



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

REPLY TO  
ATTENTION OF

Regional Planning and  
Environmental Division, South  
New Orleans Environmental Branch

**Decision Record**

Individual Environmental Report Supplemental #14.a  
WESTWEGO TO HARVEY LEVEE  
JEFFERSON PARISH, LOUISIANA

IERS #14.a

Description of Proposed Action. The proposed project is located on the west bank of the Mississippi River, in Jefferson Parish, Louisiana. The levee project extends from Westwego on the western end to Marrero on the eastern end and is in the vicinity of the Mississippi River to the north; Barataria Bay to the south; Harvey Canal to the east; and Jean Lafitte National Historical Park and Preserve (JLNHPP) and Lakes Salvador and Cataouatche to the west. The purpose of the project is to provide storm damage risk reduction to residents from storm surges from Lakes Cataouatche and Salvador. The project addresses proposed revisions to IER #14, Westwego to Harvey Levee project. These revisions were developed to meet the 100-year level of risk reduction for the project features identified. Additional engineering and design, including the collection and analysis of geotechnical information, were conducted after IER #14 was prepared. This resulted in the larger levee footprint for the WBV-14.c.2 reach. Additionally, fronting protection and floodwall construction at the Ames and Mt. Kennedy Pumping Stations were also redesigned in order to achieve the 100-year level of risk reduction. All elevations are referenced to NAVD88 (2004.65) datum. The term "100-year level of risk reduction" refers to reducing the risk of a hurricane surge and wave-driven flooding event the New Orleans metropolitan area has a 1 percent chance of occurring in any given year. The proposed action for IER #14 divided the proposed action into five component reaches for construction. The IERS #14.a includes two of the five component reaches (WBV-14.b and WBV-14.c.2).

Reach WBV-14.c.2 extends from Westwego Pumping Station #2 in the northwest to Orleans Village Pumping Station in the south, spanning a length of approximately 3.3 miles.

The proposed action consists of the construction of an unreinforced levee enlargement. The levee enlargement requires a width of 325 ft at the base. The centerline of the levee would have a 40-foot flood side shift from the previously cleared alignment. The new alignment would require a 100-foot width of new ROW along the flood side of a 3.29 mile reach. Approximately 42 acres of new ROW would be impacted by the proposed levee shift and enlargement. The levee would be built to an elevation of 14 ft NAVD 88. The additional 100-foot width on the flood side would include levee, stability berm and vegetative free zone. Due to system-wide risk and reliability requirements, the existing levee would not be degraded to place geotextile fabric. Approximately 675,000 cy of compacted fill would be placed as fill to construct the proposed levee enlargement. Material would be acquired from a government furnished or contractor furnished borrow sites.

Reach WBV-14.b extends from Orleans Village Pumping Station to Highway 45. The Ames (WBV-37) and Mt. Kennedy (WBV-43) Pumping Station are located within this reach.

The proposed action includes construction of fronting protection at the Ames and Mt. Kennedy Pumping Stations, levee tie-in walls and floodwalls in front of and between the stations. A total of 1,204 linear feet of floodwalls would be constructed in this reach. The proposed action also includes modifications to pumping station machinery.

The Ames Pumping Station would be modified to include two 84 inch, 390 cubic feet per second (cfs) vertical pumps and one 132 inch, 1150 cfs horizontal pump which discharges into the Millaudon Canal. The 390 cfs pump would discharge water through 84 inch steel tubes and the 1150 cfs horizontal pump would discharge water through a 132 inch reinforced concrete tube. The Ames Pumping Station walls would be constructed to an elevation of 16.9 ft NAVD 88. Less than 0.2 additional acres of Millaudon Canal bottom would be acquired as new ROW for the discharge monolith.

Immediately north of the Ames Pumping Station new T-Wall approximately 280 ft in length would be constructed from the pumping station to tie into the WBV-14.b levee (figure 3). A new T-wall would have between a 20 to 55-foot shift flood side of the existing floodwall and would be constructed to an elevation of 14 feet NAVD 88. The T-wall would be constructed within existing ROW on previously disturbed land and into the Millaudon Canal. Filling would occur in the portion of the Millaudon Canal located between the new floodwall and the existing canal bankline. Approximately 0.18 acres of previously disturbed land and 0.14 acres of Millaudon Canal would be filled by floodwall construction. Earthen material would be acquired from either government or contractor furnished borrow pits and would be hauled in from offsite.

The existing floodwalls would be demolished and the debris would be hauled offsite to an approved waste disposal facility or recycled. Riprap would also be removed along the bankline areas where the alignment would be shifted flood side.

A new T-wall also would be constructed between the Ames and Mt. Kennedy Pumping Stations. The T-wall would be approximately 644-foot long with a 60-foot long gate monolith and a 30-foot gate opening. The T-wall would be constructed to an elevation of 14 ft NAVD88. The new T-wall would be shifted flood side a distance ranging from 20 to 50-foot from the existing floodwall. Approximately 0.52 acres of previously disturbed land and 0.14 acres of Millaudon Canal would be filled by floodwall construction. The existing flood wall located between the pumping stations would be demolished and the debris would be hauled offsite to an approved waste disposal facility or recycled. On the flood side of the Mount Kennedy Pumping Station, sheetpile would be driven to construct a temporary retaining structure. The retaining structure would act like a dam isolating the work area from the canal and enable the work to proceed in a dry condition. After construction activities are complete, the temporary structure would be removed.

The Mt. Kennedy Pumping Station would be modified to include three 167 cfs vertical pumps which discharge between three 48-inch discharge tubes. Less than 0.2 additional acres of Millaudon Canal bottom would be acquired as new ROW for the discharge monolith. An additional 0.28 acres of temporary work easement would be acquired in Millaudon Canal for the placement of temporary retention structures used for de-watering. Immediately west of the Mt. Kennedy pumping station an approximately 280 length of T-wall would be constructed to tie-in the western end of the Mt. Kennedy pumping station with the WBV-14.b levee.

A discharge scour slab would be removed at the Mt. Kennedy pumping station outfall.

Bottom paving would be placed at the outfall of the Ames and Mt. Kennedy pumping stations filling less than 0.5 acres of Millaudon Canal bottom and previously disturbed bankline.

Draft IERS #14.a which detailed the impacts to the actions, was released for public review on 16 November 2009. Stakeholders originally had until 15 December 2009 to comment on the document. Comments were received from Federal and state governmental agencies and the public. During the comment period a stakeholder requested a public meeting. A public meeting was held on 4 February 2010. The comment period was also extended to 4 February 2010.

Factors Considered in Determination. On the basis of risk reduction and reliability, environmental impacts, cost, time and constructability the proposed action for the 14.c.2 levee reach was selected as the environmentally preferable alternative to provide the 100-year level of risk reduction. The proposed action was the environmentally preferable alternative because of its low adverse human impact, relatively short construction duration and low cost. It is the alternative that best protects and preserves the human environment including historic and cultural resources. Furthermore, all practicable means to avoid or minimize environmental effects have been incorporated in the recommended plan. Project impacts have been reduced by incorporating the existing WBV-14.c.2 alignment into the widened levee. Other alternatives were considered but eliminated from consideration. Those alternatives are discussed below.

Deep soil mixing was considered as an alternative to the proposed flood side shift. Deep soil mixing was eliminated due to high cost and high estimated construction duration. It is estimated to construct soil mixing along 40 percent of the 3.29 mile levee reach would result in an increase in construction costs of approximately 60 percent. Soil mixing along the entire 14.c. 2 levee reach would also require an estimated 50 percent increase in construction duration. Finally, the need to perform a levee degrade which would be part of the construction sequence for soil mixing would cause openings in the levee system during construction. To minimize these openings and as a standard procedure for the Hurricane and Storm Damage Risk Reduction System (HSDRRS) work, only short reaches of embankment, typically 2,000 linear feet, are concurrently degraded during hurricane season. This restriction reduces the risk of flooding during hurricane season and at the same time this construction practice significantly increases construction durations.

Two alternatives that included a protected side levee shift, one of which incorporated a culvert and a second which did not incorporate a culvert, were also considered as alternatives to the proposed flood side shift. These alternatives were eliminated from consideration because of the impacts associated with the acquisition of residential structures and some protected side wetlands, the high cost and increased construction duration. In the case of the alternative that incorporates a culvert, the construction duration would increase by approximately 80 percent over the proposed levee with flood side shift alternative.

A floodwall alternative was also considered. This alternative was eliminated due to high cost and long construction duration. The long construction duration is associated with the construction sequence required to build a floodwall at this location. Soil conditions at the project site would necessitate a significant amount of excavation or degrading of the existing levee to provide an adequate foundation to construction the T-wall and support piles of a floodwall. As described above, the need to perform a levee degrade causes openings in the HSDRRS and reduces the ability of the system to provide storm risk reduction. Therefore work is performed in short reaches during the hurricane season to reduce the risk of flooding.

Additional information regarding the alternative evaluation and criteria used compare alternatives can be found in Appendix e of the final IERS.

The proposed action for the Ames and Mt. Kennedy Pumping Stations is a redesign to meet 100-year risk reduction; as a result, alternatives were not formally developed or evaluated. During the redesign process, however, designs for the Ames and Mt. Kennedy Pumping Stations that impacted the adjacent JLNHPP lands were eliminated from consideration. Additional ROW was required for the redesign for the construction of temporary containment features and discharge monoliths. The Millaudon Canal is located between the existing project ROW and the Jean Lafitte National Historical Park and Preserve-Barataria Preserve Unit (JLNHPP). The site conditions, specifically the physical space available in the canal provided adequate space for the containment features and the discharge monoliths. As a result, JLNHPP lands were not impacted by the proposed redesign. None of the proposed actions preclude any future enhancements to the HSDRRS

CEMVN has assessed the impacts of the action on significant resources in the project area including air quality, water quality, terrestrial habitats, wetlands, fisheries and aquatic habitat, wildlife, threatened and endangered species, cultural resources, recreation, aesthetics, and socioeconomic resources.

The CEMVN has assessed the environmental impacts of the proposed action and has determined that the proposed action would have the following impacts:

Short-term localized impacts would occur to wildlife and nearby residents from noise and decreased air quality from heavy equipment and trucks used during construction.

Short- and long-term localized impacts would occur to fisheries and aquatic organisms located within the project construction area.

Permanent displacement of fish and permanent loss of high quality habitat for wading birds, waterfowl, or other wildlife presently located within approximately 42 acres of cypress-tupelo swamp would occur.

Permanent adverse impacts to 42 acres of cypress-tupelo swamp would occur.

Provide a 100-year level of risk reduction that would contribute to the protection of life and property and the reduction of physical and environmental damage along the West Bank and Vicinity, Westwego to Harvey Levee Project area.

All jurisdictional wetlands and bottomland hardwood forest impacts were assessed by the US Fish and Wildlife Service (USFWS) and CEMVN under the NEPA, Fish and Wildlife Coordination Act, and Section 906 (b) WRDA 1986 requirements. The impacts for the action are shown in Table 1.

Mitigation IERs will be prepared documenting and compiling the unavoidable impacts discussed in each IER. The mitigation IERs 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.

**Table 1: Impacts to jurisdictional cypress-tupelo swamp**

| <b>Habitat Type</b>  | <b>Acres</b> | <b>AAHUs Needed</b><br>(average annual habitat units) |
|----------------------|--------------|---|
| Cypress-Tupelo Swamp | 42           | 24  |

Environmental Design Commitments. The USFWS recommendations have been incorporated by reference into the IER. If any unrecorded cultural resources are determined to exist within the proposed project site, then work will not proceed in the area containing these cultural resources until a CEMVN staff archeologist has been notified and final coordination with the Louisiana State Historic Preservation Officer (SHPO) and Tribal Historic Preservation Officer has been completed.

Agency & Public Involvement. Various governmental agencies, non-governmental organizations, and citizens were engaged throughout the preparation of IERS #14.a. Agency staff from USFWS, National Marine Fisheries Service (NMFS), USEPA, US Geologic Survey, National Park Service (NPS), Louisiana Department of Natural Resources (LDNR), and Louisiana Department of Wildlife and Fisheries (LDWF) were part of an interagency team that has and will continue to have input throughout the Greater New Orleans HSDRRS planning process (Appendix C of Final IERS #14.a).

There have been over 100 public meetings since March 2007 about proposed HSDRRS work. 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. In addition, [www.nolaenvironmental.gov](http://www.nolaenvironmental.gov) was set up to provide information to the public regarding proposed HSDRRS work. 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. A public meeting specific to the IERS14.a was held on 4 February 2010 because of a request for a public meeting received during the comment period.

Draft IERS #14.a Public Review Period

1. Agency Comments (found in Appendix D of Final IERS #14.a)
  - a. NMFS
    1. Comment letter 404 Public Notice dated 18 November
    2. Comment letter draft IERS dated 23 November 2009
  - b. Louisiana Department of Environmental Quality
    1. Email comment dated 23 November 2009
  - c. Louisiana Department of Health and Hospitals
    1. Comment letter dated 7 December 2009
  - d. National Resources Conservation Service
    1. Comment letter dated 7 December 2009
  - e. LDWF
    1. Comment letter dated 8 December 2009
  - f. NPS

1. Comment letter dated 15 December 2009
- g. FWS
  1. Comment letter dated 15 December 2009
  2. Coordination Act Report dated 13 January 2010
- h. EPA
  1. Comment letter dated 15 December 2009
2. Public Comments (found in Appendix B of Final IERS #14.a)
  - a. Joseph Vincent
    1. Comment letter dated 30 November 2009
  - b. Louisiana Audubon Council
    1. email through nolaenvironmental.com dated 14 December 2009
  - c. Amadee Planche, jr.
    1. email through nolaenvironmental.com dated 4 February 2010
3. Public Meeting held at request of stakeholder February 4, 2010. Meeting held at the Visitation of Our Lady School Marrero, Louisiana.
  - a. Meeting minutes (found in Appendix g)

Decision. The New Orleans Environmental Branch has assessed the potential environmental impacts of the proposed action described in this IERS, and performed a review of the comments received during the public review period for draft IERS #14.a.

Furthermore, all practicable means to avoid or minimize adverse environmental effects have been incorporated into the recommended plan. Approximately 42 AAHUs of cypress-tupelo swamp will be addressed in a separate mitigation IER.

The public interest will be best served by implementing the selected plan as described in IER #14.a in accordance with the environmental considerations discussed above.

CEMVN will prepare a Comprehensive Environmental Document (CED) or supplemental IER that may contain additional information related to IERS #14.a that becomes available after the execution of the Final IERS. The CED will provide a final mitigation plan, comprehensive cumulative impacts analysis, and any additional information that addresses outstanding data gaps in any of the IERSs.

I have reviewed IERS #14.a, and have considered agency recommendations and comments received from the public during the scoping phase and comment periods. I find the recommended plan fully addresses the objectives as set forth by the Administration and Congress in the 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> Supplemental Appropriations.

The plan is justified, in accordance with environmental statutes, and it is in the public interest to construct the actions as described in this document.

