQ	St. Charles	Permit Issued	Installation of a 6-inch flowline, walkway, and 16 by 24 ft heater platform at Lake Salvador, 10.3 miles northeast of Larose, LA.	Castex Energy

Redevelopment

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2009-3151-EPP	St. Charles	Permit Issued	Clearing, grading, excavation, and deposition of fill for the construction of two commercial storage buildings. Located on East Harding Street, New Sarpy, LA. Approximately 1.22 acres of cypress swamp and wetlands would be impacted.	Quartermen Incorporated
USACE Regulatory Permit MVN-2010-0415 EPP	St. Charles	Permit Issued	Clearing, grading, excavation, and deposition of fill for drainage and picnic/nature walk area at 346 Lakewood Drive, south of existing church, in Luling, LA. The proposed project would result in approximately 1.16 acres of EFH impacts.	Church of Jesus Christ of Latter Day Saints
USACE Regulatory Permit MVN-2010-1570-EFF	St. Charles	Permit Issued	Installation of structures, excavation, and deposition of fill to improve existing drainage and flooding conditions within an existing residential neighborhood. Located off Harding Street and Airline Drive in Destrehan, LA, this project would impact approximately 0.029 acre of Waters of the U.S. and 0.029 acre of EFH impacts.	St. Charles Parish Department of Public Works
Westbank Multi-Use Path Project	St. Charles	Construction	Bike/Pedestrian path enhancements	La DOTD
USACE Regulatory Permit MVN-2011-0120-EQ	St. Charles	Permit Issued	Clearing, grading, excavation of fill, and maintenance of an access road to construct a drill pad with ring levee. Located about 1 mile northeast of Norco, LA in the Good Hope Field. The proposed project would impact approximately 2.79 acres of coast result in in 2.79 acres of EFH impacts.	Mack Energy Company
USACE Regulatory Permit MVN-2007-303-EKK	St. Charles, Jefferson, and Orleans	Permit Issued	Install and maintain approximately 36.6 miles of 14-in hydrogen pipeline beginning at the Norco facility, through the Bonnet Carré Spillway, across Lake Pontchartrain, and ending at the Michoud facility in New Orleans East. As compensatory mitigation, the permittee has agreed to the enhancement and preservation of bald cypress forested wetlands on 7.0 acres at the High Point Wetlands Mitigation Area.	Air Products & Chemicals
USACE Regulatory Permit MVN-1999-201-CT	St. John the Baptist	Permit Issued	Extension of time to complete clearing, grading, dredging, and filling of an area to develop a residential subdivision and commercial development in LaPlace, LA. No impacts are anticipated from the proposed project.	Belle Terre Land, L. L. C.

Project	Parish	Status	Overview	Agency/Entity/Program
Barataria Basin Landbridge Shoreline Protection, Phase 1 and 2 CWPPRA # BA-27	Jefferson	Construction start: December 2000, completed March 2009	Shoreline protection in western Jefferson Parish and eastern Lafourche Parish, Louisiana, on the western shoreline of Bayou Perot and the east/southeastern shoreline of Bayou Rigolettes, total project area = 2618 acres, AAHUs = 464, acres created/restored = 0, acres protected = 1304	Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA), Coastal Impact Assistance Program (CIAP)
Barataria Basin Landbridge Shoreline Protection, Phase 3 (BA-27c)	Jefferson	Unknown	Shoreline Protection, total project area = 2,380 acres, AAHUs = 101, acres created/restored = 0, acres protected = 264	CWPPRA
Barataria Bay Waterway East Side Shoreline Protection (BA-26)	Jefferson	Unknown	Shoreline Protection, total project area = 2,790 acres, AAHUs = 128, acres created/restored = 0, acres protected = 217	CWPPRA
Barataria Bay Waterway West Side Shoreline Protection	Jefferson	Unknown	Shoreline Protection, total project area = 1,789 acres, AAHUs = 63, acres created/restored = 0, acres protected = 232	CWPPRA
Barataria Bay Waterway Wetland Restoration	Jefferson	Unknown	Marsh creation, total project area = 510 acres, AAHUs = 151, acres created/restored = 445, acres protected = 0	CWPPRA
Bayou Dupont Natural Ridge Restoration	Jefferson	Unknown	Unknown	CIAP
Bayou Dupont Ridge Creation and Marsh Restoration CWPPRA # BA-48	Jefferson	Marsh Creation in Barataria Basin approved, not started	Beneficial. May have some impacts from construction of the ridge, total project area = 309 acres, AAHUs = 108, acres created/restored = 186, acres protected = 0	CWPPRA
Bayou Perot/Bayou Rigolettes Marsh Restoration (Deauthorized) (BA-21)	Jefferson	Unknown	Marsh creation, total project area = 4,255 acres, AAHUs = 498, acres created/restored = 0, acres protected = 1,065	CWPPRA
Dedicated Dredging on the Barataria Basin Landbridge CWPPRA # BA-36	Jefferson	Construction start: September 2008, completed: April 2010	Marsh creation, Barataria Basin southern end of Bayous Perot and Rigolettes on both sides of the Harvey Cut. Marsh Creation, total project area = 504, AAHUs = 135, acres created/restored = 242, acres protected = 0	CWPPRA

Project	Parish	Status	Overview	Agency/Entity/Program
East/West Grand Terre Islands Restoration (Transferred) (BA-30)	Jefferson	Unknown	Barrier Island Restoration, total project area = 638 acres, AAHUs = 269, acres created/restored = 335, acres protected = 0	CWPPRA
Goose Bayou Ridge Creation and Shoreline Protection	Jefferson	Once BOEMRE close-out processing is complete, the CIAP administration and remaining funds will be reprogrammed to the Lower Lafitte Shoreline Protection at Bayou Rigolettes project.	Approximatly 8,000 linear ft of additional shoreline protection would be added along the west side of Goose Bayou to its intersection with Cypress Bayou, a dedicated dredge would then deposit material to restore the historical ridge that would be planted with woody vegetation. Total project area = benefit 1,200 acres of freshwater marsh, acres created/restored = 50 acres of wooded ridge, acres protected = shoreline protection of 1,650 feet along Goose Bayou	CIAP
Jonathan Davis Wetland Protection (BA-20)	Jefferson	Unknown	Hydrologic reestoration, total project area = 7,199 acres, AAHUs = 485, acres created/restored = 0, acres protected = 510	CWPPRA
Lake Salvador Shoreline Protection and Marsh Creation at Jean Lafite National Park	Jefferson	Unknown	Unknown	CIAP
Marsh Restoration via Management of Rosethorne Muncipal Effluent	Jefferson	Unknown	Unknown	CIAP
South Shore of The Pen Shoreline Protection and Marsh Creation CWPPRA # BA-41	Jefferson	Construction started, not completed	Shoreline protection and marsh restoration, located in the vicinity of Bayou Dupont and the Barataria BayWaterway, total project area = 348 acres, AAHUs = 84, acres created/restored = 155, acres protected = 56	CWPPRA, CIAP
Tidal Restrictions Barataria Bay Waterway, Harvey Cut, and Little Lake	Jefferson	Unknown	Unknown	CIAP

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2007-001919-EGG	Jefferson	Permit Issued	Depostion of approximately 127,500 cy of hydraulically dredged material to repair a breach on Elmer's Island by hydraulic dredging. Located across from Caminada Pass along the gulf shore of Elmer's Island. USFWS and NMFS concurred with LDNR's determination that the proposed project is not likely to adversely affect designated critical habitat for the piping plover.	LaDNR/Coastal Engineering Division
USACE Regulatory Permit MVN-2007-102-EKK-2	Jefferson	Permit Issued	Excavate and deposit fill to create earthen terraces for the purpose of erosion control and promotion of wildlife habitat through the promotion of submerged aquatic vegetation. Approximately 191,400 cy of native material will be excavated on-site and redeposited to create earthen terraces. The project area is located in open water approximately 3 miles south of Lafitte at the point of intersection of Bayou DuPont. A total of 4.39 acres of EFH would be destroyed or altered.	Camp Club Inc.
USACE Regulatory Permit MVN-2010-0422-EQ	Jefferson	Permit Issued	CWPPRA project BA-39 located approximately 5.8 miles east-southeast of Lafitte, LA. The proposed project would maintain a existing culverted crossing and an existing bridged crossing in order to limit water access and improve land access. The propsosed project would result in effects on approximately 0.5 acre of the coast with 0.528 acre of EFH impacts.	River Rest, LLC
USACE Regulatory Permit MVN-2010-0683-EQ	Jefferson	Permit Issued	Installation and maintenance of oyster reef units located within the near shore coasal waters behind Grand Isle. The proposed project would affect 1.9 acres of Waters of the U.S. and 2.9 acres of EFH.	Coastal Environments, Inc.
Vegetative Plantings of a Dredged Material Disposal Site on Grand Terre Island (BA-28)	Jefferson	Unknown	Vegetative Planting, total project area = 297 acres, AAHUs = 73, acres created/restored = 100, acres protected = 27	CWPPRA
Barataria Basin Landbridge Shoreline Protection, Phase 4 (BA-27d)	Jefferson	Unknown	Shoreline Protection, total project area = 589 acres, AAHUs = 93, acres created/restored = 0, acres protected = 256	CWPPRA

Project	Parish	Status	Overview	Agency/Entity/Program
Bayside Segmented Breakwaters at Grand Isle	Jefferson	Planning stage, February 2012 is anticipated start of construction	Reduce erosion on the bay side of Grand Isle by constructing 1.5 mile of breakwater, total project area = 1.5 miles, AAHUs = N/A, acres created/restored = N/A, acres protected = 1.5 miles	CIAP
East Grand Terre Island Restoration	Jefferson	Construction Completion Date: Pending	1.8 million cy of beach fill and 1.7 million cy of marsh fill for beach/dune and marsh restoration	CIAP
Fifi Island Restoration Extension	Jefferson	Planning stage, April 2012 is anticipated start of construction	Building a V-shaped rock revetment which would be filled with dredged material from Bayou Rigaud and planted with appropriate Marsh vegetation, total project area = 1,000 linear feet with a head width of 200 feet, AAHUs = N/A, acres created/restored = 6 acres, acres protected = 2,200 linear ft of rock dike protection	CIAP
Lower Lafitte Shoreline Stabilization at Bayou Rigolettes	Jefferson	Planning stage, anticipated start of construction: June 2012	Build rock dikes and install water control structure to limit saltwater intrusion for segment 1. Segment 2 will include building protective barrier around water tanks then filling with sediment to be overlaid with concrete. Total project area = two segments: segment 1 extends south 1.5 mi along Bayou Barataria and west 0.25 mi along Bayou Rigolettes. Segment 2 is area directly adjacent to Grand Isle water tanks on north end of Bayou Barataria, AAHUs = N/A, acres created/restored = N/A, acres protected = shoreline of Barataria Waterway	CIAP
Mississippi River Sediment Delivery System - Bayou Dupont CWPPRA # BA-39	Jefferson & Plaquemines	Construction start: Feb 2009, Projected completion date: Sept 2011	Marsh Creation, adjacent to Bayou Dupont and southeast of Cheniere Traverse Bayou, total project area = 471 acres, AAHUs = 159, acres created/restored = 326, acres protected = 0	CWPPRA
Naomi Outfall Management (BA-03c)	Jefferson & Plaquemines	Unknown	Outfall Management, total project area = 26,603 acres, AAHUs = 379, acres created/restored = 0, acres protected = 633	CWPPRA

Coastal and Wetland Restoration

Project	Parish	Status	Overview	Agency/Entity/Program
Delta Building Diversion at Myrtle Grove (Deauthorized) (BA-33)	Jefferson, LaFourche, Plaquemines	Unknown	Water Diversion, total project area = 416,563 acres, AAHUs = 5,797, acres created/restored = 2,675, acres protected = 6,216	CWPPRA
Bayou L'Ours Ridge Hydrologic Restoration (Deauthorized) (BA-22)	Lafourche	Unknown	Hydrologic restoration; total project area = 24,765 acres, AAHUs = 467, acres created/restored = 0, acres protected = 737	CWPPRA
East Timbalier Island Sediment Restoration, Phase 1 (TE-25)	Lafourche	Unknown	Barrier island restoration; total project area = 45,102, AAHUs = 319, acres created/restored = 37, acres protected = 1,876	CWPPRA
East Timbalier Island Sediment Restoration, Phase 2 (TE-30)	Lafourche	Unknown	Barrier island restoration; total project area = 9,330 acres, AAHUs = 140, acres created/restored = 61, acres protected = 154	CWPPRA
Fourchon Hydrologic Restoration (Deauthorized) (BA-18)	Lafourche	Unknown	Hydrologic restoration; total project area = 2,020, AAHUs = 644, acres created/restored = 44, acres protected = 106	CWPPRA
GIWW (Gulf Intracoastal Waterway) to Clovelly Hydrolgoic Restoration (BA-02)	Lafourche	Unknown	Hydrologic restoration; total project area = 14,948, AAHUs = 885, acres created/restored = 0, acres protected = 175	CWPPRA
Grand Bayou/GIWW Freshwater Diversion (Deauthorized) (TE-10)	Lafourche	Unknown	Hydrologic restoration; total project area = 16,164 acres, AAHUs = 165, acres created/restored = 0, acres protected = 199	CWPPRA
LA Highway 1 Marsh Creation (Deauthorized) (BA-29)	Lafourche	Unknown	Marsh creation; total project area = 163 acres, AAHUs = 86, acres created/restored = 146, acres protected = 0	CWPPRA
Little Lake Shoreline Protection/Dedicated Dredging Near Round Lake (BA-37)	Lafourche	Unknown	Marsh creation and shoreline protection; total project area = 1,373 acres, AAHUs = 348.57, acres created/restored = 409, acres protected = 304	CWPPRA
Maritime Forest Ridge Restoration	Lafourche	Unknown	Shape sedement that was pumped in last year into a 4,000 ft maritime ridge which will then be planted with native vegitation. Total project area = N/A, AAHUs = N/A, acres created/restored = 60 acres of salt marsh and 60 acres of maritime forest ridge habitat	CIAP

Project	Parish	Status	Overview	Agency/Entity/Program
Northwest Little Lake Marsh Creation and Enhancement	Lafourche	Unknown	Dredging to create 30 to 40 acres of wetlands, enhance or nourish 70 to 100 acres of marsh, and plant two rows of smooth cordgrass along 500 ft of NW Little Lake shoreline. Total project area = Northwest Little Lake Shoreline, acres created/restored = create approximately 30 to 40 acres, enhance or nourish 70 to 100 acres, and plant two rows of smoothgrass for 7,500 ft, acres protected = 15 to 20 acres	CIAP
Small Dredge Program	Lafourche	Unknown	Using a small dredge to hydraulically dredge borrow canals and other open water areas to restore approximately 175 acres of marsh apron along levees, cheniers, and roadways. Total project area = N/A, AAHUs = N/A, acres created/restored = approximately 175, acres protected = N/A	CIAP
West Belle Pass Barrier Headland Restoration (TE-52)	Lafourche	Unknown	Marsh creation and barrier headland; total project area = 411 acres, AAHUs = 203, acres created/restored = 291, acres protected = 14	CWPPRA
West Belle Pass Barrier Headland Restoration Project in Lafourche Parish	Lafourche	Unknown	Proposed excavation and fill to perform the West Belle Pass Barrier Headland Restoration Project (TE-52). For this project an approximately 13,000 ft by 150 ft excavation area for a construction access channel and fill source for the primary dike, fill of an area with sand, and material for marsh creation.	USACE
West Belle Pass Headland Restoration (TE-23)	Lafourche	Unknown	Shoreline protection and dredged material; total project area = 2,459, AAHUs = 216, acres created/restored = 162, acres protected = 312	CWPPRA
Alligator Bend Marsh Restoration and Shoreline Protection CWPPRA # PO-34	Orleans	Construction start: October 2011, projected completion date: September 2012	Marsh restoration and shoreline protection along the East Orleans Landbridge on the northwest shoreline of Lake Borgne, total project area = 575 acres, AAHUs = 56, acres created/restored = 13, acres protected = 114	CWPPRA
Bayou Chevee Shoreline Protection (PO-22)	Orleans	Unknown	Shoreline protection, total project area = 212 acres, AAHUs = 42, acres created/restored = 0, acres protected = 75	CWPPRA

Project	Parish	Status	Overview	Agency/Entity/Program
Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 1 (PO-16)	Orleans	Unknown	Hydrologic restoration, total project area = 3,800 acres, AAHUs = 520, acres created/restored = 1,050, acres protected = 500	CWPPRA
Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 2 (PO-18)	Orleans	Unknown	Hydrologic restoration, total project area = 5,475 acres, AAHUs = 584, acres created/restored = 750, acres protected = 530	CWPPRA
Orleans Land Bridge Shoreline Protection and Marsh Creation	Orleans	Feasibility study in July 2010	Construction of approximately 50,000 feet of rock breakwater and restoration approximately 220 acres of marsh with dredged material in the Golden Triangle area bounded by the MRGO, the GIWW, and the western shore of Lake Borgne	CIAP
USACE Regulatory Permit MVN-2002-311-EGG	Orleans	Permit Issued	Placement of approximately 7,000 cy of concrete rip-rap along a 1,100 ft corridor of shoreline at Fort Pike State Historic Site and the adjoining public park and launch area for the purpose of erosion control. Located approximately 23 miles east of downtown New Orleans, off of Highway 90 at the Fort Pike Bridge, Compensatory mitigation is required to compensate for the unavoidable loss of 0.48 acre of saline marsh and titally influenced wetlands and will mitigate for impacts via a donation to the Louisiana Wetlands Conservation and Restoration Fund. The proposed action would not have a substantial adverse impact on EFH or Federally managed fisheries in the Gulf of Mexico.	Louisiana Office of State Parks
Morgan City Industrial Road	Orleans and St. Bernard	Construction Completion Date: Pending	Protecttion of vulnerable Orleans and St. Bernard Parish communities through the protection of approximately 1,400 acres of marsh on the East Orleans Landbridge	CIAP
Barataria Barrier Island: Pelican Island and Pass La Mer to Chaland Pass CWPPRA # BA-38	Plaquemines	Construction start: March 2006, projected completion date: October 2011	Barrier island restoration along two sections of the Plaquemines/Barataria Shoreline. Chaland Headland segment and Pelican Island project; total project area = 1,117 acres, AAHUs = 287, acres created/restored = 334, acres protected = 0	CWPPRA

Project	Parish	Status	Overview	Agency/Entity/Program
Benneys Bay Diversion CWPPRA # MR-13	Plaquemines	Construction start: March 2012, projected completion date: November 2013	Water diversion on the east bank of the Mississippi River, 7.5 miles above Head of Passes; total project area = 21,518 acres, AAHUs = 1,426, acres created/restored = 5,426, acres protected = 280	CWPPRA
Bertrandville Siphon CWPPRA # BA-18	Plaquemines	Construction start: June 2012, projected completion: June 2013	Freshwater diversion. The project area is an abandoned Mississippi River interdistributary basin, between the Mississippi River levee and River Aux Chenes, total project area = 14,574 acres, AAHUs = 965, acres created/restored = 123, acres protected = 1,490	CWPPRA
Bohemia Missisippi River Reintroduction CWPPRA # BS-15	Plaquemines	Approved, not started	Freshwater diversion with a capacity of approximately 10,000 cfs. Dredged material from channel improvements will be used to fill in existing oil and gas canals to create an estimated 14 acres of marsh. Three acres of trees will be planted on new spoil banks of the improved diversion channel, total project area = 5,210 acres, AAHUs = 989, acres created/restored = 637, acres protected = 0	CWPPRA
Cheniere Ronquille Barrier Island Restoration CWPPRA # BA-76	Plaquemines	Approved, not started	Barrier island reconstruction. Approximately 127 acres of beach/dune fill to be constructed and approximately 259 acres of marsh creation/nourishment would be constructed; total project area = 4,080 acres, AAHUs = 190, acres created/restored = 234, acres protected = 0	CWPPRA
Delta Building Diversion North of Fort St. Philip CWPPRA # BS-10	Plaquemines	Construction start: April 2012	Water diversion; total project area = 2,254 acres, AAHUs = 157, acres created/restored = 501, acres protected = 0	CWPPRA
Fringe Marsh Repair	Plaquemines	Unknown	Dredging drainage canals to restore approximately 300 acres of wetland area seaward of the back levee toe. Total project area = multiple project areas ranging in size from 10 to 50 acres, AAHUs = N/A, acres created/restored = approximately 300 acres created	CIAP
Grand Liard Marsh and Ridge Restoration CWPPRA # BA-68	Plaquemines	Approved, not started	Marsh creation within the Bastian Bay and Grand Liard mapping units, near the vicinity of Triumph; total project area = 502 acres, AAHUs = 158, acres created/restored = 286, acres protected = 0	CWPPRA

Coastal and Wetland Restoration

Project	Parish	Status	Overview	Agency/Entity/Program
Lake Hermitage Marsh Creation CWPPRA # BA-42	Plaquemines	Construction start: June 2011, projected completion: June 2012	Marsh creation in West Pointe a la Hache Mapping Unit, total project area = 1,600 acres, AAHUs = 211, acres created/restored = 441, acres protected = 6	CWPPRA
Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration CWPPRA # BA-35	Plaquemines	Construction start: June 2008, completed: August 2009	Barrier island restoration, in the Barataria Basin, between Pass Chaland and Grand Bayou Pass; total project area = 596, AAHUs = 208, acres created/restored = 253, acres protected = 10	CWPPRA
Riverine Sand Mining/Scofield Island Restoration CWPPRA # BA-40	Plaquemines	Construction start: September 2011, no projected completion date	Barrier island restoration, between Scofield Bayou and the point where Bay Coquette has merged with the Gulf of Mexico along the Plaquemines barrier shoreline, total project area = 746 acres, AAHUs = 229, acres created/restored = 234, acres protected = 0	CWPPRA
Spanish Pass Diversion CWPPRA # MR-14	Plaquemines	Construction start: October 2013, projected completion date: September 2014	Water diversion located south of the Jump on Grand Pass near Venice; total project area = 1,580 acres, AAHUs = 79, acres created/restored = 335, acres protected = 98	CWPPRA
USACE Regulatory Permit MVN-2007-003708-EOO	Plaquemines	Permit Issued	Create an artificial reef by the placement of three jackets in the existing WD 89 reef site, for the purpose of enhancing fishing opportunities off the coast of Louisiana. The platforms would be towed to the site. In the Gulf of Mexico, West Delta Area WD-89, off the coast of Plaquemines Parish.	LDWF, Artificial Reef Program