2/9/10  
Date

Alvin B. Lee  
Alvin B. Lee  
Colonel, U.S. Army  
District Commander

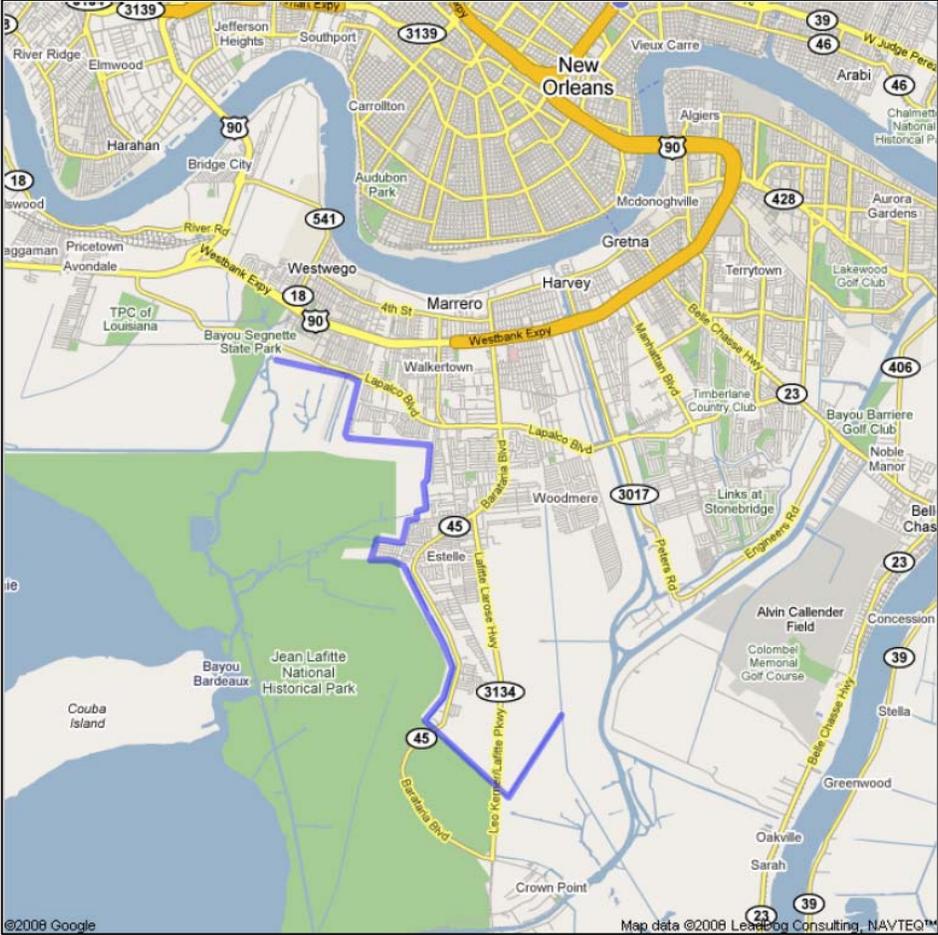
**FINAL INDIVIDUAL ENVIRONMENTAL REPORT  
SUPPLEMENTAL**

**WEST BANK AND VICINITY**

**WESTWEGO TO HARVEY LEVEE**

**JEFFERSON PARISH, LOUISIANA**

**IERS #14.a**



**US Army Corps  
of Engineers®**

**FEBRUARY 2010**

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*West Bank and Vicinity,  
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## **1.0 INTRODUCTION**

The U.S. Army Corps of Engineers (USACE), Mississippi Valley Division, New Orleans District (CEMVN), has prepared this Individual Environmental Report Supplemental #14.a (IERS #14.a) to evaluate the potential impacts associated with the proposed project revisions to the original IER #14, Westwego to Harvey project area. The supplemental addresses a proposed flood side shift of approximately 3.29 miles of earthen levees, and proposed revisions to fronting protection and floodwall alignment at the Ames and Mount Kennedy Pumping Stations. After IER #14 was completed the USACE conducted additional engineering and design, including the collection and analysis of additional geotechnical information. This resulted in a larger levee footprint for the WBV-14.c.2 reach. Additionally, fronting protection and floodwall construction at the Ames and Mt. Kennedy Pumping Stations were also redesigned in order to achieve 100-year level of risk reduction. Engineering design guidelines can be found at <http://www.mvn.usace.army.mil/eng/hurrdesign.asp>. The proposed action is located in Jefferson Parish, LA. The term “100-year level of risk reduction,” as it is used throughout this document, refers to a level of protection that reduces the risk of hurricane surge and wave-driven flooding that the New Orleans Metropolitan area has a 1 percent chance of experiencing each year.

IERS #14.a has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality’s (CEQ) Regulations (40 CFR §1500-1508), as reflected in the USACE Engineering Regulation, ER 200-2-2. The execution of an IER, in lieu of a traditional Environmental Assessment (EA) or Environmental Impact Statement (EIS), is provided for in ER 200-2-2, Environmental Quality (33 CFR §230) Procedures for Implementing the NEPA and pursuant to the CEQ NEPA Implementation Regulations (40 CFR §1506.11). The Alternative Arrangements can be found at [www.nolaenvironmental.gov](http://www.nolaenvironmental.gov), and are herein incorporated by reference.

The CEMVN implemented Alternative Arrangements on 13 March 2007, under the provisions of the CEQ Regulations for Implementing 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 HSDRRS, formerly known as the Hurricane Protection System (HPS), authorized and funded by Congress and the Administration. The proposed actions are located in southeastern Louisiana and are part of the Federal effort to rebuild and complete construction of the HSDRRS in the New Orleans Metropolitan area as a result of Hurricanes Katrina and Rita.

On August 26, 2008, the District Commander signed the Decision Record for IER #14. IER #14 is incorporated by reference into this supplemental document. Copies of the document and other supporting information are available upon request or at [nolaenvironmental.gov](http://nolaenvironmental.gov). This supplemental document has been prepared to address proposed changes in the Government’s approved plan.

### **1.1 PRIOR REPORTS**

A number of studies and reports in the proposed project area have been prepared by the USACE, other Federal, state, and local agencies, research institutes, and individuals. Pertinent studies, reports and projects since July 2008 are discussed below. All other relevant reports are listed in IER #14 and are incorporated herein by reference.

#### West Bank and Vicinity Relevant Reports:

- On 4 December 2009, the CEMVN Commander signed a Decision Record on IER #13, entitled “West Bank and Vicinity Hero Canal Levee and Eastern Tie-In, Plaquemines Parish

Louisiana, IER #13” The document evaluates the potential impacts associated with the enlargement of the Hero Canal Levee and construction of the eastern tie-in south of the canal to the Mississippi River Levee to meet the 100-year level of risk reduction to Belle Chase, Oakville and other unincorporated areas of Plaquemines Parish.

- On 28 September 2009, the CEMVN Commander signed a Decision Record on IER #30, entitled “Contractor-Furnished Borrow Material #5, St. Bernard and St. James Parishes, Louisiana, and Hancock County, Mississippi.” The document evaluates the potential impacts associated with the action taken by commercial contractors as a result of excavating contractor furnished borrow areas for use in construction for HSDRRS.
- On 20 September 2009, the CEMVN Commander signed a Decision Record on IER # 29, entitled “Pre-Approved Contractor-Furnished Borrow Material #4, Orleans, St. John the Baptist, and St. Tammy Parishes, Louisiana.” The document evaluates the potential impacts associated with the action taken by commercial contractors as a result of excavating contractor furnished borrow areas for use in construction for HSDRRS.
- On 31 July 2009, the CEMVN Commander signed a Decision Record on IER # 28, entitled “Government-Furnished Borrow Material #4, Plaquemines, St. Bernard and Jefferson Parishes, Louisiana.” The document evaluates the potential impacts associated with approving government-furnished borrow areas and an access route for use in construction of the HSDRRS.
- On 12 June 2009, the CEMVN Commander signed a Decision Record on IER # 16, entitled “Western Tie-In, Jefferson and St. Charles Parishes, Louisiana.” IER #16 evaluates the potential impacts associated with constructing levees, floodwalls and a closure structure to meet the 100-year level of risk reduction from the Lake Cataouatche Levee westerly to the Davis Pond Freshwater Diversion’s east guide levee.
- On 18 February 2009, the CEMVN Commander signed a Decision Record on IER # 12, entitled “GIWW, Harvey, and Algiers Levees and Floodwalls, Jefferson, Orleans, and Plaquemines Parishes, Louisiana.” IER #12 evaluates the potential impacts associated with raising and/or constructing levee, floodwalls, and other structures to meet the 100-year level of risk reduction for Harvey-Westwego, Gretna-Algiers, and Belle Chase areas.
- On 3 February 2009, the CEMVN Commander signed a Decision Record on IER # 25, entitled “Government Furnished Borrow Material, Orleans, Jefferson and Plaquemines Parishes, Louisiana.” The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of excavating borrow areas for use in construction of the HSDRR.
- On 21 January 2008, the CEMVN Commander signed a Decision Record on IER # 17, entitled “Company Canal Floodwall, Jefferson Parish, Louisiana.” The document was prepared to evaluate the proposed construction and maintenance of the 100-year level of hurricane and storm damage risk reduction along the Company Canal from the Bayou Segnette State Park to the New Westwego Pumping Station.
- On 20 October 2008, the CEMVN Commander signed a Decision Record on IER # 26, entitled “Pre-Approved Contractor Furnished Borrow Material #3, Jefferson, Plaquemines, and St. John the Baptist Parishes, Louisiana, Hancock County, Mississippi.” The document was prepared to evaluate the potential impacts associated with the actions taken by commercial contractors as a result of excavating borrow areas for use in construction of the HSDRRS.

## 2.0 ALTERNATIVES

At the time of the completion of the original IER #14 report, engineer designs had not been finalized for all actions and alternatives. After IER #14 was completed, the USACE conducted additional engineering and design, including the collection and analysis of geotechnical information. Additionally, fronting protection and floodwall construction at the Ames and Mt. Kennedy Pumping Stations were also redesigned in order to achieve the 100-year level of risk reduction. The redesign efforts resulted in a larger levee footprint than previously required and changes in floodwall design adjacent to the pumping stations. Engineering design guidelines for the HSDRRS can be found on the public website at <http://www.mvn.usace.army.mil/eng/hurrdesign.asp>. The proposed changes to the project design that would result in additional impacts to the natural or human environment are addressed in this IER Supplemental.

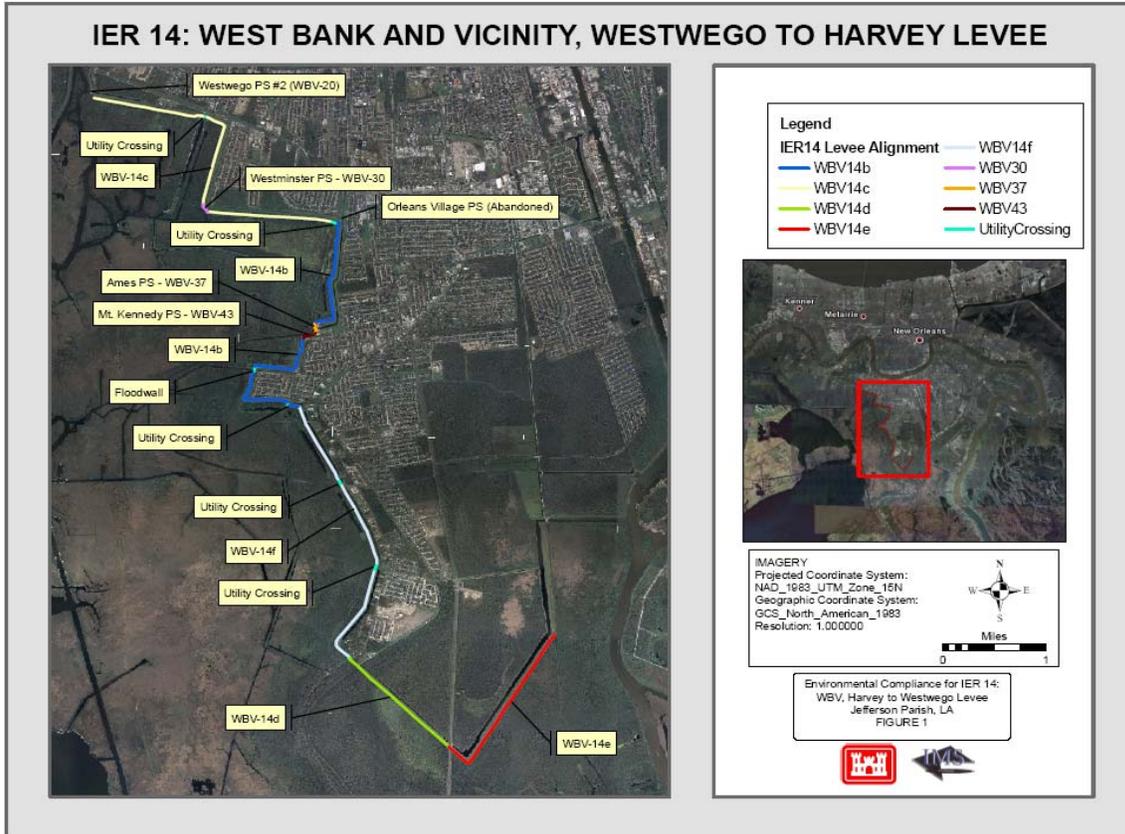
### 2.1 DESCRIPTION OF THE ALTERNATIVES

No Action. Under the no-action alternative, the Government-approved action, as described in IER #14 would be constructed. The no action alternative was divided into five main reaches for construction; WBV -14c, WBV-14b, WBV-14f, WBV-14d and WBV-14e. Floodwalls including pumping station protection were identified as WBV-30, WBV-37 and WBV-43. All reaches under the no action alternative are listed in Table 1 and labeled in figure 1.

**Table 1. Summary of Reaches for IER #14**

| Reach   | Current Elevation (ft) | Future Elevation (ft) | Levee Length (miles) | Floodwall Length* (ft) | Comments                                  |
|---------|------------------------|-----------------------|----------------------|------------------------|---|
| WBV-14c | 8-10                   | 14                    | 3.29                 | 485                    | North Levee                               |
| WBV-14b | 10-14                  | 14                    | 2.77                 | 576                    | Orleans Village Pumping Station to Hwy 45 |
| WBV-14f | 12                     | 14                    | 2.73                 | 757                    | Hwy 45 to V-Line Levee                    |
| WBV-14d | 11                     | 14                    | n/a                  | 7,008                  | V-Line Levee Floodwall                    |
| WBV-14e | 10-12                  | 14                    | 1.78                 | 210                    | V-Line Levee                              |
| WBV-30  | 9.5-13.6               | 16                    | n/a                  | 522                    | Westminster Pumping Station               |
| WBV-37  | 16.9                   | 16                    | n/a                  | 475                    | Ames Pumping Station                      |
| WBV-43  | 15.8                   | 16                    | n/a                  | 729                    | Mount Kennedy Pumping Station             |

\* These lengths pertain to existing floodwalls at utility crossings or pumping stations. Dimensions for new floodwalls may vary slightly.



**Figure 1. IER #14 Project Area**

Proposed Action The proposed action would be instrumental in providing 100-year level of risk reduction. As stated previously, after IER #14 was completed the USACE conducted additional engineering and design, including the collection and analysis of geotechnical information. This resulted in the larger levee footprint for the WBV-14.c.2 reach. Additionally, fronting protection and floodwall construction at the Ames and Mt. Kennedy Pumping Stations were also redesigned in order to achieve the 100-year level of risk reduction.

The following reaches would be included in the proposed action:

WBV-14c - North Levee -WBV-14c extends from its western end at the Westwego Pumping Station # 2 to the abandoned Orleans Village Pumping Station

WBV-37 and WBV-43 – Ames and Mt. Kennedy Pumping Stations. The areas immediately adjacent to the Ames and Mt. Kennedy Pumping Stations and a subunit of Reach WBV 14.b that extends from the abandoned Orleans Village Pumping Station to Hwy 45.

In order to demonstrate the selection rationale for the WBV-14.c reach, a summary of the alternative evaluation process, is provided in appendix E. The unreinforced levee was selected because of its (1) low human impacts (2) relatively short construction duration and (3) low cost. Each alternative was evaluated with respect to risk reduction and reliability, adverse environmental impacts (human and natural), time and constructability and cost.

### **WBV-14.c North Levee**

#### No Action

The action approved in IER #14 consists of the construction of an earthen levee enlargement with a protected side shift of the existing levee within the existing right-of-way (ROW). The levee would span a distance of 3.29 miles, would have a width of approximately 150 ft at the base and would be built to an elevation of 14 ft NAVD 88.

The majority of levee construction work would occur on the protected side of the levee, and stability berm work may occur on the flood side. All construction would occur within the existing ROW. The levee work may require geotextile fabric and/or deep soil mixing to strengthen the levee foundation. The deep soil mixing method would involve the blending of a binder such as lime, cement, slag, and fly ash into the soil through a hollow stem auger and mixing tool arrangement to produce round “columns” of treated soil. Applications for this method include stability and support, seepage cutoff, and seismic retrofit. This method has proven to be a viable method to effectively improve the competency of soils in Southeast Louisiana (Woodward 2007). Strengthening of the foundation can also be achieved by installing geotextile fabric in the foundation of the levee.

#### Proposed Action

The proposed action consists of the construction of an unreinforced earthen levee enlargement (figures 2 and 3). The levee enlargement requires a width of 325 ft at the base. The centerline of the levee would have a 40 foot flood side shift from the previously approved alignment. The proposed alignment would require a 100 foot width of new ROW along the flood side of the entire 3.29 miles reach. Approximately 42 acres of new ROW would be impacted by the proposed levee shift and enlargement. The levee would be built to an elevation of 14 ft NAVD88. The additional 100 foot width on the flood side would include levee, stability berm and vegetative free zone. Due to system-wide risk and reliability requirements, the existing levee would not be degraded to place geotextile fabric. Approximately 675,000 cubic yards of compacted fill (table 2) would be placed as fill to construct the proposed levee enlargement. Material would be acquired from a government furnished or contractor furnished borrow pit.