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2008-0345-EFF	Plaquemines	Permit Issued	Excavation and deposition of fill to implement the Mississippi River Sediment Delivery System-Bayou Dupont Marsh Creation Project (BA-39). Located southeast off Highway 23, north of Myrtle Grove, near Naomi, LA. The proposed project would affect 219 acres of non-vegetated water bottom resulting in 724 acres of coastal impacts and 724 acres of EFH impacts.	Jefferson Parish Council
USACE Regulatory Permit MVN-2010-0377-EII	Plaquemines	Permit Issued	Installation and maintenance of three oil and gas platform top jackets, for the purpose of enhanced fishing opportunities off the coast. Located in the Gulf of Mexico, Main Pass, Block 305, approximately 35 nautical miles east from Pilottown, LA. The proposed project would result in 0.1 acres of Waters of the U.S. impacts.	LDWF
Venice Ponds Marsh Creation and Crevasses CWPPRA # MR-15	Plaquemines	Approved, not started	Marsh creation and water diversion, south of Venice, Louisiana, adjacent to the Red, Tiger, and Grand Passes; total project area = 1,944 acres, AAHUs = 153, acres created/restored = 494, acres protected = 17	CWPPRA
West Pointe a la Hache Marsh Creation CWPPRA # BA-47	Plaquemines	Construction start: September 2012, projected completion: August 2013	Marsh creation in Barataria Basin, total project area = 352 acres, AAHUs = 126, acres created/restored = 203, acres protected = 0	CWPPRA
West Pointe a la Hache Outfall Management CWPPRA # BA-04c	Plaquemines	Construction start: September 2011, projected completion date: September 2012	Outfall management and hydrologic restoration; total project area = 15,755 acres, AAHUs = 1,652, acres created/restored = 0, acres protected = 646	CWPPRA

Project	Parish	Status	Overview	Agency/Entity/Program
White Ditch Diversion Restoration and Outfall Management CWPPRA # BS-12	Plaquemines	Construction start: September 2012, projected completion: September 2013	Water diversion and outfall management, in the vicinity of Belair, LA and construction and rehabilitation of siphons and flood control structure; total project area = 8,224 acres, AAHUs = 107, acres created/restored = 42, acres protected = 147	CWPPRA
Bayou Lamoque Floodgate Removal	Plaquemines	Construction Completion Date: Pending	The goal of this project is to remove the existing floodgates from two separate water control structures	CIAP
Bayou Lamoque Freshwater Diversion (BS-13)	Plaquemines	Unknown	Freshwater diversion; total project area = 9,435 acres, AAHUs = 56, acres created/restored = 620, acres protected = 0	CWPPRA
Caernarvon Diversion Outfall Management (BS-03a)	Plaquemines	Unknown	Outfall management; total project area = 15,556 acres, AAHUs = 504, acres created/restored = 802, acres protected = 0	CWPPRA
Channel Armor Gap Crevasse (MR-06)	Plaquemines	Unknown	Sediment diversion; total project area = 2,097 acres, AAHUs = 234, acres created/restored = 611, acres protected = 325	CWPPRA
Delta Management at Fort St. Philips (BS-11)	Plaquemines	Unknown	Sediment and nutrient trapping, outfall management; total project area = 1,305 acres, AAHUs = 77, acres created/restored = 267, acres protected = 0	CWPPRA
Delta Wide Crevasses (MR-09)	Plaquemines	Unknown	Water diversion; total project area = 5,210 acres, AAHUs = 927, acres created/restored = 2,297, acres protected = 88	CWPPRA
Grand Bay Crevasse (Deauthorized) (BS-07)	Plaquemines	Unknown	Sediment diversion; total project area = 6,300 acres, AAHUs = 257, acres created/restored = 240, acres protected = 394	CWPPRA
Jump Basin Dredging and Marsh Creation	Plaquemines	Unknown	Dredging of the Jump Basin Marina and beneficial use of that material to restore marsh across from Tidewater Road. Total project area = N/A, AAHUs = N/A, acres created = 4 to 7 acres, acres protected = N/A	CIAP
Mississippi River Sediment Trap (Deauthorized) (MR-12)	Plaquemines	Unknown	Marsh creation; total project area = 1,920 acres, AAHUs = 508, acres created/restored = 1,190, acres protected = 0	CWPPRA

Project	Parish	Status	Overview	Agency/Entity/Program
Myrtle Grove Siphon (Deauthorized) (BA-24)	Plaquemines	Unknown	Freshwater diversion; total project area = 15,894 acres, AAHUs = 527, acres created/restored = 0, acres protected = 1,119	CWPPRA
Pass-a-Loutre Crevasse (Deauthorized) (MR-07)	Plaquemines	Unknown	Sediment diversion; total project area = 1,869 acres, AAHUs = 455, acres created/restored = 1,073, acres protected = 0	CWPPRA
Tidewater Road Flood Protection	Plaquemines	Completed: November 2010	Tidewater Road is outside of levee protection and is the last stretch of road before the Gulf that is constantly flooded; flood protection for the road will be created. Total project length = 3 miles, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP
Upper Oak River Freshwater Siphon, Phase 1 (Deauthorized) (BS-09)	Plaquemines	Unknown	Terracing; total project area = 4,618 acres, AAHUs = 153, acres created/restored = 270, acres protected = 69	CWPPRA
West Bay Sediment Diversion (MR-03)	Plaquemines	Unknown	Water diversion; total project area = 12,910 acres, AAHUs = 4,912, acres created/restored = 9,831, acres protected = 0	CWPPRA
White's Ditch Outfall Management (Deauthorized)(BS-04a)	Plaquemines	Unknown	Outfall management; total project area = 5,249 acres, AAHUs = 68, acres created/restored = 0, acres protected = 37	CWPPRA
Chandeleur Islands Marsh Restoration (PO-27)	Plaquemines, St. Bernard	Unknown	Hydrologic restoration, total project area = 504 acres, AAHUs = 194, acres created/restored = 220, acres protected = 0	CWPPRA
Central Wetlands Assimilation Project (Phase I)	St. Bernard	Unknown	Proposed wetland restoration project will integrate sustainability with mitigation measures	CIAP
Lake Borgne and MRGO Shoreline Protection (Deauthorized) (PO-32)	St. Bernard	Unknown	Shoreline protection, total project area = 465 acres, AAHUs = 70, acres created/restored = 17, acres protected = 249	CWPPRA
Lake Borgne Shoreline Protection	St. Bernard	Unknown	Implementation of approximately 10,000 linear ft of shoreline protection project features between the CIAP Alligator Point to Bayou Bienvenue Shoreline protection project, which ends at Bayou Bienvenue, and the CWPPRA Shell Beach shoreline protection project, which ends at Bayou Dupre	CIAP
Lake Borgne Shoreline Protection (PO-30)	St. Bernard	Unknown	Shoreline protection, total project area = 192 acres, AAHUs = 61, acres created/restored = 0, acres protected = 165	CWPPRA

Project	Parish	Status	Overview	Agency/Entity/Program
Bayou Bienvenue Pump Station Diversion and Terracing (Deauthorized) (PO-25)	St. Bernard	Unknown	Terracing, total project area = 2,661 acres, AAHUs = 203, acres created/restored = 415, acres protected = 27	CWPPRA
Hopedale Hydrologic Restoration (PO-24)	St. Bernard	Unknown	Hydrologic restoration, total project area = 3,805 acres, AAHUs = 269, acres created/restored = 0, acres protected = 134	CWPPRA
Mississippi River Gulf Outlet (MRGO) Disposal Area Marsh Protection (PO-19)	St. Bernard	Unknown	Marsh creation, total project area = 855 acres, AAHUs = 435, acres created/restored = 0, acres protected = 755	CWPPRA
Violet Freshwater Distribution (Deauthorized) (PO-09a)	St. Bernard	Unknown	Outfall management, total project area = 17,980 acres, AAHUs = 38, acres created/restored = 40, acres protected = 207	CWPPRA
Bayou LaBranche Wetland Creation (PO-17)	St. Charles	Unknown	Wetland creation, total project area = 487 acres, AAHUs = 191, acres created/restored = 203, acres protected = 0	CWPPRA
East LaBranche Shoreline Protection	St. Charles	Unknown	Installing approximately 10,500 linear ft of rock dike at or near the +1.0 ft NAVD 88 contour on the existing shoreline. Total project area = 10,500 linear ft, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP
LaBranche East Marsh Creation CWPPRA # PO-75	St. Charles	Construction start: September 2012, projected completion date: September 2013	Marsh creation, between Lake Pontchartrain and I-10, bounded on the west by the Fall Canal and the Bayou LaBranche Wetland Creation Project (PO-17) and the east by a pipeline canal. Total project area = 931 acres, Average Annual Habitat Units (AAHUs) = 339, acres created/restored = 715, acres protected = 0	CWPPRA
LaBranche Wetlands Terracing, Planting, and Shoreline Protection (Deauthorized) (PO-28)	St. Charles	Unknown	Terracing project, total project area = 4,505 acres, AAHUs = 198, acres created/restored = 374, acres protected = 115	CWPPRA
Opportunistic Use of the Bonnet Carre Spillway (Deauthorized) (P-26)	St. Charles	Unknown	Water diversion project, total project area = 13,583 acres, AAHUs = 121, acres created/restored = 0, acres protected = 177	CWPPRA

Project	Parish	Status	Overview	Agency/Entity/Program
West LaBranche Shoreline Protection	St. Charles	Unknown	Installing aproximately 2,150 linear ft of rock dike and the construction of a 130 ft long timber pile bridge at the mouth of Bayou LaBranche. Total project area = 2,150 linear ft, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP
Lake Salvador Shoreline Protection (Phase III)	St. Charles	Construction Completion Date: Pending	This project is a continuation of an existing shoreline protection project along the northwestern portion of Lake Salvador in St. Charles Parish	Louisiana Departmen of Natural Resources (La DNR)
Baytree Freshwater Diversion Property Purchase	St. James	Unknown	Purchase a tract of land extending from the Mississippi River to the Parish Canal for a future freshwater diversion canal. Total project area = N/A, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP
Blind River Freshwater Diversion Property Purchase	St. James	Grant applied for	Purchase a tract of land extending from the Mississippi River to the Parish Canal for a future freshwater diversion canal. Total project area = N/A, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP
Mississippi River Reintroduction into Northwest Barataria Basin (BA-34)	St. James	Unknown	Freshwater diversion; total project area = 5,134 acres, AAHUs = 781, acres created/restored = 0, acres protected = 941	CWPPRA
Waterline Booster Pump Station, East Bank	St. James	Completed February 2010	Construct a waterline booster pump station in Convent, LA. Total project area = N/A, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP
Waterline Booster Pump Station, West Bank	St. James	Unknown	Construct a waterline booster pump station in Welcome, LA. Total project area = N/A, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP
West Bank Wetland Conservation and Protection	St. James	Completed April 2010	Purchase approximately 615 acres of existing wetland from the Bayou Chevreuil Land Co LLC. Total project area = N/A, AAHUs = N/A, acres created/restored = N/A, acres protected = 242 acres of healthy cypress swamp and 373 acres of bottomland hardwood forest.	CIAP

Project	Parish	Status	Overview	Agency/Entity/Program
Reserve Relief Canal Shoreline Protection	St. John the Baptist	Unknown	Create a rock dike with gaps for fish and public access to the lakeshore that exstends in an easterly and westerly direction from the Reserve Relieve Canal. Total project area =1,400 linear ft of shoreline, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP
West Lac des Allemands Shoreline Protection	St. John the Baptist	Unknown	Create a rock dike with gaps for fish and public access to the lakeshore to stop the shoreline eroding at 2.9 acres per year. Total project area = 7,535 ft of shoreline, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP
French Property Preservation Project	St. Tammany	Completed October 2009	Acquisition of a 39.5 acre parcel (French Property) to perserve this property from future commercial or residential development. Total project area = 39.5 acres, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP
Fritchie Marsh Creation	St. Tammany	Unknown	Creation of approximately 200 to 300 acres of intermediate marsh	CIAP
Goose Point/Point Platte Marsh Creation CWPPRA # PO-33	St. Tammany	Construction start: April 2008, completed February 2009	Marsh creation on the north shore of Lake Pontchartrain between Fountainebleu State Park and Louisiana Highway 11 and within the Big Branch Marsh NWR	CWPPRA
Green Property Preservation Project	St. Tammany	Unknown	Acquisition of wetland to perserve this property from future commercial or residential development. Total project area = 27.2 acres, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP
Guste Island Aquatic Ecosystem Restoration	St. Tammany	Unknown	Acquisition of the 352 acre tract of marshland on which the Guste Island Utility Company's operations currently reside and into which they discharge effluent	CIAP
Mandeville Aquatic Ecosystem Restoration Project	St. Tammany	Completed July 2010	Upgrade of the existing wastewater treatment plant and construction of a discharge structure and piping system for wetland assimilation. Total project area = 1.7 sq miles of uninhabitated wetland, AAHUs = N/A, acres created/restored = N/A, acres protected = N/A	CIAP

Coastal and Wetland Restoration

Project	Parish	Status	Overview	Agency/Entity/Program
Northshore Beach Marsh Creation/Restoration	St. Tammany	Unknown	Marsh restoration; total project area = N/A, AAHUs = N/A, acres created/restored = 600 acres created, acres protected = N/A	CIAP
West St. Tammany Parish Coastal Wetland Habitat Creation	St. Tammany	Unknown	Marsh restoration	CIAP
Gulf Intracoastal Waterway (GIWW) Bank Restoration of Critical Areas of Terrebonne	Terrebonne	Unknown	Bank restoration	CIAP
Mississippi River Reintroduction Bayou Lafourche (Deauthorized) (BA-25b)	Ascension, Lafourche, St. James, and Assumption	Unknown	Freshwater diversion; total project area = 85,094 acres, AAHUs = 705, acres created/restored = 0, acres protected = 988	CWPPRA
River Reintroduction into Maurepas Swamp (PO-29)	Ascension, St. James, and St. John the Baptist	Unknown	Water diversion; total project area = 36,121 acres, AAHUs = 8,486, acres created/restored = 0, acres protected = 5,438	CWPPRA
Blind River Freshwater Diversion	Districtwide	Construction Completion Date: Pending	Construction and operation a 1,500 cfs maximum capacity siphon to divert freshwater from the Mississippi River into the Blind River	CIAP
Bobby's Berms	Districtwide	Completed	Creation of 100 miles of berms in response to the BP Deepwater Horizon oil spill to protect wetlands	USACE and Louisiana Office of the Govenor
Berms to Barrier	Districtwide	Unknown	Converting 100 miles of berms to dunes	CPRA
Coastal Forest Conservation Initiative	Districtwide	Unknown	This initiative is part of an overall strategy for restoring, protecting, and conserving Louisiana’s coastal forest system	CIAP
Marsh Creation Via Beneficial Use	Districtwide	Construction Completion Date: Pending	Beneficial use of dredged material to restore coastal wetlands	CIAP
Mississippi River Delta Management Strategic Planning	Districtwide	Unknown	Development of a strategic framework for feasibility evaluation of improved management of freshwater, nutrients, and sediment resources of the Lower Mississippi River	CIAP
Mississippi River Long Distance Sediment Pipeline	Districtwide	Construction Completion Date: Pending	Establishment of an appropriate long-distance pipeline capability for conveying Mississippi River sediment for land building	CIAP

Project	Parish	Status	Overview	Agency/Entity/Program
Performance Evaluation and Science Monitoring	Districtwide	Unknown	Evaluation for effectiveness of restoration project features constructed with either parish or State funds through the CIAP	CIAP
Lake Lery Rim Reestablishment and Marsh Creation		Unknown	Dredge sediment from Lake Lery and use the dredged material to create a nearly continous strip of marsh platform along the western bank of Bayou Terre Aux Boeufs, place a rock dike along the northern and eastern shoreline on Lake Lery. Total project area = 212 acres, AAHUs = N/A, acres created/restored = Create approximatel. 212 acres of brackish marsh, protect and nourish more than 300 additional acres, and protect approximately 5 miles of ridge habitat, approximately 5 miles of shoreline protected	CIAP
Louisiana Coastal Area	Multiple	Planning	WRDA 2007 authorizes 15 near-term features aimed at addressing the critical restoration needs of coastal Louisiana, with five of the features designated as critical restoration features. Further, it authorizes demonstration projects, a beneficial use of dredged material program, project modifications, and a science and technology program.	USACE

Project	Parish	Status	Overview	Agency/Entity/Program
Climber Screens Westminster and Parish Line	Jefferson	Unknown	Contractor is completing touch-up painting to climber frames	USACE
Construct temporary access channels and install segmented breakwaters in Jefferson Parish	Jefferson	Unknown	The proposed project consists of construction of 25 to 30 ft bayside segmented breakwaters, temporary access channel and temporary disposal area. The proposed breakwaters would be placed between the existing breakwaters.	USACE
Cousins Canal (Phase II) (SELA Project)	Jefferson	Construction Started: October 2009 Construction Complete: March 2010	Canal improvements were made from a point approximately 700 ft west of the Woodmere Bridge to the Pipeline Canal by constructing a concrete "U" frame. The canal work was completed for a cost of $9.3 million.	USACE and Jefferson Parish
Elmwood Canal at West Esplanade (SELA Project)	Jefferson	Construction Complete: October 2010	The channel improvements at the intersection of West Esplanade and the Elmwood Canal required the demolition of existing bridges and construction of a replacement bridge. The construction was completed for a cost of $8.5 million.	USACE and Jefferson Parish
Gardere Canal (Phase 3) Murphy Canal (Phase 2) (SELA Project)	Jefferson	Under Construction	Project consists of drainage improvements (slope grading and slope paving) to the Gardere and Murphy Canals from the south side of Martin Luther King Playground to Bayou Barataria. The approximate length of improvements is 15,000 lf. Estimated Cost is $23.5 million.	USACE and Jefferson Parish
Gardere Canal Improvements (Phase II) (SELA Project)	Jefferson	Construction Started: Early 2007 Construction Complete: August 2009	Improvements included 350 ft of paved trapezoidal section south of the Brown Avenue Canal; 5,400 ft of sheet pile "U" frame section, from the trapezoidal section to the West Bank Expressway; and 1,300 ft of concrete "U" frame section, from the Westbank Expressway to 8th Street. This project was completed for an approximate value of $33 million.	USACE and Jefferson Parish
Grand Cross Canal at Lapalco (SELA Project)	Jefferson	Construction Complete: August 2009	This project includes the construction of box culverts at the intersection of Lapalco and the Grand Cross Canal to supplement the existing culvert. The project was completed for a cost of $9.1 million.	USACE and Jefferson Parish

Flood Risk Reduction

Project	Parish	Status	Overview	Agency/Entity/Program
Grand Isle and Vicinity Hurricane Protection, LA	Jefferson	Completed	Grand Isle and Vicinity Hurricane Protection Project consists of a 7.5 mile vegetated sand dune extending the length of Grand Isle's gulf shore, a jetty to stabilize the western end of the island at Caminada Pass, and an offshore breakwater system.	USACE
Grand Isle Non Federal levee	Jefferson	Contract not awarded	Restoration of back levees	USACE
Harahan Pump to the River Discharge Tube (SELA Project)	Jefferson	Construction Complete	A section of discharge tubes that potentially could conflict with a LaDOTD roadway contract was installed. The project involved installation of three 680-ft-long 84-inch diameter discharge pipes. Cost is $8.5 million.	USACE and Jefferson Parish
Harahan Pump to the River North and South Discharge Tubes (SELA Project)	Jefferson	Under Design	The North Tube location includes design of three 84-inch diameter discharge pipes extending 1,709 ft from the pumping station to the Old Dickory Oak Tree. The south tubes include design of three 84-inch diameter discharge pipes extending 4,475 ft from the Old Dickory Oak Tree to the Jefferson Highway.	USACE and Jefferson Parish
Industry Canal	Jefferson	Contract not awarded	Improvements	USACE
Industry Canal Improvements (SELA Project)	Jefferson	Under Design	Project consists of canal improvements from Bayou Oakwood to Bayou Barataria and includes removal of three 96-inch reinforced concrete arch pipes and installing 3,050 lf of 42 ft wide "U" frame section. Estimated Cost is $27 million.	USACE and Jefferson Parish
Justice / Oil Company Canals on the West Bank (SELA Project)	Jefferson	Design Phase	Project consists of a combination of 4,300 ft of earthen trapezoidal channel and 4,000 ft of concrete-lined trapezoidal channels. Estimated Cost is $14 million.	USACE and Jefferson Parish
Mayronne Canal on the West Bank (SELA Project)	Jefferson	Nearing Construction	Project consists of improvements to Mayronne Canal from Dugues Canal to Westwood Drive. The improvements will be a combination of 1,300 ft of earthen and 1,860 ft of concrete-lined channel. This project will be advertised early 2011. Estimated Cost is $5 million.	USACE and Jefferson Parish
Mount Kennedy Generator	Jefferson	Unknown	Contractor is storm-proofing for pumping station.	USACE

Project	Parish	Status	Overview	Agency/Entity/Program
Soniat Canal (Lester to Lynnette)	Jefferson	Nearing Construction	Construction of modified concrete trapezoidal flume section from the intersection of the Soniate Canal and West Metairie Ave. and the Lynette Drive Bridge	USACE
Soniat Canal (Lynette to W. Napoleon) (SELA Project)	Jefferson	Under Construction	Project consists of a 900 ft section of trapezoidal concrete channel between the Lynnette Bridge and West Napoleon Avenue. Estimated Cost is $10.7 million.	USACE and Jefferson Parish
Soniat Canal (Veterans to Canal No. 3) (SELA Project)	Jefferson	Construction Complete: August 2009	This project included two short areas of the Soniat Canal between West Napoleon & Veterans Blvd. and from Veterans Blvd. north to the confluence of Canal No. 3. Improvements to the canal section involved construction of a concrete "U" frame. This project was completed for a cost of $25.3 million.	USACE and Jefferson Parish
Soniat Canal (West Metairie to Lynnette)	Jefferson	Under Design	SELA project	USACE
Soniat Canal from Lynnette to W. Napoleon (SELA Project)	Jefferson	Under Construction	Project consists of a 900 ft section of trapezoidal concrete channel between the Lynnette Bridge and West Napoleon Avenue. Estimated Cost is $10.7 million.	USACE and Jefferson Parish
Soniat Canal from W. Metairie to Lester (SELA Project)	Jefferson	Under Design	Design of approximately 500 lf of modified trapezoidal concrete channel between Lester Avenue and West Metairie and replacement of the westbound West Metairie Avenue Bridge. This project is scheduled to be under construction by 2013. Estimated Cost is $9.0 million.	USACE and Jefferson Parish
Storm Proofing One Pump Station Canal Street	Jefferson	Notice to Proceed (NTP) issued 05 May 2010.	Pump station stormproofing for emergency conditions	USACE
Storm Proofing Three Pump Stations Bayou Segnette, Whitney Barataria & Mount Kennedy	Jefferson	Contract not awarded	Pump station stormproofing for emergency conditions	USACE
Storm Proofing Two Pump Stations Cousins & Elmwood	Jefferson	Contract not awarded	Pump station stormproofing for emergency conditions	USACE