# WBV-14C.2 PROPOSED ACTION



**Figure 2. WBV-14.c.2 Proposed Action**

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana

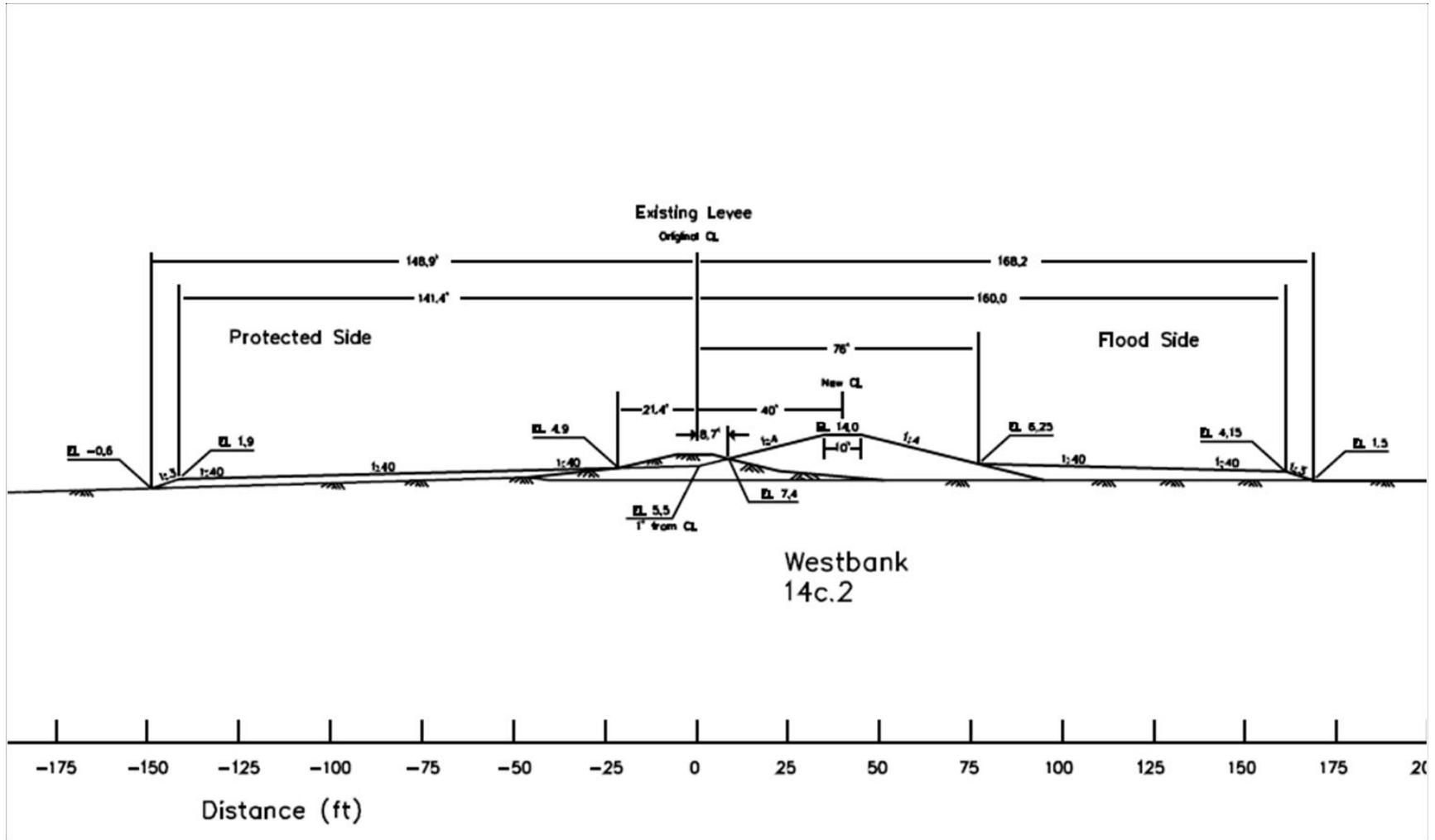


Figure 3. WBV-14.c.2 Cross-sectional view

**Table 2. Estimates Major Construction Material Quantities Required Reach WBV-14.c.2**

| <b>Material</b>  | <b>Quantity*</b> | <b>Unit</b>                       |
|--|------------------|-----------------------------------|
| Levee- Compacted Fill  | 675,000          | Embankment Cubic Yards (in place) |
| Estimated Construction Duration (including adverse weather days) | 426              | Calendar Days                     |

\*Quantities are strictly estimates. Source: USACE, Cost Engineering Team

### **WBV-37 and WBV-43 Ames and Mt. Kennedy Pumping Stations**

#### No Action

Fronting protection would be built at the Ames and Mount Kennedy Pumping Stations and floodwalls would be constructed at the utility crossings within this reach. The floodwalls at the utility crossings would total 576 ft, and would tie-in to the earthen levees on either end.

The majority of levee construction work would occur on the flood side of the levee, and stability berm work may occur on the protected side. All levee construction would occur within the existing ROW. The levee work may require geotextile fabric and/or deep soil mixing to strengthen the levee foundation.

The Ames Pumping Station (WBV-37) discharges into the Millaudon Canal. This pumping station has two 84-inch, 300 cubic feet per second (cfs) vertical pumps, four 72-inch, 300 cfs vertical pumps, and one 132-inch, 1,050 cfs horizontal pump. Water passes through steel discharge tubes and empties into a discharge basin. The Ames Pumping Station walls were constructed to an elevation of 16.9 ft NAVD 88. Although some existing floodwall heights of protection appear adequate, the walls do not meet the new geotechnical and structural design criteria.

The action for WBV-37 includes the construction of a continuous line of risk reduction within the existing ROW, which would tie-in to the existing levees on either side, with limited effects on the existing pumping station. This protection would incorporate use of pile-founded reinforced concrete floodwalls/sluice gate structure, constructed to an elevation of 16.0 ft NAVD 88 across the pumping station discharge basin, and 14 ft NAVD 88 at the levee tie-in points. Structural superiority of 2 ft is included in the wall height within the pumping station discharge basin.

The Mount Kennedy Pumping Station (WBV-43) also discharges into the Millaudon Canal. This pumping station has three 48-inch, 500 cfs vertical pumps. Water passes through steel discharge tubes and empties into a discharge basin. The Mount Kennedy Pumping Station walls were constructed to an elevation of 15.80 ft NAVD 88 in front of the station and at an approximate elevation of 15.80 ft NAVD 88 at the tie-in walls. Although some existing floodwall heights appear adequate, the walls do not meet the new geotechnical and structural design criteria.

The action for WBV-43 includes the construction of a continuous line of risk reduction, partially outside of the existing ROW, which would tie-in to the existing levees on either

side, with limited effects on the existing pumping station. Permanent additional ROW would be required on both the flood side and protected side of the project to implement the improvements. The current plan shows a range of 40 ft to 50 ft of additional permanent ROW that would be required along the length of the protected side of the project. On the flood side of the project, a range of 10 ft to 20 ft of additional permanent ROW would be required on the south side of Millaudon Canal.

The action approved in IER #14 would incorporate the use of pile-founded reinforced concrete floodwalls, constructed to an elevation of 16 ft NAVD 88 across the pumping station discharge basin, and 16 ft NAVD 88 at the levee tie-in points. Structural superiority of 2 ft is included in the wall height within the pumping station discharge basin.

### Proposed Action

The proposed action includes construction of fronting protection at the Ames and Mt. Kennedy Pumping Stations, levee tie-in walls and floodwalls in front of and between the stations. A total of 1,204 linear feet of floodwalls would be constructed in this reach. The proposed action also includes modifications to pumping station machinery.

The proposed action for the Ames Pumping Station includes the modification of Pumping Station machinery, the construction of new T-walls and demolition of existing floodwalls. The Ames Pumping Station would have two 84 inch, 390 cfs vertical pumps and one 132 inch, 1150 cfs horizontal pump which discharges into the Millaudon Canal. The 390 cfs pump would discharge water through 84 inch steel tubes and the 1150 cfs horizontal pump would discharge water through a 132 inch reinforced concrete tube. The Ames Pumping Station walls would be constructed to an elevation of 16.9 ft NAVD 88. Less than 0.2 additional acres of Millaudon Canal bottom would be acquired as new ROW for the construction of the discharge monolith.

Immediately north of the Ames Pumping Station a new T-Wall approximately 280 ft in length would be constructed from the pumping station to tie into the WBV-14-b levee (figure 3). The new T-wall would have between a 20 to 55 ft shift flood side of the existing floodwall and would be constructed to an elevation of 14 feet NAVD 88. The T-wall would be constructed within existing ROW on previously disturbed land and into the Millaudon Canal. Filling would occur in the portion of the Millaudon Canal located between the new floodwall and the existing canal bankline. Approximately 0.18 acres of previously disturbed land and 0.14 acres of Millaudon Canal would be filled by floodwall construction. Earthen material would be acquired from either government or contractor furnished borrow pits and would be hauled in from offsite. The existing floodwalls would be demolished and the debris would be hauled offsite to an approved waste disposal facility or recycled. Riprap would also be removed along the bankline areas where the alignment would be shifted flood side. For a listing of demolition quantities for both Ames and Mount Kennedy reaches see table 4.

A new T-wall also would be constructed between the Ames and Mt. Kennedy Pumping Stations. The T-wall would be approximately 644 ft long with a 60 ft long gate monolith and a 30 foot gate opening. The T-wall would be constructed to an elevation of 14 ft NAVD 88. The new T-wall would be shifted flood side a distance ranging from 20 to 50 ft from the existing floodwall. Approximately 0.52 acres of previously disturbed land and 0.14 acres of Millaudon Canal would be filled by floodwall construction. The existing flood wall located between the pumping stations would be demolished and the

## AMES & MT KENNEDY PUMPING STATIONS PROPOSED ACTION



**Figure 4. Ames and Mt. Kennedy Pumping Stations Proposed Action**

debris would be hauled offsite to an approved waste disposal facility or recycled. On the flood side of the Mount Kennedy Pumping Station sheet pile would be driven to construct a temporary retaining structure. The retaining structure would act like a dam isolating the work area from the canal and enable the work to proceed in a dry condition. After construction activities are complete the temporary retaining structure would be removed. The Mount Kennedy Pumping Station would have three 167 cfs vertical pumps which discharge between three 48-inch discharge tubes. Less than 0.2 additional acres of

Millaudon Canal bottom would be acquired as new ROW for the discharge monolith. An additional 0.28 acres of temporary work easement would be acquired in the Millaudon Canal for the placement of temporary retention structures used for de-watering. Immediately west of the Mt. Kennedy pumping station an approximately 280 length of T-wall would be constructed to tie-in the western end of the Mt. Kennedy pumping station with the WBV-14b levee. For construction quantities see table 3.

A discharge scour slab would be removed at the Mt. Kennedy pumping station outfall. Bottom paving would be placed at the outfall of the Ames and Mt. Kennedy pumping stations filling less than 0.5 acres of Millaudon Canal bottom and previously disturbed bankline.

**Table 3. Estimates of Major Construction Quantities for Ames (WBV-37) and Mt. Kennedy (WBV-43) Pumping Stations**

| Material   | Quantity* | Unit                              |
|--|-----------|-----------------------------------|
| Concrete   | 4,451     | Cubic Yards                       |
| Sheet Pile   | 44,510    | Square Feet                       |
| H-Pile   | 45,360    | Vertical Linear Feet              |
| Levee-Compacted Fill   | 8,770     | Embankment Cubic Yards (in place) |
| Estimated Construction Duration (including adverse weather days) | 600       | Calendar Days                     |

\*Quantities are strictly estimates. Source: USACE, Cost Engineering Team

**Table 4. Estimate of Demolition Quantities for Ames and Mt. Kennedy Pumping Stations Floodwalls**

| Material     | Quantity* | Unit        |
|--------------|-----------|-------------|
| Concrete     | 4,115     | Cubic Yards |
| Sheet Pile   | 106       | Cubic Yards |
| Timber Piles | 95        | Cubic Yards |
| Rip Rap      | 3,750     | Tons        |

\*Quantities are strictly estimates. Source: USACE, Cost Engineering Team

### Construction related activities

Site preparation for construction of the earthen levee enlargement would require clearing vegetation, grubbing and stripping topsoil with the footprint of the new levee ROW. The clearing and grubbing of the vegetation and topsoil stripping would be necessary to ensure that trees, roots and topsoil zones do not provide weak path planes where water seepage could jeopardize the integrity of the levee. Removed vegetation would be trucked offsite for disposal or beneficial reuse, chipped or burned in situ. The material may be deposited and stored onsite in a manner to ensure materials would not be eroded and if placed onsite would be placed within the ROW in the no vegetation zone. Other debris resulting from clearing and grubbing of the site would be removed from the site and reasonable efforts would be made to channel merchantable material into a commercial market. If not merchantable, the material would be deposited into a commercial disposal facility. After clearing and grubbing, the site may need to be demucked prior to construction. If demucking is necessary and the material is not suitable to be used for fill in the levee cross section, the material would be placed within the

ROW and spread in the no vegetation zone or hauled off to an approved commercial disposal site.

For all construction under the proposed action, earthen fill material would be obtained from government furnished borrow or contractor furnished areas that were previously evaluated in a borrow IER. Borrow material would be stockpiled, as needed within the proposed widened levee alignment. The material would be stockpiled and processed within the levee ROW.

Levee construction activities would utilize a large number and variety of construction equipment including cranes, excavators, dump trucks, bulldozers, graders, tractors, front end loaders, water trucks and a variety of trucks. Significant amounts of earthen fill would be transported, and stockpiled on site.

## **2.2 DESCRIPTION OF THE ALTERNATIVES**

### **2.2.1 No action alternative WBV-14.c.2 Earthen Levee and WBV-37 and WBV-43 Ames and Mt. Kennedy Pumping Stations**

Without implementation of the proposed action, the government's approved action, described as the no action alternative throughout, would be constructed. The plan described in IER 14 was based on preliminary estimates with limited geotechnical information. Upon further design, including the collection and analysis of additional geotechnical information, it was determined that an expanded footprint was needed for the WBV-14.c.2 reach to achieve a 100-year level of risk reduction. Additionally the replacement of the existing floodwalls was necessary to achieve a 100-year level of risk reduction. Reference section 2.1 of this document for a more detailed description of the approved action.

### **2.2.2 Earthen Levee (Unreinforced) with landside shift (WBV-14.c.2)**

This alternative is comprised of an 80 ft wide landside shift along the entire length of the levee alignment and additional landside shift where the existing landside drainage canal would require relocation. Additional ROW would be required to construct this alternative.

### **2.2.3 Floodwall (WBV-14.c.2)**

This alternative is comprised of constructing a floodwall within the existing levee alignment. No additional ROW would be required to construct this alternative.

### **2.2.4 WBV-37 and WBV-43 Ames and Mt. Kennedy Pumping Stations**

The proposed action for the Ames and Mt. Kennedy Pumping Stations is a redesign. Following the completion of IER 14 further design was conducted for the Ames and Mt. Kennedy Pumping Stations. The fronting protection and floodwall construction at the Ames and Mt. Kennedy Pumping Stations had to be redesigned in order to achieve the 100-year level of risk reduction. Additional ROW was required for the redesign for the construction of temporary containment features and discharge monoliths. The Millaudon Canal is located between the existing project ROW and the Jean Lafitte National Historical Park and Preserve-Barataria Preserve Unit (JLNHPP). The specific site

conditions, the physical space available in the canal provided adequate space for the containment features and the discharge monoliths. As a result, JLNHPP lands were not impacted by the proposed redesign.

## **2.3 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION**

### **2.3.1 WBV-14.c.2 Earthen Levee (Geotextile Reinforced) shifted landside with culvert in landside drainage canal**

The geotextile reinforced alternative consists of an earthen levee with geotextile reinforcement placed along the existing levee foundation. The centerline of the levee would be shifted towards the protected side approximately 80 ft. This alternative is comprised of placing geotextile fabric on the ground and then constructing a new levee with a landside shift, degrading the existing levee, relocating the existing interior drainage canals and installing a culvert in the relocated landside drainage canal. Due to stability issues and meeting required factors of safety, this alternative would still require shifting the drainage culvert a 100 ft towards the protected side. This alternative was eliminated for a variety of reasons. The landside shift of the levee and canal would result in direct impacts to adjacent residential structures and land side wetlands. The existing interior drainage canals would need to be relocated to maintain levee stability. The relocation of the canal would require additional landside ROW and result in impacts to additional residential structures and landside wetlands. Additional infrastructure impacts associated with the construction of this alternative include the relocation of a portion of Lapalco Boulevard. Because of the above, the high cost and the estimated 80 percent higher construction duration than the proposed flood side shift, this alternative was eliminated from further consideration.

### **2.3.2 WBV-14.c.2 Earthen Levee with soil mixing columns**

This alternative involves mixing or injecting soil additives to existing levee that strengthen the physical properties of the soil. Deep soil mixing would require degrading of the existing levee to install the soil mixing columns. It has been estimated that to conduct deep soil mixing along only 40 percent of the 3.29-mile reach of WBV-14.c.2 would increase the estimated project cost by 60 percent above the total construction budget for the proposed flood side shift. This 60 percent increase does not reflect the additional cost required to implement deep soil mixing along the remainder of the WBV 14.c. 2 levee reach. Soil mixing would also require an estimated 50 percent increase in construction duration. This is due to the time it takes to degrade the existing levee section and to conduct the deep soil mixing operation which is estimated to be completed at a rate of 20 linear feet per day per deep soil mixing rig. Finally, the need to perform a levee degrade causes openings in the system and reduces the ability of the system to provide storm risk reduction. As a standard procedure for the Hurricane Storm Damage Risk Reduction System (HSDRRS) work, only short reaches of embankment, typically 2,000 linear feet of embankment per contract, are concurrently degraded during hurricane season. This restriction reduces the risk of flooding during construction by minimizing the size of openings in the storm damage risk reduction system and at the same time this construction practice significantly increases overall construction durations. Soil mixing was eliminated from further consideration because the high cost and high estimated construction duration.

### 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

#### 3.1 ENVIRONMENTAL SETTING

IER #14 contains a complete discussion of the environmental setting for the project area and is incorporated by reference into this document. As such, no discussion of environmental setting is made in this document.

#### 3.2 SIGNIFICANT RESOURCES

This section identifies the significant resources located in the vicinity of the proposed action, and describes in detail those resources that would be impacted, directly or indirectly, by the proposed modifications to the Government approved actions, as discussed in IER #14. Direct impacts are those that are caused by the action taken and occur at the same time and place (40 CFR §1508.8(a)). Indirect impacts are those that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable (40 CFR §1508.8(b)). Cumulative impact is defined as “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 actions (40 CFR §1508.7).” Cumulative impacts are discussed in section 4.

The resources described in this section are those recognized as significant by laws, executive orders, regulations, and other standards of national, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public. Table 5. shows those significant resources found within the project area, and notes whether they would be impacted by the proposed action analyzed in this IER Supplemental.

Existing conditions for significant resources were discussed in IER #14 and are incorporated by reference.

**Table 5. Significant Resources in the Project Area**

| Significant Resources                   | Impacted                            | Not Impacted                        |
|---|-------------------------------------|-------------------------------------|
| Bottomland Hardwood Forests             |                                     | <input checked="" type="checkbox"/> |
| Cypress-Tupelo Swamp                    | <input checked="" type="checkbox"/> |                                     |
| Fisheries and Aquatic Habitat           | <input checked="" type="checkbox"/> |                                     |
| Wildlife                                | <input checked="" type="checkbox"/> |                                     |
| Threatened & Endangered Species         |                                     | <input checked="" type="checkbox"/> |
| Jean Lafitte National Park and Preserve | <input checked="" type="checkbox"/> |                                     |
| Air Quality                             | <input checked="" type="checkbox"/> |                                     |
| Water Quality                           | <input checked="" type="checkbox"/> |                                     |
| Cultural Resources                      |                                     | <input checked="" type="checkbox"/> |
| Recreation                              |                                     | <input checked="" type="checkbox"/> |

| Significant Resources | Impacted                            | Not Impacted                        |
|-----------------------|-------------------------------------|-------------------------------------|
| Aesthetics            |                                     | <input checked="" type="checkbox"/> |
| Socioeconomics        | <input checked="" type="checkbox"/> |                                     |

### 3.2.1 Cypress-Tupelo Swamp (Wetlands)

#### Future Conditions with No Action

Under the No action alternative the Government's approved action as discussed in IER #14 would be constructed. Consequently, direct, indirect, and cumulative impacts on wetlands would not differ from those described in IER #14. Approximately 29.75 acres of cypress-tupelo swamp would be impacted by the construction activities described in IER #14.

#### Future Conditions with the Proposed Action

WBV-14.c.2 Levee centerline shift flood side and levee enlargement

##### *Direct Impacts*

An additional 42 acres of cypress-tupelo swamp would be cleared, grubbed and filled as part of the levee flood side shift and enlargement. The area consists of wetlands adjacent to Bayou Segnette and is considered medium to high quality swamp (National Park Service 2004). The filling of 42 acres of cypress-tupelo swamp for the construction of the levee enlargement would significantly reduce the areas wildlife habitat value and eliminate the flood storage and water quality function of these areas.

Approximately 15 acres of the proposed fill area is conditionally a part of the JLNHPP through the passage of the Omnibus Public Lands Management Act (OPLMA) in March 2009 (See Section 3.2.5). This Act authorized the transfer of administration of land from the USACE to the National Park Service for inclusion in the JLNHPP (Times Picayune 2009) with the requirement that the two agencies determine what acreage is needed for hurricane protection (16 U.S.C. 230a section (a)(1)(B)(iii)). Currently this area is located adjacent to a portion of the Park with limited interior park roads and is removed from the Barataria Unit visitor trails and visitor center. Construction activities would be relatively short in duration and should not impact high use park areas with visitor facilities.

##### *Indirect Impacts*

The indirect effects of construction (e.g., noise, fugitive dust etc.) would have effects on habitat.

##### *Cumulative Impacts*

Filling of the 42 acres of cypress-tupelo swamp would contribute to the cumulative loss of wetland resources both on private lands and lands conditionally administered by the JLNHPP. These wetlands would be mechanically cleared, grubbed and filled and would require mitigation.

#### Future Conditions with Alternative

## Earthen Levee (Unreinforced) with Landside Canal Shift

### *Direct Impacts*

Approximately 16.5 acres of cypress-tupelo swamp would be cleared, grubbed and filled as part of the levee and canal land side shift and enlargement. Although the swamp is located on the protected side of the levee, the area provides wildlife habitat and local flood water storage.

### *Indirect Impacts*

The indirect effects of construction (e.g., noise, fugitive dust etc.) would have temporary effects on habitat and would not be permanent.

### *Cumulative Impacts*

Filling of the 16.5 acres of protected side cypress-tupelo swamp would contribute to the cumulative loss of wetland resources in southeast Louisiana. However, these wetlands were previously enclosed and hydrologic connections to adjacent flood side wetlands have been modified. The clearing, grubbing and filling or excavating of these wetlands would require mitigation.

## Future Conditions with Alternative

### Floodwall

#### *Direct, Indirect and Cumulative Impacts*

The floodwall would be constructed with the existing levee alignment and would require no additional ROW. There would be no impact to cypress-tupelo swamp.

## Future Conditions with the Proposed Action

### WBV-37 and WBV-43 Ames and Mt. Kennedy Pumping Stations

#### *Direct, Indirect and Cumulative Impacts*

The area impacted by the proposed action for this reach involves previously impacted shoreline and canal bottoms. There would be no additional direct, indirect or cumulative cypress-tupelo swamp impacts associated with the Ames and Mt. Kennedy Pumping Station activities.

## **3.2.2 Fisheries and Aquatic Habitat**

### Future Conditions with No Action

Under the No Action alternative the Government's approved action as discussed in IER#14 would be constructed. Consequently, direct, indirect, and cumulative impacts on fisheries and aquatic habitat would not differ from those described previously in IER #14.

### Future Conditions with the Proposed Action

## WBV-14.c.2 Levee centerline shift flood side and levee enlargement

### *Direct Impacts*

Approximately 42 acres of cypress-tupelo swamp would be cleared, grubbed and filled as part of the levee flood side shift and enlargement. Aquatic organisms and habitat located within the flooded swamp would be adversely impacted by the filling of the swamp for levee construction. Additionally the drainage canal located flood side of the existing levee alignment would be filled. The drainage canals located adjacent to the levee toe support viable fisheries and aquatic habitat; however, these organisms are dominated by low dissolved oxygen species. Once filled, the swamp and drainage canal would be lost as future habitat for aquatic organisms. Motile organisms would avoid construction activities and seek refuge in adjacent flooded swamp. Sessile organisms would be unable to avoid construction activities and would be eliminated.

Approximately 15 acres of the proposed fill area is conditionally a part of the JLNHPP through the passage of the OPLMA in March 2009 (See Section 3.2.5) This Act authorized the transfer of administration of land from the USACE to the National Park Service for inclusion in the JLNHPP (Times Picayune 2009) with the requirement that the two agencies determine what acreage is needed for hurricane protection (16 U.S. C. 230a section (a)(1)(B)(iii)).

### *Indirect Impacts*

The indirect effects of construction (e.g., noise, fugitive dust etc.) would have temporary effects on habitat.

### *Cumulative Impacts*

Filling of the 42 acres of cypress-tupelo swamp would contribute to the cumulative loss of aquatic resources within the ecosystem and a portion of which are conditional a part of the JLNHPP. These areas would be mechanically cleared and grubbed and would require mitigation. Construction of the proposed action would contribute to the cumulative loss of flooded areas within the cypress-tupelo swamp and open water in the drainage canal immediately adjacent to the levee alignment.

### Future Conditions with Alternative

#### Earthen Levee (Unreinforced) with Landside Canal Shift

### *Direct Impacts*

Approximately 16.5 acres of cypress-tupelo swamp would be cleared, grubbed and filled as part of the levee enlargement, and a reach of the adjacent Mayronne Canal and unnamed canal would be filled and reconstructed to the land side. The swamp is located on the protected side of the levee and while adjacent to Mayronne Canal the swamp is not or is minimally hydrologically connected to the adjacent canals. The Mayronne Canal and other canals located adjacent to the swamp generally are inhabited by fish and other aquatic species that are tolerant of low dissolved oxygen. The filling of the swamp and filling and relocation of the canal would displace motile aquatic species. Motile organisms would avoid construction activities and seek refuge in adjacent flooded swamp or adjacent areas within the canal system. In some cases fishes located within the swamp could be isolated in pockets of flooded swamp.

### *Indirect Impacts*

The indirect effects of construction (e.g., noise, fugitive dust etc.) would have temporary effects on habitat. Other indirect impacts would include local increased turbidity, and decreased dissolved oxygen.

### *Cumulative Impacts*

Filling of approximately 16.5 acres of protected side cypress-tupelo swamp and filling and relocation of section of the Mayronne Canal and unnamed canal would contribute to the cumulative loss of fisheries and aquatic habitat in southeast Louisiana. However, the protected side swamp is not hydrologically or is minimally hydrologically connected; therefore, filling would impact local populations of aquatic organisms in those cases where filling results in isolating organisms. Since the fish located in the swamp are already locally isolated from the flood side populations, the filling of these areas and relocation of the canal would not significantly impact fish aquatic populations in southeast Louisiana. The clearing, grubbing and filling or excavating of the swamp would require mitigation.

### Future Conditions with Alternative

#### Floodwall

#### *Direct, Indirect and Cumulative Impacts*

The floodwall would be constructed within the existing levee alignment and would require no additional ROW. Because no new ROW is required, there would be no direct impacts from the floodwall construction. The indirect effects of construction (e.g. noise, fugitive dust etc.) would have temporary effects on habitat. Other indirect impacts would include local increased turbidity, and decreased dissolved oxygen. There would be no significant cumulative impacts associated with floodwall construction.

### Future Conditions with the Proposed Action

#### WBV-37 and WBV-43 Ames and Mt. Kennedy Pumping Stations

#### *Direct Impacts*

Approximately 1.1 acres of Millaudon Canal bottom would be permanently filled with paving materials and rip-rap and 0.28 acres of Millaudon Canal bottom would be temporarily filled by the construction of temporary retention structures. Placement of rip-rap or paving would result in an elimination of open water in some areas and a decrease in water depths in other areas. Motile organisms would attempt to avoid construction activities. Sessile organisms unable to vacate the area would be eliminated. Following the completion of work, motile organisms would be able to recolonize areas where open water remained although at a reduced depth. Sessile organisms also would be able to repopulate these same areas. Following the removal of the temporary retention structures both motile and sessile organisms would be able to recolonize those areas. The area impacted by the proposed action for this reach involves areas adjacent to previously impacted shoreline and canal bottoms adjacent to the pumping stations. These areas are receiving waters for pumping station discharges.

#### *Indirect Impacts*

Indirect impacts would include some localized increase in water temperature where bottom depths are significantly reduced, increased local turbidity, decreased dissolved oxygen levels, vibrations and subsurface noise. Conditions in adjacent waters would return to normal following cessation of construction activities.

#### *Cumulative*

Construction of the proposed action would result in minor cumulative impacts due to the loss of aquatic habitat in open water areas adjacent to the pumping stations that would be filled as a part of construction activities. Impacts would be expected to be localized, with no long term impacts to the aquatic ecosystem or its resident flora and fauna.

Construction of the proposed action would contribute to the cumulative losses of fisheries and aquatic resources.

### **3.2.3 Wildlife**

#### Future Conditions with No Action

Under the No Action alternative the Government's approved action as discussed in IER #14 would be constructed. Consequently, direct, indirect, and cumulative impacts on wildlife would not differ from those described previously in IER #14.

#### Future Conditions with the Proposed Action

WBV-14.c.2 Levee centerline shift flood side and levee enlargement

#### *Direct Impacts*

Under this alternative, the levee would be shifted flood side and enlarged and would result in the conversion of approximately 42 acres of cypress-tupelo swamp to levee, levee berm and vegetative free zone and would no longer provide the high quality nesting and foraging habitat that currently exist at the project site. Approximately 15 acres of the proposed fill area is conditionally a part of the JLNHPP through the passage of the OPLMA.

#### *Indirect Impacts*

The indirect effects of construction (e.g., noise, fugitive dust etc.) would have temporary effects on habitat.

#### *Cumulative Impacts*

Filling of the 42 acres of cypress-tupelo swamp would contribute to the cumulative losses of wildlife resources within the ecosystem. The areas would be mechanically cleared and grubbed and would require mitigation. Construction of the proposed action would not result in significant cumulative impacts but would contribute to cumulative losses of wildlife resources.

#### Future Conditions with Alternative

Earthen Levee (Unreinforced) with Landside Canal Shift

*Direct Impacts*

Approximately 16.5 acres of cypress-tupelo swamp would be cleared, grubbed and filled as part of the levee and canal land side shift and enlargement. Although the swamp is located on the protected side of the levee, the area provides nesting and foraging wildlife habitat.

*Indirect Impacts*

The indirect effects of construction (e.g., noise, fugitive dust etc.) would have temporary effects on habitat.

*Cumulative Impacts*

Filling of the 16.5 acres of protected side cypress-tupelo swamp would contribute to the cumulative loss of wildlife habitat in southeast Louisiana. Even though these areas are enclosed by levees they provide nesting and foraging areas. Construction of the alternative would not result in significant cumulative impacts to wildlife habitat but would contribute to cumulative losses of wildlife habitat.

Future Condition with Alternative

Floodwall

*Direct, Indirect and Cumulative Impacts*

The floodwall would be constructed with the existing levee alignment and would require no additional ROW. Wildlife movement along the 3.29 mile length of the floodwall would be impacted, but impacts could be decreased by the construction of earthen ramps or similar features for wildlife crossings. The indirect effects of construction (e.g., noise, fugitive dust etc.) would have temporary effects on habitat. The construction of the floodwall would not require additional ROW and would not contribute to cumulative losses to wildlife habitat.

Future Conditions with the Proposed Action

WBV-37 and WBV-43 Ames and Mt. Kennedy Pumping Station

*Direct Impacts*

Approximately 1.1 acres of Millaudon Canal bottom would be permanently filled with paving materials and rip-rap and 0.28 acres of Millaudon Canal bottom would be temporarily filled by the construction of temporary retention structures. The area is adjacent to the Ames and Mt. Kennedy Pumping Stations and has already been significantly disturbed and is medium to low quality habitat. Wildlife resident to the canal and canal bankline would relocate during construction activities. Once construction activities were complete, shorebirds and other wildlife would repopulate the construction area. Since the area has been previously impacted by construction and the continued operation of the pumping stations it is a low to medium quality habitat.

*Indirect*

Indirect impacts would include some localized increase in noise and decrease in air and water quality. Conditions at the project site would return to normal following cessation of construction activities.

#### *Cumulative Impacts*

Construction of the proposed action would result in minor cumulative impacts due to the loss wildlife habitat. Impacts would be localized, with no long term impacts to the local aquatic ecosystem. The proposed action would not result in significant cumulative impacts but would contribute to the cumulative losses wildlife habitat.

### **3.2.4 Threatened and Endangered Species**

#### Future Conditions with No Action

Under the No Action alternative, the Government's approved action as discussed in IER #14 would be constructed. Consequently, direct, indirect, and cumulative impacts on threatened and endangered species would not differ from those described previously in IER #14.