Flood Risk Reduction

Project	Parish	Status	Overview	Agency/Entity/Program
Storm Proofing Two Pump Stations Westminster and Parish Line	Jefferson	May 2010: Notice to Proceed issued May 2010	Pump station stormproofing for emergency conditions	USACE
Two Mile (Patriot Canal) Phase 2 (SELA Project)	Jefferson	Nearing Construction	This project will consist of building a concrete "U" frame section of canal between Barataria Boulevard and Allo Street and constructing three bridges in that section of canal. Estimated Cost is $20.8 million.	USACE and Jefferson Parish
Two Mile Canal Phase 2 Concrete flume and transmittal structure	Jefferson	Contract not awarded	Pump station stormproofing for emergency conditions	USACE
USACE Regulatory Permit MVN-2007-02802-EGG	Jefferson	Permit Issued	Clear, grade, excavate, and deposit fill to construct and maintain a roadway for the purpose of accessing the Rosethorne Pump Station at Bayou Barataria. The 2.4-acre linear site is located on and south of Jean Lafitte Boulevard (LA Highway 303). As compensatory mitigation, the project will restore 3.3 acres BLH.	Jefferson Parish Department of Drainage
Dredge material to elevate existing levees in Lafourche Parish	Lafourche	Unknown	The proposed work is to be located within an area about 10,982 ft long and approximately 100 ft wide. 168,610 cy of material is to be placed to increase existing levee height to 9 ft. No fill will be placed in wetland areas.	USACE
Industry Canal Improvements on the West Bank (SELA Project)	Orleans	Design Phase	Project consists of canal improvements from Bayou Oakwood to Bayou Barataria and includes removal of three 96-inch reinforced concrete arch pipes and installing 3,050 lf of 42 feet wide "U" frame section. Estimated Cost is $27 million.	USACE and Jefferson Parish
USACE Regulatory Permit MVN-2007-0342-EFF	Orleans	Permit Issued	Clearing, grading, excavating and deposition of fill for installation of a water control structure and improvements to 5,440 ft of the existing South Maxent Levee located near the intersection of Recovery Drive and Chef Menteur Highway.	USFWS

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2007-0342-EFF	Orleans	Permit Issued	Modification of existing permit to include additional clearing, grading, excavating, and deposition of fill for installation of water control structure and improvements to existing South Maxent Levee. The proposed project is located near the intersection of Recovery Drive and Chef Menteur Hwy, in New Orleans, LA. Approximate impacts of 0.05 acre of unvegetated water bodies resulting in 0.5 acre of EFH impacts with additional coastal impacts of 12.75 acres.	Bayou Sauvage National Wildlife Refuge, US Fish and Wildlife Service
West Bank Trapp Canal Improvements (SELA project)	Orleans	Design Phase	Project consists of canal improvements from Bayou Fatima to Bayou Barataria. When the project is complete, it will have 7,500 lf of modified trapezoidal section with a bottom width between 60 and 70 ft and a top width of approximately 155 ft. Estimated Cost is $15.2 million.	USACE and Jefferson Parish
Florida Ave--Phase I (SELA Project)	Orleans	Awarded January 2010	Major canal improvement with pile founded concrete flume. Cost is $49.17 million.	USACE
Florida Ave--Phase II (SELA Project)	Orleans	Award Planned: February 2012	Major canal improvement with pile founded concrete flume. Cost is $49.17 million.	USACE
Florida Ave--Phase III (SELA Project)	Orleans	Award Planned: February 2012	Major canal improvement with pile founded concrete flume. Cost is $49.17 million.	USACE
Florida Ave--Phase IV (SELA Project)	Orleans	Planned Award: October 2013	Major canal improvement with pile founded concrete flume. Cost is $49.17 million.	USACE
Uptown Jefferson Ave Phase I--Claiborne to Dryades (SELA Project)	Orleans	Award: January 2012	4,400 linear ft of reinforced concrete culverts under median along Jefferson Avenue.	USACE
Uptown Jefferson Ave Phase II--Dryades to Constance (SELA Project)	Orleans	Planned Award: June 2012	3,600 linear ft of reinforced concrete culverts under median along Jefferson Avenue.	USACE
Uptown Naploleon Avenue - Phase 3 - Carondelet to Constance (SELA Project)	Orleans	Contract not awarded planned: August 2012	The work consists of constructing approximately 2,800 linear feet of two single-barreled concrete box culverts	USACE

Flood Risk Reduction

Project	Parish	Status	Overview	Agency/Entity/Program
Uptown Napoleon Ave Phase I--Claiborne to Carondolet (SELA Project)	Orleans	Planned Award: June 2011	2,500 linear ft of single-barreled reinforced concrete culverts under median along South Claiborne.	USACE
Uptown S. Claiborne Phase II--Leonidas to Lowerline (SELA Project)	Orleans	Planned Award: June 2012	3,500 linear ft of single-barreled reinforced concrete culverts under median along South Claiborne.	USACE
Uptown S. Claiborne Phase I--Monticello to Leonidas (SELA Project)	Orleans	Planned Award: August 2012	2,500 linear ft of single-barreled reinforced concrete culverts under median along South Claiborne.	USACE
Plaquemines Parish, Louisiana, Urban Flood Control Feasibility Study	Plaquemines	Feasibility Phase	Flooding still occurs in Plaquemines Parish due to rainfall events. Flood control improvements are needed to reduce repetitive damages to structures.	USACE
USACE Regulatory Permit MVN-2007-03424-EPP	Plaquemines	Permit Issued	To improve canal drainage at the West First Street canal. Located west of West First Street between St. Ann and Berger Streets, in Belle Chasse.	Parish of Plaquemines
USACE Regulatory Permit MVN-2009-2953-EPP	Plaquemines	Permit Issued	Excavate Scarsdale borrow pits for clay material to be used toward the construction of a Federal levee system and the deposition of the unsuitable clay material would be backfilled into excavation pits. Located off Scarsdale Road, in Scarsdale, LA. No adverse impacted anticipated.	Levee Materials, LLC
St. Bernard Parish, Louisiana Flood Control Feasibility Study	St. Bernard	Feasibility Phase	Flood control study for St. Bernard Parish	USACE
Drainage improvements and pump station in St. Charles Parish	St. Charles	Unknown	Excavate, deposit fill, and install structures in order to reduce and prevent flooding issues along an existing residential street in St. Charles Parish. Work would include the installation of 308 ft of 24-inch pipe, 70 ft of 18-inch culvert, eight 4 by 4 by 4 ft catch basins, and a pump for discharging storm water into an existing basin along Airline Highway.	USACE
St. Charles Parish Urban Flood Control Feasibility Study	St. Charles	Data Collection Phase	Flood damage reduction for St. Charles Parish.	USACE

Flood Risk Reduction

Project	Parish	Status	Overview	Agency/Entity/Program
Mississippi Delta Region Project - Davis Pond Freshwater Diversion Feature	St. Charles	On-going	The project would divert fresh water, with its accompanying nutrients and sediments, from the Mississippi River into the Barataria Basin, reducing saltwater intrusion and establishing favorable salinity conditions in the area, and thus combating land loss. These diversions would also increase commercial and recreational fish and wildlife productivity, and enhance vegetation growth.	USACE
Bonnet Carre Freshwater Diversion -MR & T	St. Charles (would include Mississippi-Louisiana Estuarine Areas)	Project Pending	The project is designed to reduce saltwater intrusion and significantly increase the production of oyster, white shrimp, blue crabs, croakers, and menhaden. About 10,500 acres of marsh and wooded swamps adjacent to Lakes Maurepas and Pontchartrain would be saved over the 50-year project life.	USACE
Morganza to the Gulf	Multiple	Planning	The Morganza to the Gulf project was authorized to provide the 100-year level of hurricane and storm damage risk reduction based on feasibility reports and 2002 and 2003 reports of the Chief of Engineers. Currently, it is estimated that the cost to incorporate post-Hurricane Katrina design criteria into this project will exceed the authorized project cost by more than 20 percent, thereby exceeding the 1986 Water Resources Development Act (WRDA) Section 902 limit and triggering the need for reauthorization by Congress. A Post Authorization Change Report is currently being developed to seek reauthorization.	USACE

Flood Risk Reduction

Project	Parish	Status	Overview	Agency/Entity/Program
New Orleans to Venice	Plaquemines	Design	The NOV project would increase the elevation of all Federal flood risk reduction structures to meet the authorized design grade and stabilize those sections of levees where subsoil deficiencies or internal levee deficiencies undermine their strength. On the east bank, the project extends 16 miles along the back levee from the towns of Phoenix to Bohemia, Louisiana. On the west bank, the project extends 34 miles and consists of work on the back levee, as well as on the Mississippi River levee, from the St. Jude Church to the town of Venice, Louisiana.	USACE
Plaquemines Parish Non-Federal Levee	Plaquemines	Design	This planned project includes replacing or modifying 32 miles of non-Federal levees on the west bank of the Mississippi River. When completed, the project will augment the NOV Federal levee project	USACE
Larose to Golden Meadow, Louisiana	Lafourche	Planning and Design	The project consists of a ring levee approximately 40 miles in length protectin thte east and west banks of Bayou Lafourche. The project also provides for navigable floodgates on Bayou Lafourche. The non-Federal sponsor would pay for pump stations in lieu of gravity drainage structures and the Leon Theriot floodgate is being converted into a lock.	USACE

Transportation and Navigation

Project	Parish	Status	Overview	Agency/Entity/Program
26th St. at Canal 17	Jefferson	Construction	Bridge replacement	La DOTD
4th St. Extension to Burmaster	Jefferson	Construction	Construct two lanes	La DOTD
Ames Blvd. (Barataria - E. Ames)	Jefferson	Right-of-way study	Road widening	La DOTD
Ames Blvd. (Barataria Blvd. to Oregon Dr.)	Jefferson	Construction	Contruct turn lane and drainage	La DOTD
Ames Blvd. (Oregon Drive to East Ames)	Jefferson	Construction	Reconstruction and three lanes	La DOTD
Atchafalaya River, Bayous Chene, Boeuf, and Black, Louisiana Feasibility Study	Assumption, St. Mary, and Terrebone	On-going	To address the feasibility of modifying the existing Federal project to provide deeper access channels to marine fabrication yards in the Morgan City Area	USACE
Atchafalaya River & Bayous Chene, Boeuf, and Black, LA Dredged Material Management Plan	Assumption, St. Mary, and Terrebone	Sampling and modeling initiated: 2007	To develop a dredged material management plan (DMMP) for the disposal of dredged material from routine maintenance of the Atchafalaya River and Bayous Chene, Boeuf, and Black for the next 20 years. The DMMP has been ongoing in concert with a channel deepening feasibility study for the same project area.	USACE
Bayou Barataria Bridge - Lafitte	Jefferson	Final design and engineering	Bridge replacement	La DOTD
Bayou Barataria Bridge at Lafitte	Jefferson	Construction	Bridge replacement	La DOTD
Bayou Segnette Waterway, LA	Jefferson	Unknown	Provide a suitable channel depth for the safe navigation of commercial fishing and/or shrimping boats and recreational marine vessels. The project is located between mile 0.00 and 6.2 on Bayou Segnette.	USACE
Bayou Villars - LA 45	Jefferson	Construction	Overlay	La DOTD
Canal St. (Orpheum to Oaklawn)	Jefferson	Construction	Overlay	La DOTD
Clearview Drainage at Earhart	Jefferson	Construction	Drainage improvements	La DOTD
Cold Storage/L&A Rd.	Jefferson	Construction	Access improvements	La DOTD
Drain Canal Bridge on LA 45	Jefferson	Construction	Bridge replacement	La DOTD
Drain Canal Bridge on US 90	Jefferson	Construction	Bridge replacement	La DOTD
Earhart at Causeway	Jefferson	Construction	New interchange	La DOTD

Project	Parish	Status	Overview	Agency/Entity/Program
Earhart Corridor Multi-Modal Project	Jefferson	Environmental Assessment	Line and grade environmental study	La DOTD
Earhart Expressway	Jefferson	Construction	Access improvements	La DOTD
Earhart Ramps at Dakin	Jefferson	Construction	New ramp connector	La DOTD
East Jefferson Traffic Signal Improvements	Jefferson	Construction	Signals	La DOTD
Freshwater Bayou, LA	South Louisiana	On-going	Freshwater Bayou, from Freshwater Bayou Lock to the Gulf of Mexico, requires dredging about once every 3 years. The channel from the lock to GIWW is self-maintaining and has not been dredged in approximately 20 years.	USACE
Gretna/Metairie Signals	Jefferson	Construction	Upgrade & replace	La DOTD
Gulf Coast High Speed Rail	Jefferson	Construction	Grade crossing, signal, cap. analysis	La DOTD
Harvey Blvd. (Peters - Manhattan)	Jefferson	Construction	New roadway extension	La DOTD
Harvey Blvd. (Wall - Manhattan)	Jefferson	Construction	Widen to four lanes	La DOTD
Hickory-Dock St.	Jefferson	Construction	Roundabout installation	La DOTD
Huey P Long Bridge to Williams Blvd.	Jefferson	Construction	Cold plane and overlay	La DOTD
Huey P Long Bridge widening	Jefferson	Unknown	Bridge and approaches improved for 4.91 miles and extended an additional 0.45 miles	La DOTD
I-10 at Causeway Blvd., Phase 2	Jefferson	Construction	Interchange modification	La DOTD
Jefferson CMS Corridor	Jefferson	Technical study	Stage 0 feasibility study for intersections and signals	La DOTD
Jefferson EDGE 2020: Fat City Redevelopment	Jefferson	Planned	Edge redevelopment effort	La DOTD
Jefferson Lakefront	Jefferson	Construction	Bike path reconstruction	La DOTD
Jefferson Signals (Avondale - Barataria)	Jefferson	Construction	Traffic signals	La DOTD
LA 1 (Caminada Bay Bridges)	Jefferson	Construction	Grading, drainage structures, Class II base course, superpave asphaltic concrete pavement, concrete and girder span bridge and related work	La DOTD
LA 45 - Bayou Barataria	Jefferson	Construction	Overlay	La DOTD
LA 49 - St. Charles Parish Line	Jefferson	Construction	Replace and upgrade traffic	La DOTD

Transportation and Navigation

Project	Parish	Status	Overview	Agency/Entity/Program
Lake Pontchartrain Causeway	Jefferson	Technical study	Capacity improvement	La DOTD
Lapalco (Manhattan - Bayou Fatma)	Jefferson	Construction	Mill and overlay	La DOTD
Lapalco (Segnette - Tanglewood)	Jefferson	Construction	Widen to four lanes	La DOTD
Lapalco (Westwood - Tanglewood)	Jefferson	Construction	Widen two to four Lanes	La DOTD
Loyola Interchange Improvements	Jefferson	Construction	Geometric improvements	La DOTD
Madison St. (Americus - Cook)	Jefferson	Construction	Overlay and rail crossing safety	La DOTD
Manhattan (Gretna - US 90B)	Jefferson	Construction	Overlay	La DOTD
Metairie Rd. Crossing	Jefferson	Construction	Vehicular/rail safety	La DOTD
Orpheum - Huron Bike Path	Jefferson	Construction	Linear bike path	La DOTD
Peters Road (On/Off Ramp) at US 90B	Jefferson	Construction	Ramp improvements	La DOTD
Railroad Crossing Safety	Jefferson	Construction	Installation of quadgates at Norfolk Southern RR at LA 611-9 (Metairie Rd.)	La DOTD
Relocate Hickory (Mounes - LA 48)	Jefferson	Construction	Relocation and widen to four lanes	La DOTD
Segnette (Lapalco - US 90B)	Jefferson	Construction	Overlay	La DOTD
US 61 at Clearview Intersection	Jefferson	Environmental assessment	Environmental study	La DOTD
US 90 at Homeplace Rd.	Jefferson	Construction	Turn lane	La DOTD
US 90 to Avondale Shipyards	Jefferson	Construction	Widen to four lanes	La DOTD
US 90B to Lapalco	Jefferson	Construction	AC overlay of PCC pavement	La DOTD
US 90B to Lapalco	Jefferson	Construction	AC overlay of PCC pavement	La DOTD
USACE Regulatory Permit MVN-1997-1114-EE	Jefferson	Permit Issued	Hydraulically dredge and stockpile river sand into a previously authorized batture borrow pit. Dredging will be performed in an area measuring 800 ft wide by 4,050 ft long extending lengthwise and parallel to the low water reference plane, the outer edge extending about 1,100 ft channelward. Located in the Mississippi River, at a point centering about 112 miles above Head of Passes, at Live Oak Manor.	J.P. & Sons, Inc.

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2003-0976-EKK	Jefferson	Permit Issued	Installation and maintenace of four pilings to complete improvements to a ship mooring facility. Located on the left descending bank of the Mississippi River, at a point about 114.5 miles above Head of Passes, at Kenner, LA. The proposed project would impact 0.07 acre of Waters of the U.S.	Gulf Coast Marine, Inc.
USACE Regulatory Permit MVN-2007-000577-EE	Jefferson	Permit Issued	Hydraulically dredge and stockpile river sand into a previously authorized batture borrow pit. Dredge material will be pumped into a 60-acre dispoal area, drained and dried for transport by truck. Dredging will be performed in an area measuring about 700 ft wide by 2,000 ft long. In the Mississippi River, at a point about 111.3 miles above Head of Passes, at Waggaman. Minimal adverse impacts on fish and wildlife resources.	VSP Materials
USACE Regulatory Permit MVN-2007-04139_EPP	Jefferson	Permit Issued	Expansion of barge fleet facility from eight to ten tie-up barges. Located in the Mississippi River, off of Louisiana Highway 611-1 (River Road), in the town of Jefferson-.	LA Dock Company, c/o Richard Wright & Associates
USACE Regulatory Permit MVN-2007-3978-EMM	Jefferson	Permit Issued	Install and maintain walkways, mooring dolphins, breasting dolphins, and dock extension. In the Mississippi River, right descending bank, at a point about 99 miles above Head of Passes, in Marrero.	Diversified Group Inc.
USACE Regulatory Permit MVN-2008-0160-EOO	Jefferson	Permit Issued	Clear and deposit fill for two staging and construction lay down areas for the substructure widening of the Huey P. Long Bridge. Located at River Road and the Huey P. Long Bridge on the Mississippi River batture, river mile marker 106, at Elmwood, LA. As compensatory mitigation, the permittee has agreed to the restoration of 1.6 acres of agricultural lands to BLH wetlands at the Tunica Swamp - Silos Mitigation Area, in West Feliciana Parish.	Massman Construction

Transportation and Navigation

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2008-3462-EOO	Jefferson	Permit Issued	Dredge approximately 9.2 acres of non-vegetated waterbottoms for barge access to re-construct the Caminada Bay Bridge and beneficially use the material to plug an existing breach on Elmer's Island. Located on Caminada Bay Bridge on LA Hwy 1. Excavation the project would impact 9.2 acres of non-vegitated waterbottoms with a fill area of 22.3 acres of non vegetated waterbottom and 1.67 acres of non-wet areas. 9.2 acres of EFH would be impacted.	La DOTD
USACE Regulatory Permit MVN-2009-00701-EKK	Jefferson	Permit Issued	Maintain barge fleeting activities associated with two-barge fleet areas. Two fleeting areas on the Harvey Canal/Hero Cutoff. Fleet No. 1 is located off Bayou Road in Belle Chase, LA, and Fleet No. 2 is located on the west side of Hero's Cut Island in Harvey, LA. Approximately 30 total acres would be affected by this project.	MARMAC, LLC
Veterans - Clearview	Jefferson	Construction	Road widening	La DOTD
Veterans Blvd.	Jefferson	Construction	Upgrade traffic signals	La DOTD
Veterans Blvd. (Loyola Dr. to Canal No. 17)	Jefferson	Construction	Widening two to four lanes	La DOTD
Veterans Blvd. (Loyola Dr. to Canal No. 17)	Jefferson	Environmental assessment	Widening two to four lanes	La DOTD
Veterans Blvd. (Virginia Ave. to Loyola Drive)	Jefferson	Construction	Overlay	La DOTD
West Esplanade at Clearview Pkwy.	Jefferson	Construction	Intersection improvements	La DOTD
US 61 Corridor Plan	Jefferson & Orleans	Technical study	Corridor plan	La DOTD
Enhancements associated with Submerged Roads Program	Jefferson, Orleans, and St. Bernard	Construction	Sidewalks, bike paths, and landscaping enhancements	La DOTD
LA 1 Improvements-Fourchon to Leeville Bridge (Phase IA)	La Fourche	Complete	Improvements to bridge	La DOTD
Almonaster Bridge	Orleans	Construction	Bridge replacement	La DOTD
Bike/Pedestrian crossing at Washington Avenue	Orleans	Construction	Pedestrian safety improvements	La DOTD

Project	Parish	Status	Overview	Agency/Entity/Program
Canal Blvd. (R.E. Lee - Amethyst)	Orleans	Construction	Reconstruction	La DOTD
Carrollton (Leake - Claiborne)	Orleans	Construction	Reconstruction	La DOTD
Carrollton (US 61 to US 90)	Orleans	Construction	Rehabilitation	La DOTD
CCCD Ferry Traveler Message Signing	Orleans	Construction	ITS project	La DOTD
City Park (Tricentennial Park)	Orleans	Construction	Roadway/parking improvements	La DOTD
Earhart (Hamilton - Fern), Phase 1	Orleans	Construction	Reconstruction	La DOTD
Fleur De Lis (Veterans Blvd.- 30th St.)	Orleans	Construction	Reconstruction	La DOTD
Fleur De Lis, Phase 3	Orleans	Construction	Reconstruction	La DOTD
Florida Ave. (Poland - Alvar)	Orleans	Construction	New bridge	La DOTD
Florida Ave. (Poland/Alvar - Tupelo)	Orleans	Construction	New bridge approaches	La DOTD
General DeGaulle	Orleans	Construction	Traffic and drainage	La DOTD
Harrison Ave. Bridge over Bayou St. John	Orleans	Construction	Bridge replacement	La DOTD
Howard Ave. Extension	Orleans	Construction	New roadway	La DOTD
I-10 - US 61 Overpass	Orleans	Construction	Bridge replacement	La DOTD
I-10 (High Rise - I-510)	Orleans	Construction	Fencing, safety, and beautification	La DOTD
I-10 at Metairie Rd. Interchange	Orleans	Construction	Turnaround improvements	La DOTD
I-10 at Tulane & St. Bernard	Orleans	Construction	Slide plate joint replacement	La DOTD
I-10 Safety and Beautification, Ph. 2	Orleans	Construction	Landscaping and pedestrian safety	La DOTD
I-10 West - I-10 East	Orleans	Construction	Interstate signage	La DOTD
I-10/I-610 Pavement Maintenance	Orleans	Construction	Repairs and restoration	La DOTD
Integrated Electronic Toll Collection System	Orleans	Construction	Toll system	La DOTD
Judge Seeber Bridge Repairs (LA 39)	Orleans	Construction	Moveable bridge repairs	La DOTD
L.M. 21.24 - Lake Pontchartrain	Orleans	Construction	Resurfacing	La DOTD
LA 407 and LA 406 Roundabout	Orleans	Construction	Intersection improvements	La DOTD
Lake Forest (I-510 - Eastover)	Orleans	Construction	Minor widening	La DOTD
Lake Forest at Bullard	Orleans	Construction	New signal	La DOTD
Lakefront/Holy Cross Signal Improvements	Orleans	Construction	Signal improvement	La DOTD
Magazine (Broadway - Calhoun)	Orleans	Construction	Rehabilitation	La DOTD