#### Future Conditions with the Proposed Action all reaches

Under the proposed actions for all reaches, no listed endangered, threatened, or candidate species are known to exist in the potential project impact areas. Therefore, no direct, indirect, or cumulative effects would be predicted to protected species or their critical habitat as a result of implementing the proposed actions. The USFWS concurred with the USACE's determination that project implementation would not adversely affect any threatened and endangered species or their critical habitat in their letter dated 2 September 2009.

### **3.2.5 Jean Lafitte National Historical Park and Preserve**

#### Existing Conditions

The Barataria Preserve Unit of the Jean Lafitte National Historical Park and Preserve (JLNHPP) is located on the west bank of the Mississippi River and is managed by the National Park Service. The park is located within the Barataria Basin. The Barataria Preserve Unit is comprised of approximately 23,000 acres of bottomland hardwood forest, forested wetlands (e.g., wet bottomland hardwoods and swamps), marsh and open water. Swamps found in the Barataria Preserve are dominated by bald cypress, water tupelo and dwarf palmettos. The marsh habitats include the fairly unique floatant marsh habitat (floating marshes), freshwater and intermediate marsh systems.

The Barataria Preserve Unit of the JLNHPP is a diverse and very productive wetland area that provides valuable habitat for a variety of species of fish and wildlife. The wetlands provide feeding, resting, nesting, hunting, and/or escape habitat for numerous species of game and non-game mammals, commercially important furbearers, songbirds, raptors, migratory and resident waterfowl, wading birds, many species of amphibians and reptiles and the American Alligator. These wetlands serve as groundwater recharge areas, and provide storage area for storm and flood waters. The wetlands also provide water quality functions including absorbing pollutants and excess nutrients.

The Barataria Preserve Unit marshes and open water habitats provide nursery, feeding and spawning habitat for both recreationally and commercially important freshwater and estuarine fishes and shellfishes. The wetlands also contribute detritus to estuarine waters.

Although highly productive biologically, the lands have been impacted by man-made canals, mostly constructed for oil and gas exploration in the mid-1900's. Park lands have also been impacted by erosion and salt water intrusion.

The JLNHPP provides wide range of recreational opportunities for JLNHPP visitors. The Barataria Preserve Unit includes a visitor center, day use parking areas, canoe and hiking trails. Typical visitor activities include bird watching, wildlife viewing, hunting, hiking, canoeing, biking, picnicking and photography. Water oriented sports including fishing, waterfowl hunting and boating occur in areas of the park with water access.

In March 2009 Congress passed the OPLMA, Public Law 111-11, which transferred the administration of the "CIT Tract" from the USACE to the National Park Service (NPS) for inclusion into the JLNHPP Barataria Unit. The CIT Tract was acquired by the United States in 1994 in settlement of a regulatory taking suit brought against the United States stemming from a Section 404 permit denial by the USACE, the CIT Group/ Equipment Financing, Inc. v. United State, Claims Court No. 90-4027L.

The OPLMA also requires that those two agencies determine what portions of the CIT Tract would be needed "to ensure adequate hurricane protection of the communities located in the area" (16 U.S.C. 230a section (a)(1)(B)(iii)). The CEMVN and the NPS are in the process of working out that issue. Currently the plan is for the NPS to exchange property, through the CEMVN, with the West Jefferson Levee District (WJLD), whereby the WJLD would own the land needed for the WBV project, and the NPS would own other property more suitable to inclusion in the JLNHPP. The appraisal, titles and other transfer matters are currently underway in order to achieve this end.

#### Future Conditions with No Action

Under the No Action alternative the Government's approved action as discussed in IER #14 would be constructed. Additional impacts to JLNHPP lands would not occur, however, construction of the no action alternative would not achieve a 100- year level of risk reduction.

#### Future Conditions with the Proposed Action

WBV-14.c.2 Levee centerline shift flood side and levee enlargement

##### *Direct Impacts*

Under this alternative, the levee would be shifted flood side and enlarged, which would result in the conversion of approximately 42 acres of cypress-tupelo swamp to levee, levee berm and vegetative free zone. Approximately 15 acres of the proposed fill area, conditionally through the OPLMA, are a part of the JLNHPP. This area would no longer provide the high quality nesting and foraging habitat that currently exist at the project site.

##### *Indirect Impacts*

The indirect effects of construction (e.g., noise, fugitive dust etc.) would have temporary effects on JLNHPP lands and the fish and wildlife resources that utilize the park lands near the construction areas.

*Cumulative Impacts*

Filling of the 15 acres of cypress-tupelo swamp which are conditionally through the OPLMA, a part of the JLNHPP, would contribute to the cumulative losses of cypress-tupelo swamp, which provides habitat for fish and aquatic resources and wildlife resources. The areas would be mechanically cleared and grubbed and would require mitigation. Construction of the proposed action would contribute to cumulative losses of JLNHPP lands. The USACE has been working cooperatively with the West Jefferson Levee District to develop a land swap between the JLNHPP and the West Jefferson Levee District for lands held by the West Jefferson Levee District in the interior of the JLNHPP and along the southeastern boundary of the JLNHPP.

Future Conditions with Alternative

Earthen Levee (Unreinforced) with Landside Canal Shift

*Direct Impacts*

There would be no direct impacts to JLNHPP lands.

*Indirect Impacts*

The indirect effects of construction (e.g., noise) would have temporary effects on JLNHPP lands and the wildlife resources therein.

*Cumulative Impacts*

Construction of the alternative would not result in cumulative impacts the JLNHPP.

Future Condition with Alternative

Floodwall

*Direct, Indirect and Cumulative Impacts*

The floodwall would be constructed within the existing levee alignment and would require no additional ROW. Wildlife movement between protected side wetlands and the JLNHPP would be impacted along the floodwall, but impacts could be decreased by the construction of earthen ramps or similar features for wildlife crossings. The indirect effects of construction (e.g., noise.) would have temporary effects on JLNHPP lands and wildlife resources. The construction of the floodwall would not require additional ROW and would not contribute to cumulative impacts to the JLNHPP.

Future Conditions with the Proposed Action

WBV-37 and WBV-43 Ames and Mt. Kennedy Pumping Stations

*Direct Impacts*

There would be no direct impacts on JLNHPP lands.

*Indirect*

Indirect impacts would include some localized increase in noise.

*Cumulative Impacts*

The construction of the proposed action would not require additional ROW in the JLNHPP and would not contribute to cumulative impacts to the JLNHPP.

### **3.2.6 Air Quality**

#### Future Conditions with No Action

Under the No Action alternative, the Government's approved action as discussed in IER #14 would be constructed. Consequently direct, indirect and cumulative impacts to air quality would not differ from those previously described in IER #14.

#### Future Conditions with the Proposed Action all reaches

Under the proposed action for all reaches there would be a further increase in direct, indirect and cumulative impacts to air quality due to the increase in contract durations. The proposed action would contribute to the cumulative losses of air quality but such losses are anticipated to be localized and temporary.

### **3.2.7 Water Quality**

#### Future Conditions with No Action

Under the No Active alternative, the Government's approved action as discussed in IER #14 would be constructed. Consequently, direct, indirect, and cumulative impacts on water quality would not differ from those described previously in IER #14.

#### Future Conditions with the Proposed Action

WBV-14.c.2 Levee centerline shift flood side and levee enlargement

*Direct Impacts*

Approximately 42 acres of cypress-tupelo swamp and drainage canals located immediately adjacent to the existing levee toe would be filled for levee enlargement. Filling of the wetlands and drainage canal would permanently eliminate the affected wetlands' ability to perform water quality functions. Temporary increases in turbidity levels would occur in the adjacent swamp. Motile organisms would be able to relocate to nearby swamp to avoid turbidity impacts. After construction activities turbidity levels would return to normal in adjacent swamp.

*Indirect Impacts*

The indirect effects of construction would include runoff caused by poor sediment management. Some indirect impacts could be avoided by the implementation of best

management practices and sediment control plans implemented during construction activities.

#### *Cumulative Impacts*

Filling of the 42 acres of cypress-tupelo swamp would contribute to the cumulative loss of water quality function within the ecosystem but would not result in significant cumulative impacts to water quality.

#### Future Condition with Alternative

Earthen Levee (Unreinforced) with Landside Canal Shift

#### *Direct Impacts*

Approximately 16.5 acres of cypress-tupelo swamp would be cleared, grubbed and filled as part of the levee and canal land side shift and enlargement. Filling of the wetlands and drainage canal would permanently eliminate the affected wetlands ability to perform water quality functions. Temporary increases in turbidity levels would occur in the adjacent swamp. Motile organisms would be able to relocate to nearby swamp to avoid turbidity impacts. After construction activities turbidity levels would return to normal in adjacent swamp.

#### *Indirect Impacts*

The indirect effects of construction would include runoff caused if sediment is not properly managed. Some indirect impacts could be avoided by the implementation of best management practices and sediment control plans implemented during construction activities.

#### *Cumulative Impacts*

Filling of the 16.5 acres of protected side cypress-tupelo swamp would contribute to the cumulative loss of water quality function within the ecosystem but would not result in significant cumulative impacts to water quality because these areas are previously enclosed and are either not hydrologically connected to wetlands located outside of the HSDRRS or are only minimally connected to wetlands located outside of the HSDRRS.

#### Future Condition with Alternative

Floodwall

#### *Direct, Indirect and Cumulative Impacts*

The floodwall would be constructed within the existing levee alignment and would require no additional ROW. There would be temporary impacts to water quality, but these impacts would not result in significant cumulative impacts to water quality function within the ecosystem.

#### Future Conditions with the Proposed Action

WBV-37 and WBV-43 Ames and Mt. Kennedy Pumping Stations

#### *Direct Impacts*

Approximately 1.1 acres of Millaudon Canal bottom would be permanently filled with paving materials and rip-rap. Placement of rip-rap would result in temporary increases in turbidity levels. Motile organisms would be able to relocate to adjacent areas in the canal to avoid these turbidity increases. Following the completion of, work turbidity levels would return to normal. The area impacted by the proposed action for this reach involves areas adjacent to previously impacted shoreline and canal bottoms adjacent to the pumping stations. These areas are receiving waters for pumping station discharges including storm water runoff which at times may include raw or partially treated wastewater.

#### *Indirect Impacts*

Indirect impacts would include runoff caused by poor sediment management during excavation activities. Implementation of best management practices would reduce indirect impacts during construction activities.

#### *Cumulative Impacts*

Construction of the proposed action would result in minor cumulative impacts to aquatic open water areas adjacent to the pumping stations. These impacts would be short term and localized. Construction of the proposed action would not result in significant cumulative impacts to water quality.

### **3.2.8 Cultural Resources**

#### Future Conditions with No Action

Under the No Action alternative, the Government's approved action as discussed in IER #14 would be constructed. Consequently, direct, indirect, and cumulative impacts on cultural resources would not differ significantly from those described previously in IER #14. Under the no action alternative, the Government's approved action as discussed in IER #14 would be constructed. Consequently direct, indirect, and cumulative impacts on cultural resources for the Government's approved action would not differ significantly from those described previously in IER #14. In letters sent to the State Historic Preservation Officer (SHPO) and Indian Tribes dated 12 December 2007, CEMVN provided project documentation, evaluated cultural resources potential in the project area, and found that the Government's approved action would have no impact on cultural resources. The SHPO, Choctaw Nation of Oklahoma, and the Chitimacha Tribe of Louisiana concurred with our "no historic properties affected" finding in letters dated 23 January 2008, 26 December 2007, and 27 December 2007, respectively. No other Indian Tribes responded to our request for comments. Section 106 consultation for the Government's approved action is concluded.

#### Future Conditions with the Proposed Action

WBV-14.c.2 Levee centerline shift flood side and levee enlargement

#### *Direct Impacts*

Under the proposed action, levee enlargement construction would be shifted to the flood side of the levee centerline. In the initial cultural resources investigation conducted by Coastal Environments, Inc., for the IER #14 study area, researchers utilized background

research, previous cultural resources investigation review, soil and topographic analyses, field reconnaissance data and Phase 1 investigations to identify and assess historic structures and high potential areas for archaeological resources. Researchers identified three areas exhibiting a high potential for archaeological sites that extended into the proposed action project area (Wells 2007). Subsequent Phase 1 field investigations did not identify any cultural resources in these three high probability areas (Wells 2009). Based on the review of state records, previous cultural resources studies, and the results of the Wells' 2009 Phase 1 investigations, implementation of the proposed action would have no direct impact on cultural resources.

The CEMVN held meetings with the SHPO staff and Tribal governments to discuss the emergency alternative arrangements approved for NEPA compliance. The CEMVN formally initiated Section 106 consultation for the WBV Project (100-year), which includes IER # 14, in a letter dated 9 April 2007. In letters sent to the SHPO and Indian Tribes dated 20 July 2009, the CEMVN provided project documentation, conducted Phase 1 cultural resource investigations in the project area, and found that the proposed action would have no impact on cultural resources. The SHPO, Quapaw Tribe of Oklahoma, Seminole Tribe of Florida, Choctaw Nation of Oklahoma, and the Alabama-Coushatta Tribe of Texas concurred with our "no historic properties affected" finding on 13 August 2009, 23 July 2009, 29 July 2009, 30 July 2009, and 14 August 2009, respectively. No other Indian Tribes responded to our request for comments. Section 106 consultation for the proposed action is concluded. However, if any unrecorded cultural resources are determined to exist within the proposed project boundaries, then no work would proceed in the area containing these cultural resources until a CEMVN archaeologist has been notified and final coordination with the SHPO and Indian Tribes has been completed.

#### *Indirect Impacts*

Implementation of the proposed action could provide an added level of protection to known and unknown archaeological sites in the project vicinity on the protected side of the levee by reducing the damage caused by flood events. Erosion of ground deposits during flood events can result in severe damage and destruction of archaeological sites.

#### *Cumulative Impacts*

Implementation of the proposed action would have beneficial cumulative impacts on identified historic properties in the west bank metropolitan area. This proposed action is part of the ongoing Federal effort to reduce the threat to properties posed by flooding. The combined effects from construction of the multiple projects underway and planned for the WBV portion of the HSDRRS would reduce flood risk and storm damage to significant archaeological sites, individual historic properties, engineering structures and historic districts.

#### Future Condition with Alternative

Earthen Levee (Unreinforced) with Landside Canal Shift

#### *Direct Impacts*

The earthen levee with the enlargement and landside levee and canal shift would impact an additional area approximately 100 ft wide immediately landward of the existing levee ROW. Within that area are 16.5 acres of cypress tupelo swamp and 25.5 acres of previously impacted or developed land which includes canal bottoms, residential

subdivisions and existing infrastructure including portions of Lapalco Boulevard. This alternative project area was evaluated for cultural resources by Dr. Douglas Wells in 2007 and two areas exhibiting a high potential for archaeological sites were identified. Proposed construction activities within the alternative boundaries would directly impact these high probability areas. Additional cultural resources investigations and consultation with the SHPO and Federally recognized Indian tribes will be required in order to conclude Section 106 requirements under the National Historic Preservation Act of 1966.

#### *Indirect and Cumulative Impacts*

Indirect and cumulative impacts from this alternative would be essentially the same as those described for the proposed action.

#### Future Condition with Alternative

Floodwall

#### *Direct, Indirect and Cumulative Impacts*

Direct, Indirect and cumulative impacts from this alternative would be essentially the same as those described for the no action alternative, as the floodwall would be constructed with the existing levee alignment and would require no additional ROW.

### **3.2.9 Recreation**

#### Future Conditions with No Action

Under the No Action alternative, the Government's approved action as discussed in IER #14 would be constructed. Consequently, direct, indirect, and cumulative impacts on recreation would not differ from those described previously in the original IER.

#### Future Conditions Proposed Action all reaches

#### *Direct and Indirect Impacts*

Under the proposed action, the levee enlargement would be expanded toward the flood side of the existing levee outside the existing ROW. Approximately 15 of the 42 acres of cypress-tupelo swamp proposed to be filled for construction activities is conditionally a part of the JLNHPP through passage of the OPLMA. This Act authorized the transfer of administration of land from the USACE to the National Park Service for inclusion in the JLNHPP. Both the lands within and outside of the JLNHPP provide recreational value. There may be temporary congestion of traffic corridors in the vicinity of the activity during the construction phase. The conditions would return to normal after the construction activity is completed. Additionally, noise from construction activities could impact recreation use within the JLNHPP. No changes in impacts would be anticipated for the Ames and Mt. Kennedy reach.