Transportation and Navigation

Project	Parish	Status	Overview	Agency/Entity/Program
Magazine (Calhoun - Nashville)	Orleans	Construction	Rehabilitation	La DOTD
Magazine (Calliope St. - St. Joseph St.)	Orleans	Construction	Rehabilitation	La DOTD
N. Broad - W. End of INHC	Orleans	Construction	Overlay	La DOTD
New Orleans Regional ITS (Twin Span)	Orleans	Construction	ITS equipment	La DOTD
New Orleans Signals, Algiers	Orleans	Construction	Signal improvement	La DOTD
New Orleans Signals, Phase 9	Orleans	Construction	Signal improvement in New Orleans East	La DOTD
New Orleans Core ITS, Phase 1	Orleans	Construction	Core ITS	La DOTD
New Orleans Traffic Management Center	Orleans	Construction	New ITS equipment	La DOTD
Paris Rd. - Lake Pontchartrain	Orleans	Construction	Resurfacing	La DOTD
Park Island Bridge	Orleans	Construction	Construction and placement of concrete pavement, portland cement concrete pavement, landscaping, slab span bridge, water and sewer mains, and related work	La DOTD
Replace Damaged Landscaping	Orleans	Construction	Enhancement	La DOTD
Robert E. Lee (Pratt - Paris)	Orleans	Construction	Reconstruction	La DOTD
S. Claiborne (Gravier - Cleveland)	Orleans	Construction	Streetscape improvements	La DOTD
Safe Routes to School - Esperanza Charter	Orleans	Construction	Safety improvements	La DOTD
Safe Routes to School - Internatinal School of LA	Orleans	Construction	Safety improvements	La DOTD
St. Charles Av. (Napoleon to Louisiana Ave.)	Orleans	Construction	Overlay	La DOTD
St. Charles Ave. (Louisiana Ave. to Calliope St.)	Orleans	Construction	Overlay	La DOTD
Tchoupitoulas (Canal St. to US 90B)	Orleans	Construction	Overlay	La DOTD
USACE Regulatory Permit MVN-2009-0393-EPP	Orleans	Permit Issued	Maintenance dredging within the IHNC, located off of France Road, in New Orleans, LA. The proposal would result in the destruction or alteration of 0.47 acres of EFH utilized by various life stages of red drum and penaeid shrimp.	Canal Fleet, Inc.

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2009-0454-EII	Orleans	Permit Issued	Installation and maintenance of 13 timber piles, 40 ft long in order to moor 355 linear ft of floating docks. This project affects 0.07 acre, in the IHNC at 5801 France Road, New Orleans, LA.	Board of Commissioners of the Port of New Orleans
USACE Regulatory Permit MVN-2010-1249-EQ	Orleans	Permit Issued	Refurbishment and maintenance of an existing barge fleet facility located on the Mississippi River, left descending bank approximately 103.6 miles above Head of Passes. Existing barge fleet; the renovations would not have any additional effect on wetlands or waterways.	Federal Barge Lines
Woodland Ave. (Tullis - DeGaulle)	Orleans	Construction	Reconstruction	La DOTD
Alcee Fortier Boulevard Streetscape	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
Bayou Road Streetscape	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
Broadmoor Streetscape	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
Carrollton Intersection Streetscape	Orleans	Design	Traffic signal and roadway will be improved	City of New Orleans
Congress Street Roadway Improvements	Orleans	Design	Minor streets in the Congress Street area will be rebuilt or repaved	City of New Orleans
Eastern New Orleans Streetscape Improvements, Read Boulevard from Interstate 10 to Dwyer Road, Bundy Road to Wright Road; Crowder Road	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
Freret Street Streetscape	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans

Project	Parish	Status	Overview	Agency/Entity/Program
General Meyer Avenue Streetscape	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
Gentilly Roadway Improvements	Orleans	Design	Minor streets in the Gentilly area will be rebuild or repaved	City of New Orleans
Gentilly Streetscape	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
Harrison Avenue Streetscape	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
Lower Ninth Ward Streetscapes: North Claiborne Avenue, Andry Street to Lamanche Street; St. Claude Avenue, Industrial Canal to Egania Street	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
Michoud Front Door Infrastructure Improvements	Orleans	Design	Streets around the New Orleans Regional Business Park, including Old Gentilly Troad from Intersate 510 to Chef Menteur Highway, will be resurfaced.	City of New Orleans
Napoleon Avenue, Broad Street and Fontainbleau Drive Intersection Streetscape	Orleans	Design	Minor repairs will be completed, along with further design	City of New Orleans
Napoleon-Freret Roadway Improvements	Orleans	Design	Minor streets in the Napoleon-Freret area will be rebuilt or repaved	City of New Orleans
North Broad Street	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
Oretha Castle Haley Boulevard Streetscape, Felicity Street to Martin Luther King Jr. Boulevard	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans

Project	Parish	Status	Overview	Agency/Entity/Program
Robert E. Lee Boulevard Streetscape, Chatham Drive to Paris Avenue; Paris Avenue Streetscape, Robert E. Lee Boulevard to Aviators Street	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
South Broad Street	Orleans	Planning	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
South Carrollton Avenue Streetscape	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
South Claiborne Avenue at Toledano Streetscape	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
St. Anthony Path Landscape	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
St. Bernard Avenue Streetscape	Orleans	Design	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
St. Roch Avenue Roadway	Orleans	Bid and Award	Minor streets in the St. Roch neighborhood will be reubuilt or repaved	City of New Orleans
Tulane Avenue and Jefferson Davis Parkway Streetscape	Orleans	Bid and Award	Project may include sidewalk or other pedestrian walkway improvements, bikeways, traffic, and pedestrian signs; or signalization landscaping, lighting, or public art.	City of New Orleans
Veterans Administration Medical Center Infrastructure Improvements	Orleans	Construction	Utility line swill be replaced and roads rebuilt in the area bounded by Canal Street, South Claiborne Avenue, Tulane Avenue and South Rocheblave Street	City of New Orleans
Belle Chasse Tunnel	Plaquemines	Construction	Patch and overlay	La DOTD
GIWW Bridge Gearbox Repair	Plaquemines	Construction	Moveable bridge repair	La DOTD

Project	Parish	Status	Overview	Agency/Entity/Program
Happy Jack - N. Port Sulphur	Plaquemines	Construction	Widen to four lanes	La DOTD
LA 3017 Peters Road Extension, Phase 2	Plaquemines	Construction	New bridge over GIWW	La DOTD
Peters Road Extension, Phase I	Plaquemines	Construction	New roadway	La DOTD
USACE Regulatory Permit MVN-2008-01217-EPP	Plaquemines	Permit Issued	Dredge for slip expansion and maintenance and install and maintain a bulkhead and backfill in a total of 3.2 acres of project area on Tiger Pass, Venice, LA. Excavation of 1.22 acres non-vegetated waterbottom, 0.14 acre non-wet areas with fill area of 0.62 acre non-vegetated waterbottom, and 1.36 acres of non-wet areas. Approximately 1.84 acres of EFH potentially impacted.	Venice Port Complex
USACE Regulatory Permit MVN-2008-01579-EPP	Plaquemines	Permit Issued	Excavation for the replacement and reconfiguration of existing bulkheads as well as placement of rip rap around an existing marine facility. Located on Tiger Pass, at 129 IDF Road, Venice, LA. The proposed project would result in the destruction or alteration of 0.40 acre of EFH.	Venice Port Complex
USACE Regulatory Permit MVN-2009-02142-EKK	Plaquemines	Permit Issued	Hydraulically dredge from the Mississippi River and stockpile into an existing disposal area thereby impacting 76 acres. In the Mississippi River, at a point about 50 miles above Head of Passes, at Woodland, LA, excavations would occur for 46 acres of non-vegetated waterbottoms with a fill area of 29.4 acres of non-wet areas. Approximately 79.6 acres of EFH to be impacted.	Citrus Lands of Louisiana Inc.
USACE Regulatory Permit MVN-2009-2551-EPP	Plaquemines	Permit Issued	Install and maintain six barge dolphins in order to moor two 195 ft by 35 ft barges side by side, located on the bank of Grand Pass approximately 2,600 ft south of Tiger Pass, Venice, LA. The proposed project would result in the destruction or alteration of 0.006 acre of EFH.	Denet Towing Service, Inc.

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2010-1109-EQ	Plaquemines	Permit Issued	No construction; use of preexisting facility to permanently moor two barges. Located off Hwy 39, approximately 5 miles upriver from Belle Chasse/Scarsdale Ferry landing on the left descending bank about 80.5 miles above Head of Passes. No impacts are anticipated.	Terry's Resource Management
Woodland Hwy. (LA 406), Ph. 2	Plaquemines	Construction	Widening	La DOTD
USACE Regulatory Permit MVN-1999-01339-EKK	Plaquemines	Permit Issued	Hydraulically dredge sand from the Mississippi River and stockpile it into an existing disposal area, affecting 30 total acres, on the bank of the Mississippi River, at a point 60 miles above Head of Passes, Ironton, LA. A total of 13.8 acres of sand would be excuvated and deposit of the same amount into a fill area, and 16 acres of EFH impact could occur.	CLL Limited Partnership, Ltd.
Wall Blvd. - LA 3017	Plaquemines & Jefferson	Construction	Widen to six lanes	La DOTD
Bayou La Loutre Bridge	St. Bernard	Construction	Cleaning and painting	La DOTD
LA 46/St. Bernard Highway (Orleans Pl - Paris Rd.)	St. Bernard	Construction	Drainage/safety improvements	La DOTD
Paris Rd. (LA 47, Virtue to ACC Section)	St. Bernard	Construction	Patch and overlay	La DOTD
Patricia St. (Jean Lafitte to Cougar)	St. Bernard	Construction	Rehabilitation (Phase 1 SRP)	La DOTD
Rowley to Paris	St. Bernard	Construction	Patch and overlay	La DOTD
Submerged Roads Program	St. Bernard	Construction	Patch and overlay	La DOTD
USACE Regulatory Permit MVN 2005-794 EKK (Mississippi River) 1068	St. Bernard	Permit Issued	Maintenance of existing, and the addition of new dolphins, walkways, and docks with the removal and realignment of the roadway located on the left descending bank of the Mississippi River at a point of about 83.3 miles above Head of Passes in Violet, LA. Approximately 0.275 acre of the coast would be impacted.	Violet Dock Port, Inc
Almedia (LA 48 - US 61)	St. Charles	Construction	Overlay and drainage	La DOTD
Jefferson Parish Line - LA 52	St. Charles	Construction	Cold plane and overlay	La DOTD
LA 48 - LA 50	St. Charles	Construction	Guard rail improvements	La DOTD

Project	Parish	Status	Overview	Agency/Entity/Program
Logmile 9.7 - I-310	St. Charles	Construction	Mill and overlay	La DOTD
Main Canal Bridge	St. Charles	Construction	Bridge replacement	La DOTD
Mississippi River Bridge	St. Charles	Construction	Replace cable stays	La DOTD
Safe Routes to School - Norco Elementary and Sacred Heart of Jesus Elementary	St. Charles	Construction	Safety improvements	La DOTD
USACE Regulatory Permit MVN 1999-2052 EE, SE (Mississippi River) 953A	St. Charles	Permit Issued	Installation and maintenance of two 3-pile mooring clusters for a spar barge and a gang way at an existing facility located on the right descending bank of the Mississippi River at a point about 124.25 miles above Head of Passes; 15442 River Road, Hahnville, LA. The proposed use of steel pilings and floating barges to have no impact on wetlands.	T.T. Barge Service, Inc
USACE Regulatory Permit MVN-1997-3384-EPP	St. Charles	Permit Issued	Renewal of maintenance, sand dredging, and stockpiling on the bank of the Mississippi River, at a point about 125 miles above Head of Passes, located off of LA Hwy 18, Hanville, LA. Excavation of 67.1 acres of non-vegetated waterbottoms with a fill area of 17.7 acres of non-wet areas. Approximately 67.1 acres of EFH impacted.	Bayou Fleet Inc.
USACE Regulatory Permit MVN-2008-3097 ETT / EQ	St. Charles	Permit Issued	Removal of an existing docking facility, construction and maintenance of a new walkway with pipe rack, four barge slips, one ship slip, and the dredging of 0.48 acre of river bottoms and discharge of dredged materials to the center line of the river. Located along the left descending bank of the Mississippi River at approximately 118.3 miles above the Head of Passes. The proposed project would result in 0.48 acre of EFH impacts.	International Matex Tank Terminals
USACE Regulatory Permit MVN-2010-02773-EKK	St. Charles	Permit Issued	Clearing, grading, excavation and deposition of fill for the installation and maintenance of a railway spur with an approximate 19.4 acres footprint. Located adjacent to the Valero St. Charles Refinery, in Norco, LA. The proposed project would impact approximately 3.3 acres of the coast.	Diamond Green Diesel, LLC