#### *Cumulative Impacts*

Construction of the proposed action for these particular reaches would not have any significant cumulative effect on recreation. The construction of the WBV-14.c.2 would

result in a loss of cypress tupelo swamp habitat type that could be used for recreation. The proposed action would not result in significant cumulative impacts to recreation but would contribute to the cumulative loss of this habitat type for recreation. The USACE also has been working cooperatively with the West Jefferson Levee District to develop a land swap between the JLNHPP and the West Jefferson Levee District to swap lands within the proposed construction footprint for lands held by the West Jefferson Levee District in the interior of the JLNHPP and along the southeastern boundary of the JLNHPP.

### **3.2.10 Land Use**

#### Existing Conditions

The land use in the vicinity of the f the 14.c.2 levee and the Ames and Mt Kennedy Pumping Stations and floodwalls is comprised of undeveloped lands on the flood side of the of the project areas. The JLNHPP Barataria Unit, through the OPLMA, is now also located adjacent to a portion of the 14.c.2 levee and the Ames and Mt. Kennedy Pumping Stations and Floodwalls. The majority of the flood side lands are comprised of cypress swamp. The Millaudon Canal is also located adjacent to the Ames and Mt. Kennedy Pumping Stations.

Located along the protected side of the project area are mainly urban, and developed areas. Development includes residential neighborhoods located in the communities of Estelle and Marrero. Other development in the project area includes the major transportation arteries of Laplaco and Barataria boulevards. Also located along the protected side of the project area are undeveloped lands comprised of bottomland hardwood forest and interior drainage canals (Mayronne and unnamed drainage canals). The existing Ames and Mt. Kennedy Pumping Stations are located in the project area.

#### Future Conditions with No Action

Under the No Action alternative, the Government's approved action as discussed in IER #14 would be constructed. In IER #14 land use was not evaluated as a significant resource because all construction activities were to be performed within existing right-of-way. Consequently, direct, indirect, and cumulative impacts to land use were not discussed.

#### Future Conditions with the Proposed Action

WBV-14.c.2 Levee centerline shift flood side and levee enlargement

##### *Direct Impacts*

Under this alternative, land use would directly be impacted. The levee would be shifted flood side and enlarged and would result in the conversion of approximately 42 acres of cypress-tupelo swamp to levee, levee berm and vegetative free zone. Approximately 15 of the 42 acres of cypress-tupelo swamp, conditionally through the OPLMA, are a part of the JLNHPP. Land use would shift from undeveloped land to developed land within the expanded project footprint.

##### *Indirect Impacts*

Long term indirect impacts would not be expected because no additional areas have been identified for temporary construction easements and lands in the adjacent swamp and JLNHPP would not be expected to be developed.

*Cumulative Impacts*

Filling of the 42 acres of cypress-tupelo swamp would contribute to the cumulative land use impacts resulting from the construction of other HSDRRS projects and rebuilding in the region. The proposed action would change the land use of previously undeveloped land but would provide long term benefits because these properties would provide a hurricane and storm risk reduction system for the local area and entire region.

Future Conditions with Alternative

Earthen Levee (Unreinforced) with Landside Canal Shift

*Direct Impacts*

Under this alternative land use would directly be impacted. The levee would be shifted protected side and approximately 16.5 acres of cypress-tupelo swamp would be cleared, grubbed and filled as part of the levee and canal land side shift and enlargement. In addition, approximately 100 structures, mostly residential, are located within the proposed project footprint and would require removal. Land use would shift from undeveloped land within the expanded project footprint for those areas that are currently forested. In previously developed areas along the project alignment the land use would remain developed but would shift from residential to other use.

*Indirect Impacts*

Indirect impacts to land use are not expected as no additional areas are identified for construction easements.

*Cumulative Impacts*

The impacts to land use would contribute to the cumulative land use impacts resulting from the construction of other HSDRRS projects and rebuilding in the region. The proposed action would change the land use of previously undeveloped and developed land but would provide long term benefits because these properties would provide a hurricane and storm risk reduction system for the local area and entire region.

Future Condition with Alternative

Floodwall

*Direct, Indirect and Cumulative Impacts*

The floodwall would be constructed with the existing levee alignment and would require no additional ROW. As a result direct, indirect or cumulative impacts to land use are not expected.

Future Conditions with the Proposed Action

WBV-37 and WBV-43 Ames and Mt. Kennedy Pumping Station

*Direct Impacts*

Approximately 1.1 acres of Millaudon Canal bottom would be permanently filled with paving materials and rip-rap and 0.28 acres of Millaudon Canal bottom would be temporarily filled by the construction of temporary retention structures. All construction activities either permanent or temporary are occurring in previously developed areas. The construction activities would not change land use.

#### *Indirect*

Indirect impacts of land use would include the use of Millaudon Canal for construction access and as a temporary work site. Long-term indirect impacts are not expected as the area is expected to return to pre-construction conditions after construction has been completed.

#### *Cumulative Impacts*

Because there are only minor increases in project ROW and the majority of construction activities are located in the existing pumping station reservation, no changes in direct, indirect or cumulative land use are anticipated for this alternative.

### **3.3 SOCIOECONOMIC RESOURCES**

The proposed project being evaluated is a part of the WBV located in Jefferson Parish and the larger New Orleans MSA. The boundaries of IER #14 generally follow the initial alignment of the existing levee, extending southward from the community of Westwego, following nearby drainage canals and alluvial ridges along Bayou des Familles, and then turning southeast to the V-line levee. The eastern boundary of the levee alignment includes urban developments while most of the area west of the alignment is wetlands and part of the JLNHPP. The project includes almost 11 miles of levee, and the construction of 10,762 linear ft of floodwalls, including fronting protection at three existing pumping stations. The social and economic considerations discussed in IER #14 are essentially those immediately within the proposed project site and ROW and are incorporated by reference.

#### **3.3.1 Transportation**

##### Future Conditions with No Action

Under the No Action alternative the Government's approved action as discussed in IER #14 would be constructed. Consequently, direct transportation impacts would not differ from those described previously in the original IER. However, indirect and cumulative impacts would differ from those impacts described in IER #14. Indirect impacts not previously discussed in IER #14 would include moderate but temporary traffic congestion along the major road ways such as Laplace Boulevard, Hwy 45 and Hwy 3134 due to project construction activities.

Based on additional transportation information obtained since the release of IER #14, cumulative transportation impacts are estimated to be significant. Current estimates of over 57 million miles traveled and over 2 million trips for the predicted truck transportation of the required borrow material for both the Westbank and Vicinity and Lake Pontchartrain and Vicinity Hurricane Protection Projects. It is estimated that daily

trips for borrow would exceed 40 continuous weeks of 3,000 daily deliveries. The incremental cumulative effect from the construction of IER #14 would not be substantial, but the cumulative effect of transporting all the materials needed to construct the Westbank and Vicinity and Lake Pontchartrain and Vicinity Projects may be significant. Additionally impacts to transportation infrastructure that are anticipated include the accelerated wear of transportation infrastructure including roads, bridges and culverts. Additional cumulative transportation impacts associated with constructing the HSDRRS will be discussed in the CED.

#### Future Conditions for Proposed Action all reaches

##### *Direct, Indirect and Cumulative Impacts*

The impacts of the proposed action for all reaches addressed in this IER Supplemental would be similar to those described in “Future Condition with No Action” section. Direct, indirect and cumulative impacts may be slightly increased from the no action condition because the duration of construction of the proposed WBV-14.c.2 levee enlargement would be longer than the action approved in IER #14 for the WBV-14.c.2 reach.

### **3.3.2 Environmental Justice**

#### Future Conditions with No Action

Under the no action alternative, the proposed action would only be constructed as described in IER #14. Consequently, environmental justice impacts would not differ significantly from those described previously in IER #14.

#### Future Condition with Proposed Action all reaches

Under the proposed action, the WBV-14.c.2 levee would be enlarged and flood side shifts would occur at the Ames and Mt. Kennedy Pumping Stations. The proposed construction would occur in uninhabited areas which are located within 1-mile of residential communities. With implementation of the proposed action, minor impacts from the proposed action, such as air quality, noise, traffic, safety, etc. would occur, but are usually limited to within 1-mile of the project area, are temporary in nature, and would impact non-minority and/or non-low income communities as well. Additional impacts would be the additive combination of impacts to minority and/or low-income communities by other Federal, state, local, and private efforts.

## **3.4 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE**

### **Existing Conditions**

Under Engineer Regulation (ER) 1165-2-132 the reasonable identification and evaluation of Hazardous, Toxic, and Radioactive Waste (HTRW) contamination within a proposed area of construction is required. ER 1165-2-132 identifies our HTRW policy to avoid the use of project funds for HTRW removal and remediation activities. Costs for necessary special handling or remediation of wastes (e.g., Resource Conservation and Recovery Act (RCRA) regulated), pollutants and other contaminants, which are not regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),

would be treated as project costs if the requirement is the result of a validly promulgated Federal, state or local regulation.

An ASTM E 1527-05 Phase I Environmental Site Assessment (ESA) was completed for the original project area on 27 March 2008. A copy of the Phase I ESA will be maintained on file at CEMVN. The Phase I ESA documented the Recognized Environmental Conditions (REC) for the original project area. Since the Phase I study was completed additional changes in project design have occurred which have enlarged the proposed project footprint. In the WBV-14.c.2 reach the proposed ROW was expanded by 100 ft and in the Ames and Mt. Kennedy reach the floodwall alignment would be shifted within the ROW.

Reports of possible dumping were received in the area of the proposed widened WBV-14.c.2 reach following a field site inspection. To address these reports, an environmental site assessment addendum and HTRW field inspection were conducted. The addendum review identified an abandoned well within the footprint of the existing levee ROW. The field inspection, conducted on 21 July 2009, did not reveal any evidence of HTRW either at the location identified for the abandoned well or in the possible dump site. Should any trash be discovered during construction activities an appropriate response plan would be developed.

If a Recognized Environmental Condition (REC) cannot be avoided, due to the necessity of construction requirements, the CEMVN may further investigate the REC to confirm presence or absence of contaminants, actions to avoid possible contaminants, such as removing contaminated soils, and if local, state or Federal coordination is required. Because the CEMVN plans to avoid RECs, and plans to work mainly within the previously established ROW, the probability of encountering HTRW in the project area is very low.

#### Future Condition with No Action

Under the no action alternative, construction of the previously approved plan would be implemented. Consequently, direct, indirect, and cumulative impacts of HTRW would not differ from those described previously in IER #14.

#### Proposed Action for all Reaches

##### *Direct, Indirect and Cumulative Impacts*

Under the proposed action, the proposed modifications would be implemented and the 100-year level of risk reduction would be constructed. Because no specific HTRW concerns that could not be avoided or removed were identified from previous site investigations, no direct, indirect, or cumulative effects from HTRW would result from implementing the proposed plan. However, the potential to create HTRW materials during the construction process is always a possibility. Storage, fueling, and lubrication of equipment and motor vehicles associated with the construction process would be conducted in a manner that affords the maximum protection against spill and evaporation. Fuel, lubricants, and oil would be managed and stored in accordance with all Federal, state, and local laws and regulations. Used lubricants and used oil would be stored in marked corrosion-resistant containers and recycled or disposed in accordance with appropriate requirements. The construction contractor would be required to develop a Spill Control Plan.

In the event of an unplanned discovery of HTRW materials during construction, work

that could affect the contaminated materials would be stopped and appropriate notification and coordination would be completed. Investigations would be conducted to characterize the nature and extent of the contamination and establish appropriate resolution.

## **4.0 CUMULATIVE IMPACTS**

NEPA requires a Federal agency to consider not only the direct and indirect impacts of a proposed action, but also the cumulative impact of the action. Cumulative impact is defined as the “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR §1508.7).” Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. These actions include on- or off-site projects conducted by government agencies, businesses, or individuals that are within spatial or temporal boundaries of the actions considered in this IER Supplemental.

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

After IER #14 was completed the USACE conducted additional engineering and design, including the collection and analysis of additional geotechnical information. This resulted in a larger levee footprint for the WBV-14.c.2 reach. Additionally, fronting protection and floodwall construction at the Ames and Mt. Kennedy Pumping Stations were also redesigned in order to achieve the 100-year level of risk reduction. If the proposed changes in design are not implemented the 100-year level of risk reduction will not be achieved for these reaches. Providing the 100-year level of risk reduction would contribute to the protection of life and property and the reduction of physical and environmental damage along the West Bank and Vicinity, Westwego to Harvey Levee Project area.

Negative affects associated with the implementation of the proposed action that could contribute cumulatively with the effects of other projects include construction related increases in truck traffic, noise and vibration, vehicle and equipment emissions as well as the accelerated wear of transportation infrastructure including roads, bridges and culverts. Other impacts include the permanent loss of approximately 42 areas of cypress-tupelo swamp and the filling of 1.1 acres of canal bottom. Until final designs are completed on all reaches of the LPV and WBV projects, the total habitat loss related to the implementation of all the IERs cannot be finalized. The current totals are presented in table 6. The positive cumulative effects of implementing the proposed action would be the temporary expansion of the local economy by construction-related activities.

The proposed action would have cumulative beneficial impacts to the socioeconomics of the region. The HSDRRS would be improved to provide additional hurricane, storm, and

flood damage reduction to minimize the threat of inundation of infrastructure due to severe tropical storm events. Improved hurricane, storm, and flood damage reduction measures benefit all property owners, regardless of income or race, increases confidence, could reduce insurance rates, and allows for development and re-development of existing urban areas.

Table 6 shows the cumulative compensatory mitigation that will be completed by the CEMVN. This table will be updated as potential impacts are assessed in forthcoming IERs.

Cumulative impacts for the actions considered in all of the IERs will be incorporated into the CED.

## **5.0 SELECTION RATIONALE**

The modifications proposed in this IER Supplemental were developed in order to meet the 100-year level of risk reduction for the project features identified. After IER #14 was completed, the USACE conducted additional engineering and design, including the collection and analysis of geotechnical information. The fronting protection and floodwall construction at the Ames and Mt. Kennedy Pumping Stations were redesigned in order to achieve the 100-year level of risk reduction. The redesign efforts resulted in a larger levee footprint than previously required and changes in floodwall design adjacent to the pumping stations.

The CEQ regulations for implementing NEPA require that the Record of Decision (ROD) for an environmental impact statement specify "the alternative or alternatives which were considered to be environmentally preferable" (40 CFR §1505.2(b)). This alternative has generally been interpreted to be the alternative that would promote the national environmental policy as expressed in NEPA's Section 101 (CEQ's "Forty Most-Asked Questions," 46 Federal Register, 18026, March 23, 1981). Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.