Project	Parish	Status	Overview	Agency/Entity/Program
USACE Regulatory Permit MVN-2010-1024-EQ	St. Charles	Permit Issued	Construction of a barge fleet facility located on the right descending bank at a point of 124 miles above Head of Passes, Hahnville, LA. The proposed project would result in approximately 28.93 acres of EFH impacts.	Bayou Fleet
USACE Regulatory Permit MVN-2010-2037 EPP	St. Charles	Permit Issued	Installation and maintenance of a road crossing, elevated deck, five mooring/breasting dolphins, and utility duct, in support of facility expansion. Located on the Mississippi River, at approximately 125 miles above Head of Passes, at 14902 River Road, in Norco, LA. The project would affect approximately 0.93 acre of the coast causing 0.93 acre of EFH impacts.	Valero Refining-New Orleans
I-10 at LA 3188	St. John the Baptist	Construction	Interchange lighting	La DOTD
Abita Springs Sidewalk Program	St. Tammany	Construction	Pedestrian improvements	La DOTD
Airport Rd. - US 11 (Hwy. Dept. Rd.)	St. Tammany	Construction	Four lane extension to US 11	La DOTD
Airport Rd. to I-59/I-12/I-10	St. Tammany	Construction	Widen four to six lanes	La DOTD
Alton Redevelopment (Ben Thomas - Browns Village)	St. Tammany	Construction	New roadway	La DOTD
at I-12	St. Tammany	Construction	Interchange improvements	La DOTD
at LA 1085	St. Tammany	Construction	Intersection improvements	La DOTD
at Military Rd.	St. Tammany	Construction	Pave shoulders	La DOTD
at Northshore Blvd. Corridor	St. Tammany	Construction	I/C modification and roadway	La DOTD
Bayou Lacombe Bridge Renovation	St. Tammany	Construction	Enhancement	La DOTD
Bootlegger Rd. (LA 1077 - LA 21)	St. Tammany	Construction	Widen to four lanes	La DOTD
Boston Street Signals	St. Tammany	Technical study	Intersection/OPS study	La DOTD
Brewster Rd. (Tchefuncte I/C to LA 21)	St. Tammany	Construction	New four lane roadway	La DOTD
Brewster Road Phase 2 (LA 1077 - LA 1085)	St. Tammany	Construction	Upgrade and widen	La DOTD
Brownswitch at Robert Rd.	St. Tammany	Construction	New roundabout	La DOTD
Carr Drive Bridge	St. Tammany	Construction	Bridge replacement	La DOTD
Covington Bypass	St. Tammany	Construction	New four lane roadway	La DOTD
East Pearl River Bridge	St. Tammany	Construction	Bridge replacement	La DOTD

Project	Parish	Status	Overview	Agency/Entity/Program
Enhancements	St. Tammany	Construction	Enhancements	La DOTD
Fairway Drive	St. Tammany	Construction	Four lane extension to LA 59	La DOTD
Fitzgerald Church Rd.	St. Tammany	Construction	Bridge replacement	La DOTD
Haas Rd.	St. Tammany	Construction	Minor widening	La DOTD
I-10	St. Tammany	Construction	ACROW disassembly, relocate, store	La DOTD
I-10 (French Branch - W. Pearl River Bridge)	St. Tammany	Construction	Rubbleize and overlay	La DOTD
I-10/Oak Harbor Blvd Interchange Landscaping	St. Tammany	Construction	Landscaping	La DOTD
I-12 at LA 36	St. Tammany	Construction	New four lane	La DOTD
I-12 at Airport Rd.	St. Tammany	Technical study	New interchange	La DOTD
I-12 at LA 1088	St. Tammany	Construction	New interchange	La DOTD
I-12 at LA 21	St. Tammany	Construction	Intersection improvements	La DOTD
I-12 at LA 434	St. Tammany	Construction	Lighting improvements	La DOTD
I-12 at Northshore Blvd.	St. Tammany	Construction	Lighting improvements	La DOTD
I-12 at US 11	St. Tammany	Construction	Interchange lighting	La DOTD
I-12 Sound Walls	St. Tammany	Construction	Sound barriers in Slidell	La DOTD
I-12 to LA 1085	St. Tammany	Construction	Widen to four lanes	La DOTD
I-12 to LA 22	St. Tammany	Construction	Overlay	La DOTD
I-59 at US 11/LA 1090	St. Tammany	Construction	Intersection improvements	La DOTD
I-59 Slidell Rest Area (SB)	St. Tammany	Construction	Rest area renovation	La DOTD
I-59 to LA 41/3081	St. Tammany	Construction	Overlay and patch	La DOTD
Interstate Rest Area Rehab.	St. Tammany	Construction	Interstate rest area rehabilitation	La DOTD
Interstate Rest Area Rehab.	St. Tammany	Construction	Interstate rest area rehabilitation	La DOTD
Interstate Rest Area Rehab.	St. Tammany	Construction	Interstate rest area rehabilitation	La DOTD
Junction LA 25 and Junction US 190B	St. Tammany	Environmental Assessment	Widening	La DOTD
LA 1077 to LA 25	St. Tammany	Construction	Overlay	La DOTD
LA 1088 Alternate (LA 1088 - US 190)	St. Tammany	Construction	Widen to four lanes	La DOTD
LA 1090 at Brownswitch Rd.	St. Tammany	Construction	Intersection improvements	La DOTD

Project	Parish	Status	Overview	Agency/Entity/Program
LA 1091 at Brownswitch Rd.	St. Tammany	Construction	Intersection improvements	La DOTD
LA 21 - Perrilloux Rd. (Seymour Myers Ext.)	St. Tammany	Construction	New two lane	La DOTD
LA 21 at Brewster Rd.	St. Tammany	Construction	Intersection improvements	La DOTD
LA 21 Widening (LA 1085 - 11th)	St. Tammany	Construction	Widen to four lanes	La DOTD
LA 22 - Atalin St.	St. Tammany	Construction	Five Laning of three lane section	La DOTD
LA 22 (US 190 to Dalwill Dr.)	St. Tammany	Construction	The main objective of this project is to enhance the efficient movement of motor vehicles at project site. The project entails widening the roadway from its current three lanes to four lanes.	La DOTD
LA 3241 at I-12	St. Tammany	Construction	New interchange	La DOTD
LA 36 - LA 1084	St. Tammany	Construction	Overlay/patch	La DOTD
LA 36 - LA 435	St. Tammany	Construction	New four lane	La DOTD
LA 433 - US 11	St. Tammany	Construction	Widen to four lanes	La DOTD
LA 433 (Raise Grade at LA 433at Salt Bayou Rd)	St. Tammany	Construction	Bridge replacement	La DOTD
LA 433 at Voters Rd.	St. Tammany	Construction	Intersection improvements	La DOTD
LA 59 at I-12	St. Tammany	Construction	Intersection improvements	La DOTD
LA 59 Intersections	St. Tammany	Technical study	Intersection safety/OPS study	La DOTD
Lake Pontchartrain Causeway, Crossover no. 4	St. Tammany	Construction	Safety improvement	La DOTD
Lake Rd. Bridge	St. Tammany	Construction	Bridge replacement	La DOTD
Middle Pearl River	St. Tammany	Construction	Scour repair to Piers 2 and 3	La DOTD
Miscellaneous Hazardous Elimination	St. Tammany	Construction	Miscellaneous hazardous elimination	La DOTD
NHS Overlays	St. Tammany	Construction	NHS overlays	La DOTD
Oak Harbor / Lakeshore Blvd.	St. Tammany	Construction	Minor widening	La DOTD
Ochsner Rd - Bootlegger	St. Tammany	Construction	Widen to four lanes	La DOTD
Pearl River	St. Tammany	Construction	Three lane	La DOTD
Pineview Sidewalk Extension	St. Tammany	Construction	Bike and pedestrian facilities	La DOTD
Railroad Crossing Safety	St. Tammany	Construction	Railroad Crossing Safety	La DOTD
Slidell C.L to Lake Pont Bridge	St. Tammany	Construction	Widen to four lanes	La DOTD

Project	Parish	Status	Overview	Agency/Entity/Program
Southwest Frontage Road Ext.	St. Tammany	Construction	New two lane	La DOTD
STP Overlays	St. Tammany	Construction	STP overlays	La DOTD
Summit Blvd. at US 190B	St. Tammany	Construction	New signal	La DOTD
Talisheek - Bush	St. Tammany	Construction	New four lane	La DOTD
Tammany Trace - Bayou Lacombe Bridge Renovation	St. Tammany	Construction	Bike and pedestrian facilities	La DOTD
Tammany Trace Ext. to Pelican Park	St. Tammany	Construction	New asphalt path	La DOTD
Tammany Trace Lacombe Trailhead	St. Tammany	Construction	Bike and pedestrian facilities	La DOTD
Tammany Trace-Camp Salmen Extension	St. Tammany	Construction	Bike and pedestrian facilities	La DOTD
Tang. PL - US 190	St. Tammany	Construction	Overlay	La DOTD
Tchefuncte - Causeway Approach	St. Tammany	Construction	Widen to four lanes	La DOTD
US 11 - US 190	St. Tammany	Construction	Overlay	La DOTD
US 190 - I-12	St. Tammany	Construction	Reconstruct and add lanes	La DOTD
US 190 - I-12 (Dixie Ranch Rd.)	St. Tammany	Construction	New two lane	La DOTD
US 190 - I-59	St. Tammany	Construction	Overlay	La DOTD
US 190 (Bayou Castine - S.E. LA Hospital)	St. Tammany	Construction	Widen to four lanes	La DOTD
US 190 at LA 22	St. Tammany	Construction	Diverging diamond interchange	La DOTD
US 190 at LA 434	St. Tammany	Construction	Roundabout	La DOTD
US 190 at Northpark Blvd.	St. Tammany	Construction	Intersection improvements	La DOTD
US 190 Bridges Near Slidell	St. Tammany	Construction	Bridge replacement	La DOTD
US 190 Sidewalks in Mandeville, Phase II	St. Tammany	Construction	Bike and pedestrian facilities	La DOTD
US 190 to LA 40	St. Tammany	Construction	Overlay and patch	La DOTD
US 190 to Mississippi S/L	St. Tammany	Construction	Widen to four lanes	La DOTD
US11 at I-12	St. Tammany	Construction	Intersection improvements	La DOTD
W. Junction LA 21 - US 190	St. Tammany	Construction	Overlay	La DOTD
Miscellaneous Hazardous Elimination (Dist. 02)	Districtwide	Construction	Miscellaneous hazardous elimination	La DOTD
NHS Overlays (Dist. 02)	Districtwide	Construction	National highway system overlays	La DOTD

Transportation and Navigation

Project	Parish	Status	Overview	Agency/Entity/Program
Off System Bridge Replacement (Dist. 02)	Districtwide	Construction	Bike and pedestrian facilities	La DOTD
Railroad Crossing Safety (Dist. 02)	Districtwide	Construction	Railroad crossing Safety	La DOTD
STP Overlays (Dist. 02)	Districtwide	Construction	Surface transportation program overlays	La DOTD