If the proposed changes in design are not implemented, the 100-year level of risk reduction will not be achieved for either the WBV-14.c.2 levee reach or the WBV-37 and WBV-43 reaches adjacent to the Ames and Mt. Kennedy Pumping Stations. On the basis of risk reduction and reliability, environmental impacts, cost, time and constructability, the proposed action for the WBV-14.c.2 levee reach was selected as the environmentally preferable alternative to provide the 100-year level of risk reduction. The proposed action was the environmentally preferable alternative because of its low adverse human impact, relatively short construction duration and low cost. It is the alternative that best protects, and preserves the human environment including historic and cultural resources. Furthermore, all practicable means to avoid or minimize environmental effects have been incorporated in the recommended plan. Project impacts have been reduced by incorporating the existing WBV-14.c.2 alignment into the widened footprint. Other

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana

**Table 6. HSDDRRS Impacts and Compensatory Mitigation to be Completed**

| IER  | Parish                             |                | Non-wet | Non-wet BLH | BLH    | BLH   | Swamp | Swamp | Marsh  | Marsh  | Water Bottoms |
|--|------------------------------------|----------------|---------|-------------|--------|-------|-------|-------|--------|--------|---------------|
|  |                                    |                | acres   | AAHUs       | acres  | AAHUs | acres | AAHUs | acres  | AAHUs  | acres         |
| 1<br>LPV, La Branch<br>Wetlands Levee              | St. Charles                        | Protected Side | -       | -           | -      | -     | 73.23 | 39.53 | -      | -      | -             |
|  |                                    | Flood Side     | -       | -           | -      | -     | 38.48 | 29.73 | -      | -      |               |
| 1 Supplemental<br>LPV, La Branch<br>Wetlands Levee | St. Charles                        | Protected Side | -       | -           | -      | -     | -     | -     | -      | -      | -             |
|  |                                    | Flood Side     | -       | -           | -      | -     | -     | -     | -      | -      |               |
| 2<br>LPV, West Return<br>Floodwall                 | St. Charles, Jefferson             | Protected Side | -       | -           | -      | -     | -     | -     | 17.00  | 9.00   | -             |
|  |                                    | Flood Side     | -       | -           | -      | -     | -     | -     | 17.00  | 9.00   |               |
| 3<br>LPV, Jefferson<br>Lakefront Levee             | Jefferson                          | Protected Side | -       | -           | -      | -     | -     | -     | -      | -      | 26.40         |
|  |                                    | Flood Side     | -       | -           | -      | -     | -     | -     | -      | -      |               |
| 4<br>LPV, Orleans<br>Lakefront Levee               | Orleans                            | Protected Side | -       | -           | -      | -     | -     | -     | -      | -      | -             |
|  |                                    | Flood Side     | -       | -           | -      | -     | -     | -     | -      | -      |               |
| 5<br>LPV, Lakefront<br>Pumping Stations            | Jefferson, Orleans                 | Protected Side | -       | -           | -      | -     | -     | -     | -      | -      | 3.29          |
|  |                                    | Flood Side     | -       | -           | -      | -     | -     | -     | -      | -      |               |
| 6<br>LPV, Citrus Lands<br>Levee                    | Orleans                            | Protected Side | -       | -           | -      | -     | -     | -     | -      | -      | 6.90          |
|  |                                    | Flood Side     | -       | -           | -      | -     | -     | -     | 4.00   | -      |               |
| 7<br>LPV, Lakefront<br>Levee                       | Orleans                            | Protected Side | -       | -           | 151.70 | 79.30 | -     | -     | 100.40 | 36.80  | 106.00        |
|  |                                    | Flood Side     | -       | -           | 30.00  | 11.90 | -     | -     | 70.00  | 37.20  |               |
| 8<br>LPV, Bayou Dupre<br>Control Structure         | St. Bernard                        | Protected Side | -       | -           | -      | -     | -     | -     | -      | -      | 0.30          |
|  |                                    | Flood Side     | -       | -           | -      | -     | -     | -     | -      | -      |               |
| 10<br>LPV, Chalmette<br>Loop                       | St. Bernard                        | Protected Side | -       | -           | 38.32  | 16.44 | -     | -     | 106.55 | 57.31  | 95.00         |
|  |                                    | Flood Side     | -       | -           | 35.31  | 15.22 | -     | -     | 323.04 | 209.94 |               |
| 11 Tier 2 Borgne<br>IHNC                           | Orleans, St. Bernard               | Protected Side | -       | -           | -      | -     | -     | -     | -      | -      | -             |
|  |                                    | Flood Side     | -       | -           | 15.00  | 2.59  | -     | -     | 122.00 | 24.33  |               |
| 12<br>GIWW, Harvey,<br>Algiers                     | Jefferson, Orleans,<br>Plaquemines | Protected Side | -       | -           | 251.70 | 177.3 | -     | -     | -      | -      | -             |
|  |                                    | Flood Side     | -       | -           | 2.30   | 1.90  | 74.90 | 38.50 | -      | -      |               |
| 14<br>WBV, Westwego to<br>Harvey Levee             | Jefferson                          | Protected Side | -       | -           | 45.00  | 30.00 | -     | -     | -      | -      | -             |
|  |                                    | Flood Side     | -       | -           | 45.50  | 37.17 | 29.75 | 17.02 | -      | -      |               |

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
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| IER  | Parish   |                | Non-wet      | Non-wet BLH  | BLH          | BLH          | Swamp        | Swamp        | Marsh        | Marsh        | Water Bottoms |
|--|--|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
|  |  |                | <i>acres</i> | <i>AAHUs</i> | <i>acres</i> | <i>AAHUs</i> | <i>acres</i> | <i>AAHUs</i> | <i>acres</i> | <i>AAHUs</i> | <i>acres</i>  |
| 14.a<br>Supplemental<br>WBV, Westwego to<br>Harvey Levee | Jefferson  | Protected Side | -            | -            |              |              | -            | -            | -            |              | -             |
|  |  | Flood Side     |              |              |              |              | 42           | 24           |              | -            |               |
| 15<br>WBV, Lake<br>Cataouatche Levee                     | Jefferson  | Protected Side | -            | -            | 23.50        | 6.13         | -            | -            | -            | -            | -             |
|  |  | Flood Side     | -            | -            | 3.60         | 1.35         | -            | -            | -            | -            |               |
| 16<br>WBV, Western Tie-<br>in                            | Jefferson, St. Charles   | Protected Side | -            | -            | -            | -            | -            | -            | -            | -            | -             |
|  |  | Flood Side     | -            | -            | -            | -            | -            | -            | 137.80       | 66.30        |               |
| 17<br>Company Canal<br>Floodwall                         | Jefferson  | Protected Side | -            | -            | 5.50         | 2.69         | -            | -            | -            | -            | -             |
|  |  | Flood Side     | -            | -            | -            | -            | 19.00        | 17.09        | -            | -            |               |
| 18<br>GFBM   | Jefferson, Orleans,<br>Plaquemines, St. Bernard,<br>St. Charles                      | Protected Side | 379.30       | 152.32       | -            | -            | -            | -            | -            | -            | -             |
|  |  | Flood Side     | -            | -            | -            | -            | -            | -            | -            | -            |               |
| 19<br>CFBM   | Hancock County, MS;<br>Iberville, Jefferson,<br>Orleans, Plaquemines, St.<br>Bernard | Protected Side | -            | -            | -            | -            | -            | -            | -            | -            | -             |
|  |  | Flood Side     | -            | -            | -            | -            | -            | -            | -            | -            |               |
| 22<br>GFBM   | Jefferson,<br>Plaquemines  | Protected Side | 244.69       | 118.54       | -            | -            | -            | -            | -            | -            | -             |
|  |  | Flood Side     | -            | -            | -            | -            | -            | -            | -            | -            |               |
| 23<br>CFBM   | Hancock County, MS;<br>Plaquemines, St. Bernard,<br>St. Charles                      | Protected Side | -            | -            | -            | -            | -            | -            | -            | -            | -             |
|  |  | Flood Side     | -            | -            | -            | -            | -            | -            | -            | -            |               |
| 25<br>GFBM   | Jefferson, Orleans,<br>Plaquemines   | Protected Side | 933.00       | 284.00       | -            | -            | -            | -            | -            | -            | -             |
|  |  | Flood Side     | -            | -            | -            | -            | -            | -            | -            | -            |               |
| 26<br>CFBM   | Jefferson, Plaquemines, St.<br>John the Baptist; Hancock<br>County, MS               | Protected Side | -            | -            | -            | -            | -            | -            | -            | -            | -             |
|  |  | Flood Side     | -            | -            | -            | -            | -            | -            | -            | -            |               |
| 28<br>GFBM   | Jefferson, Plaquemines, St.<br>Bernard   | Protected Side | 19.94        | 8.45         | -            | -            | -            | -            | -            | -            | -             |
|  |  | Flood Side     | -            | -            | -            | -            | -            | -            | -            | -            |               |
| 29<br>CFBM   | Orleans, St. Tammany, St.<br>John the Baptist  | Protected Side | 107.30       | 48.60        | -            | -            | -            | -            | -            | -            | -             |
|  |  | Flood Side     | -            | -            | -            | -            | -            | -            | -            | -            |               |

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

| IER        | Parish                                    |                | Non-wet      | Non-wet BLH  | BLH          | BLH          | Swamp        | Swamp        | Marsh        | Marsh        | Water Bottoms |
|------------|---|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
|            |   |                | <i>acres</i> | <i>AAHUs</i> | <i>acres</i> | <i>AAHUs</i> | <i>acres</i> | <i>AAHUs</i> | <i>acres</i> | <i>AAHUs</i> | <i>acres</i>  |
| 30<br>CFBM | St. Bernard and St. James;<br>Hancock, MS | Protected Side | 225.00       | 189.40       | -            | -            | -            | -            | -            | -            | -             |
|            |   | Flood Side     | -            | -            | -            | -            | -            | -            | -            | -            |               |
| Totals     |   | Protected Side | 1909.23      | 801.31       | 515.72       | 311.89       | 73.23        | 39.53        | 223.95       | 103.11       | 00.00         |
|            |   | Flood Side     | -            | -            | 131.71       | 70.13        | 204.13       | 126.34       | 673.84       | 346.77       | 230.99        |
|            |   | Both           | 1909.23      | 801.31       | 647.43       | 382.02       | 277.36       | 165.87       | 897.79       | 449.88       | 230.99        |

- Not applicable to the IER or number impacted is 0

GFBM: Government Furnished Borrow Material // CFBM: Contractor Furnished Borrow Material

alternatives were considered but eliminated from consideration. Those alternatives are discussed below.

Deep soil mixing was also considered as an alternative to the proposed flood side shift. Deep soil mixing was eliminated due to high cost and high estimated construction duration. It is estimated to construct soil mixing along on 40 percent of the 3.29 mile levee reach would result in an increase in construction costs of approximately 60 percent. Soil mixing along the entire 14.c. 2 levee reach would also require an estimated 50 percent increase in construction duration. Finally, the need to perform a levee degrade which would be part of the construction sequence for soil mixing would cause openings in the levee system during construction. To minimize these openings and as a standard procedure for the Hurricane Risk Reduction System work, only short reaches of embankment, typically 2,000 linear feet, are concurrently degraded during hurricane season. This restriction reduces the risk of flooding during hurricane season and at the same time this construction practice significantly increases construction durations.

Two alternatives that included a protected side levee shift one which incorporated a culvert and a second which did not incorporate a culvert were also considered as alternatives to the proposed flood side shift. These alternatives were eliminated from consideration because of the impacts associated with the acquisition of residential structures and some protected side wetlands, the high cost and increased construction duration. In the case of the alternative that incorporates a culvert, the construction during would increase by approximately 80 percent over the proposed flood side shift.

A floodwall alternative was also considered. This alternative was eliminated due to high cost and long construction duration. The long construction duration is associated with the construction sequence required to build a floodwall at this location. Soil conditions at the project site would necessitate a significant amount of excavation or degrading of the existing levee to provide an adequate foundation to construction the T-wall and support piles of a floodwall. As described above, the need to perform a levee degrade causes openings in the HSDRRS and reduces the ability of the system to provide storm risk reduction. Therefore work is performed in short reaches during the hurricane season to reduce the risk of flooding.

Additional information regarding the alternative evaluation and criteria used compare alternatives can be found in Appendix e.

The proposed action for the Ames and Mt. Kennedy Pumping Stations is a redesign to meet 100-year level of risk reduction; as a result, alternatives were not formally developed or evaluated. During the redesign process, however, designs for the Ames and Mt. Kennedy Pumping Stations that impacted the adjacent JLNHPP lands were eliminated from consideration. Additional ROW was required for the redesign for the construction of temporary containment features and discharge monoliths. The Millaudon Canal is located between the existing project ROW and the Jean Lafitte National Historical Park and Preserve-Barataria Preserve Unit (JLNHPP). The specific site conditions, the physical space available in the canal provided adequate space for the containment features and the discharge monoliths. As a result, JLNHPP lands were not impacted by the proposed redesign. None of the proposed actions preclude any future enhancements to the HSDRRS

Taking no action, although avoiding the direct effects from construction of the 100-year level of risk reduction, would predictably and repeatedly lead to indirect effects from the risk of large-scale flooding and the associated clean up.

## **6.0 COORDINATION AND CONSULTATION**

### **6.1 PUBLIC COORDINATION**

Since this project includes unavoidable adverse impacts to jurisdictional wetlands under Section 404 of the Clean Water Act, a 404 public notice was made available to the public and other interested parties on the [www.nolaenvironmental.gov](http://www.nolaenvironmental.gov) website. The 404 public notice was advertised for the 30-day period of 16 November to 15 December 2009.

The draft IER Supplemental was distributed to the public for a 30-day period of 16 November to 15 December. A stakeholder requested a public meeting during the 30-day public comment period. The public meeting was held on 4 February 2010 and the public comment period was extended to 4 February 2010. Comments received during the comment period are considered as part of the official record. After the comment period closed, the CEMVN Commander reviewed all comments received and made a determination of whether the comments were substantive in nature. After the expiration of the public comment period, the CEMVN Commander made a decision on the proposed action. The decision is documented in the form of an IER Decision Record.

### **6.2 AGENCY COORDINATION**

Preparation of this IER has been coordinated with appropriate Congressional, Federal, state, and local interests, as well as environmental groups and other interested parties. An interagency environmental team was established for this project in which Federal and state agency staff played an integral part in the project planning and alternative analysis phases of the project (members of this team are listed in appendix C). This interagency environmental team was integrated with the CEMVN Project Delivery Team to assist in the planning of this project and to complete a mitigation determination of the potential direct and indirect impacts of the proposed action. Monthly meetings with resource agencies were also held concerning this and other CEMVN IER projects. The following agencies, as well as other interested parties, received copies of the draft IER Supplemental:

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

The USFWS has reviewed the proposed action and in their e-mail dated 2 September 2009, concurred with the USACE determination that the proposed action would have no

effect on any known threatened or endangered species or their habitat. National Oceanic and Atmospheric Administration (NOAA) NMFS concurred with the CEMVN determination that the proposed action would have no impact to essential fish habitat in by their e-mail dated 9 July 2009. The USACE made a no effect determination for federally protected species under the jurisdiction of NOAA NMFS.

The LaDNR reviewed the proposed action for consistency with the Louisiana Coastal Resource Program (LCRP). The proposed action was found to be consistent with the LCRP, as per a letter dated 10 November 2009.

The Louisiana Department of Environmental Quality (LDEQ) reviewed the proposed action. CEMVN received Water Quality Certification by letter dated 4 August 2009. An Air Quality Certification was coordinated with LDEQ through the 30-day public review period associated with IERS #14.a.

Section 106 of the National Historic Preservation Act, as amended, requires consultation with SHPO and Native American tribes. SHPO reviewed the proposed action and determined that it would not adversely affect any cultural resources by letter dated 13 August 2009. Eleven Federally-recognized tribes that have an interest in the region were given the opportunity to review and comment on the proposed action. Four tribes, the Quapaw Tribe of the Oklahoma, Seminole Tribe of Florida, Choctaw Nation of Oklahoma and the Alabama- Coushatta Tribe of Texas, replied that they have no objection to the proposed action.

The USFWS reviewed the proposed action in accordance with the Fish and Wildlife Coordination Act and prepared a draft Coordination Act Report for IERS #14.a dated 10 November 2009. A final report was prepared after the 30-day review period and was received on 13 January 2010. All comments related to USFWS trust resources have been resolved. The USFWS previously provided programmatic recommendations, in the "Draft Fish and Wildlife Coordination Act Report for the Individual Environmental Reports (IER), Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (Supplemental 4)" in November 2007. The uncertainties in the design of several projects prohibited a complete evaluation of the impacts to fish and wildlife species and the reporting responsibilities under Section 2(b) of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended: 16 U.S.C. 661 et seq.). Therefore, a subsequent final supplemental report would be provided by the USFWS at a later date. The draft (programmatic) Fish and Wildlife Coordination Act Report for the IERs dated November 2007 can be accessed through the [www.nolaenvironmental.gov](http://www.nolaenvironmental.gov) website. Those programmatic recommendations and the recommendations for IERS #14.a are incorporated by reference.

The USFWS' recommendations specific to the draft IERS #14.a and CEMVN's response to them are listed below:

Recommendation 1: To the greatest extent possible, situate flood protection features so that destruction of wetlands and non-wetland bottomland hardwoods are avoided or minimized.

CEMVN Response 1: Concur.

Recommendation 2: Ensure impacts and encroachment onto National Park Service lands are avoided. Unavoidable impacts and encroachments, when permissible by that agency, should be minimized and appropriately mitigated. Point of contact for the National Park

Service (NPS) is Chief of Resource Management David Muth (504)589-3882 extension 128, ([david\\_muth@nps.gov](mailto:david_muth@nps.gov))

CEMVN Response 2: Concur.

Recommendation 3: Future maintenance and associated activities (e.g., staging areas, access routes, pipeline lowerings, etc.) should be identified, planned and coordinated with the JLNHPP staff to avoid future potential impacts to National Park Service lands.

CEMVN Response 3: Concur.

Recommendation 4: Forest clearing associated with project features should be conducted during the fall or winter to minimize impacts to nesting migratory birds, when practicable.

CEMVN Response 4: Concur.

Recommendation 5: The project's first Project Cooperation Agreement (or similar document) should include language that specifies the responsibility of the local-cost sharer to provide operational, monitoring, and maintenance funds for mitigation features.

CEMVN Response 5: USACE Project Partnering Agreements (PPA) do not contain language mandating the availability of funds for specific project features, but require the non-Federal sponsor to provide certification of sufficient funding for the entire project. Further, mitigation components area considered a feature of the entire project. The non-Federal sponsor is responsible for Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R) of all project features in accordance with the OMRR&R manual that the USACE provides upon completion of the project construction.

Recommendation 6: Further detailed planning of project features (e.g., Design Documentation Report, Engineer Documentation Report, Plans and Specifications, or other similar documents) should be coordinated with the Service, NMFS, LDWF, Environmental Protection Agency (EPA) and Louisiana Department of Natural Resources (LDNR). The Service shall be provided an opportunity to review and submit recommendations on all the work addressed in these reports.

CEMVN Response 6: Concur.

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

CEMVN Response 7: Concur.

Recommendation 8: The Corps shall fully mitigate for any unavoidable losses of wetlands (108.19 AAHUs) caused by the project features. Development and implementation of those mitigation plans should be done in concert with the Service and other resources agencies. To the extent feasible, impacts to Federal lands should be mitigated on Federal lands within the vicinity of IER 14.

CEMVN Response 8: Concur. Mitigation for the impacts caused by this project would be coordinated through mitigation IER(s).

In the USFWS' Final Coordination Act Report (CAR) dated 13 January 2010 one additional project-specific recommendation was included that had not been previously included in the draft CAR, the USFWS' recommendation, and the CEMVN's response, is listed below:

Recommendation 3: Any future changes to any reach of IER 14 that may impact NPS lands or floodside wetlands should examine alternatives on a sub-reach basis to ensure all feasible alternatives have been examined. That analysis should be coordinated with the NPS, the Service and other natural resource agencies.

CEMVN Response 3: Concur.

## **7.0 MITIGATION**

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

For the proposed action, a total of 42 acres has been identified that would require compensatory mitigation. Approximately 42 acres of cypress-tupelo swamp comprise the total number of acres. Quantitative analysis utilizing existing methodologies for water resource planning has identified the acreages and habitat type for the direct or indirect impacts of implementing the proposed action.

On 30 August 2007, an interagency field trip was conducted to obtain raw field data for the IER #14 project. The methodology being utilized in determining appropriate mitigation, which would include no net loss of wetland values, is the interagency Wetland Value Assessment (WVA). The WVA computes the Average Annualized Habitat Units (AAHUs) lost by project implementation. The AAHUs are converted to acres needed to meet the nation's no-net-loss of wetlands policy once the mitigation site is selected. That information and information gathered during an additional site inspection conducted on 28 August 2009, by the USFWS, was utilized to compute habitat impacts due to the proposed IERS #14.a. A total of 24 AAHUs of cypress-tupelo swamp have been computed as appropriate mitigation requirements for IERS #14.a.

Two distinct habitats were represented within the boundaries of IER #14 project, namely bottomland hardwood forests and cypress-tupelo swamp. The habitat type impacted by the proposed actions described in the IER Supplemental is cypress-tupelo swamp of medium to high value which is located within reach WBV-14c.2 and canal bottom and canal shoreline which are located adjacent to the pumping stations. After IER #14 was completed the USACE conducted additional engineering and design, including the collection and analysis of geotechnical information. This resulted in a larger levee footprint for the WBV-14.c.2 reach. Additionally, fronting protection and floodwall construction at the Ames and Mt. Kennedy Pumping Station were also redesigned in order to achieve the 100-year level of risk reduction. In the case of the WBV-14.c.2 reach,

the redesigned levee footprint requires the expansion of the levee footprint outside of existing ROW. The area impacted by this flood side shift is cypress-tupelo swamp that is located on private lands and on lands that are conditionally a part of the JLNHPP through the passage of the OPLMA. As stated previously, the proposed levee expansion project requires a larger footprint than identified in IER #14. The expanded levee provides engineering effectiveness and safety.

A complementary comprehensive mitigation IER or IERs will be prepared documenting and compiling these unavoidable impacts and those for all other proposed actions within the HSDDRS that are being analyzed through other IERs. Mitigation planning is being carried out for groups of IERs, rather than within each IER, so that large mitigation efforts could be taken rather than several smaller efforts, increasing the relative economic and ecological benefits of the mitigation effort.

This forthcoming mitigation IER will implement compensatory mitigation as early as possible. All mitigation activities will be consistent with standards and policies established in appropriate Federal and state laws, and USACE policies and regulations.

Table 6. shows the cumulative compensatory mitigation that will be completed by the CEMVN. This table will be updated as potential impacts are assessed in forthcoming IERs.

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

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

Environmental compliance for the proposed action would be achieved upon coordination of this IER Supplemental with appropriate agencies, organizations, and individuals for their review and comments; USFWS and NMFS confirmation that the proposed action would not adversely affect any T&E species or require completion of Endangered Species Act Section 7 consultation; LDNR concurrence with the determination that the proposed action is consistent, to the maximum extent practicable, with the LCRP; receipt of a Water Quality Certification from the State of Louisiana; public review of the Section 404(b)(1) Public Notice and signature of the Section 404(b)(1) Evaluation; coordination with the SHPO; receipt and acceptance or resolution of all Fish and Wildlife Coordination Act recommendations; receipt and acceptance or resolution of all LDEQ comments on the air quality impact analysis documented in the IER; and receipt and acceptance or resolution of all Essential Fish Habitat recommendations.

Executive Order (E.O.) 11988. E.O. 11988, Floodplain Management, addresses minimizing or avoiding adverse impacts associated with the base floodplain unless there are no practicable alternatives. It also involves giving public notice of proposed actions that may affect the base floodplain. The proposed action would not accelerate development of the floodplain for the following reasons: development of the study area is more closely related to access routes and the need for affordable housing space than flooding potential and conditions conducive for development were established initially when the area was leveed and forced drainage was initiated in the middle 1960s.

Executive Order 11990. E.O. 11990, Protection of Wetlands, has been important in project planning. It is acknowledged that a portion of the area enclosed by the existing levee consists of wetlands. However, by following the existing alignments and where enlargements are occurring incorporating the existing levee ROW into the final levee enlargement would minimize direct adverse impacts to wetlands for this project. Any increased size of the interior borrow/drainage canal as a result of levee enlargement would result in increased capacity; however, this would have essentially no indirect effect on the rate of drainage from the basin. Increased pumping station capacities are not a part of this action.

Consistency with Coastal Zone Management (CZM) Program. The CEMVN has determined that construction and maintenance of the proposed modifications to the 100-year level of risk reduction along the WBV, Westwego to Harvey Levee Project is consistent, to the maximum extent practicable, with the guidelines of the State of Louisiana's approved Coastal Zone Management Program. A modification to CZM consistency determination C20080048, was dated 30 June 2009. The consistency determination concurrence was received from the LaDNR on 10 November 2009.

Clean Air Act. The original 1970 CAA authorized USEPA to establish NAAQS to limit levels of pollutants in the air. The USEPA has promulgated NAAQS for six criterion pollutants: sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), ozone, lead, and particulate matter (PM-10). All areas of the United States must maintain ambient levels of these pollutants below the ceilings established by the NAAQS; any area that does not meet these standards is considered a "non-attainment" area (NAA). The 1990 Amendments require that the boundaries of serious, severe, or extreme ozone or CO non-attainment areas located within Metropolitan Statistical Areas (MSAs) or Consolidated Metropolitan Statistical Areas (CMSAs) be expanded to include the entire MSA or CMSA unless the governor makes certain findings and the Administrator of the USEPA concurs. Consequently, all urban counties included in an affected MSA or CMSA, regardless of their attainment status, would become part of the NAA. The project is located in Jefferson Parish, which is classified as an attainment area; therefore, NAAQS are not applicable to this project.

Clean Water Act. The Clean Water Act (CWA; 33 U.S.C. 1251-1387; Act of June 30, 1972, as amended) is a very broad statute with the goal of maintaining and restoring waters of the United States. The CWA authorizes water quality and pollution research, provides grants for sewage treatment facilities, sets pollution discharge and water quality standards, addresses oil and hazardous substances liability, and establishes permit programs for water quality, point source pollutant discharges, ocean pollution discharges, and dredging or filling of wetlands. The intent of the CWA's §404 program and its §404(b)(1) "Guidelines" is to prevent destruction of aquatic ecosystems including wetlands, unless the action would not individually or cumulatively adversely affect the ecosystem.

Section 404(b) (1) guidelines were used to evaluate the discharge of dredged or fill material for adverse impacts to the aquatic ecosystem. The following actions would be taken to minimize the potential for adverse environmental impacts. The proposed levee enlargement would incorporate the existing levee ROW into the levee alignment. All sloped areas would be seeded. Non-forested wetlands, consisting of mown levee grasses or grazed pasture, were not mitigated because of their low value to fish and wildlife resources. The proposed project complies with the requirements of the guidelines. The LDEQ Water Quality Certification letter, JP 080213-04, dated 4 August 2009, completes the certification process.

Endangered Species Act. The Endangered Species Act (ESA; 16 U.S.C. 1531-1543; Pub. L. 93-205, as amended) was enacted in 1973 for the purpose of providing for the conservation of species which are in danger of extinction throughout all or a significant portion of their range. "Species" is defined by the ESA to mean either a species, a subspecies, or, for vertebrates (*i.e.*, fish, reptiles, mammals, etc.) only, a distinct population. No threatened or endangered species or their critical habitat would be impacted by the proposed action. The USFWS concurred with our determination in their e-mail dated 2 September 2009.

Fish and Wildlife Coordination Act. The Fish and Wildlife Coordination Act (16 U.S.C. 661-666c; Act of March 10, 1934, as amended) requires that wildlife, including fish, receive equal consideration and be coordinated with other aspects of water resource development. This is accomplished by requiring consultation with the USFWS and NMFS whenever modifications are proposed to a body of water and a Federal permit or license is required. This consultation determines the possible harm to fish and wildlife resources, as well as the measures that are needed to prevent the damage to and loss of these resources and to develop and improve the resources, in connection with water resource development. NMFS submits comments and recommendations to Federal licensing and permitting agencies conducting construction projects on the potential harm to living marine resources caused by the proposed water development projects, and submits recommendations to prevent harm. The USFWS provided the "Draft Fish and Wildlife Coordination Act Report for the Individual Environmental Reports (IER), Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (Supplemental 4)" in November 2007. To fulfill the responsibilities of the Fish and Wildlife Coordination Act, the USFWS will provide a post-authorization final supplemental 2(b) report to the draft programmatic report. A draft project-specific Coordination Act Report for the IER Supplemental was received from USFWS by letter dated 10 November 2009. A final report was prepared after the 30-day public review period, and received on 13 January 2010. All comments regarding USFWS trust resources have been resolved.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act of 1918 (MBTA) is the domestic law that affirms, or implements, the United States' commitment to four international conventions with Canada, Japan, Mexico, and Russia for the protection of shared migratory bird resources. The MBTA governs the taking, killing, possessing, transporting, and importing of migratory birds, their eggs, parts, and nests. The take of all migratory birds is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes and requiring harvest to be limited to levels that prevent over-utilization. Section 704 of the MBTA states that the Secretary of the Interior is authorized and directed to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take. The MBTA prohibits the take, possession, import, export, transport, sale, purchase, barter, or offer for sale, purchase or barter, of any migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR §21.11). The USFWS addressed compliance with this Act in the "Draft Fish and Wildlife Coordination Act Report for the Individual Environmental Reports (IER), Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (Supplemental 4)" in November 2007. To fulfill the responsibilities of the Fish and Wildlife Coordination Act, the USFWS will provide a post-authorization final supplemental 2(b) report to the draft programmatic report.

National Environmental Policy Act. The National Environmental Policy Act (NEPA; 42 U.S.C. 4321-4347; Pub. L. 91-190, as amended) requires Federal agencies to analyze the potential effects of a proposed Federal action that would significantly affect historical,

cultural, or natural aspects of the environment. It specifically requires agencies to use a systematic, interdisciplinary approach in planning and decision-making, to insure that environmental values may be given appropriate consideration, and to provide detailed statements on the environmental impacts of proposed actions including: (1) any adverse impacts; (2) alternatives to the proposed action; and (3) the relationship between short-term uses and long-term productivity. The agencies use the results of this analysis in their decision-making process. The preparation of this IER Supplemental is a part of complying with NEPA.

National Historic Preservation Act. Congress established the most comprehensive national policy on historic preservation with the passage of the National Historic Preservation Act of 1966 (NHPA). In this Act, historic preservation was defined to include "the protection, rehabilitation, restoration and reconstruction of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, or culture." The Act led to the creation of the National Register of Historic Places, a file of cultural resources of national, regional, state, and local significance. The act also established the Advisory Council on Historic Preservation (the Council), an independent Federal agency responsible for administering the protective provisions of the act. The major provisions of the NHPA are Sections 106 and 110. Both sections aim to ensure that historic properties are appropriately considered in planning Federal initiatives and actions. Section 106 is a specific, issue-related mandate to which Federal agencies must adhere. It is a reactive mechanism that is driven by a Federal action. Section 110, in contrast, sets out broad Federal agency responsibilities with respect to historic properties. It is a proactive mechanism with emphasis on ongoing management of historic preservation sites and activities at Federal facilities. Coordination of this project with SHPO fulfills the requirements to comply with the NHPA, and the SHPO letter dated 13 August 2009 concludes this process.

## **9.0 CONCLUSIONS**

### **9.1 FINAL DECISION**

The proposed action would require the enlargement of approximately 3.29 miles of existing levee from Westwego to Harvey as part of the HSDRRS on the west bank of the Mississippi River to provide 100-year level of risk reduction. The CEMVN has assessed various alternatives to achieve this goal and has determined the following proposed actions for each reach:

- WBV-14.c.2 – a flood side shift and levee enlargement to achieve 100-year level of risk reduction. Following the completion of IER #14, the USACE conducted additional engineering and design, including the collection and analysis of additional geotechnical information. This resulted in a larger levee footprint for the WBV-14.c.2 reach. The levee enlargement requires a base width of 325 ft which includes the levee, stability berm and vegetative free zone. The centerline of the levee would have a 40 ft flood side shift from the previously cleared alignment and would require 100 ft width of new ROW along the flood side of the 3.29 mile levee for the length of the reach. The levee enlargement incorporates the previously impacted levee ROW in the enlarged levee footprint.
- WBV-37 and WBV- 43 – Ames and Mount Kennedy Pumping Stations and adjacent floodwalls redesign with a minor flood side shift to achieve 100-year level of risk reduction. The majority of the work would take place within existing

ROW, with temporary and permanent additional ROW required flood side to construct temporary retention structures and permanent discharge structures, and Millaudon Canal bottom and bankline armoring.

The CEMVN has assessed the environmental impacts of the proposed action and has determined that the proposed action would have the following impacts:

- Short-term localized impacts would occur to wildlife and nearby residents from noise and decreased air quality from heavy equipment and trucks used during construction.
- Short- and long-term localized impacts would occur to fisheries and aquatic organisms located within the project construction area.
- Permanent displacement of fish and permanent loss of high quality habitat for wading birds, waterfowl, or other wildlife presently located within approximately 42 acres of cypress-tupelo swamp would occur. Approximately 15 acres of the cypress-tupelo swamp is conditionally a part of the JLHNPP through the passage of the OPLMA.
- Permanent adverse impacts to 42 acres of cypress-tupelo swamp would occur. Approximately 15 acres of the cypress-tupelo swamp is conditionally a part of the JLHNPP through passage of the OPMLA.

## **9.2 PREPARED BY**

The point of contact and responsible manager for the preparation of this IER is Beth Nord, CEMVN. The address of the preparers is: U.S. Army Corps of Engineers, New Orleans District; Planning, Programs, and Project Management Division, CEMVN-PM; P.O. Box 60267; New Orleans, Louisiana 70160-0267. Table 7 lists the preparers of the various sections and topics in this IER.

**Table 7. IERS #14.a Preparation Team**

|                           |   |
|---------------------------|---|
| Environmental Team Leader | Gib Owen, CEMVN                         |
| Environmental Manager     | Beth Nord , CEMVN                       |
| Senior Project Manager    | Julie Vignes, CEMVN                     |
| Senior Project Manager    | Gary Brouse, CEMVN                      |
| Project Manager           | Jeff Williams, CEMVN                    |
| Review Team               | Rita Trotter, CEMVN - Office of Counsel |
| Review Team               | Aven Bruser, CEMVN – Office of Counsel  |
| HTRW                      | J. Christopher Brown, CEMVN             |

|                           |                          |
|---------------------------|--------------------------|
| Cultural Resources        | Michael Swanda, CEMVN    |
| Recreational Resources    | Andrew Perez, CEMVN      |
| Environmental Justice     | Jerica Richardson, CEMVN |
| Economics                 | Allen Hebert, CEMVN      |
| Technical Editor          | Jennifer Darville, CEMVN |
| Internal Technical Review | Thomas Keevin, CEMVS     |

### **9.3 LITERATURE CITED**

National Park Service, 8 June 2004, Testimony to adjust the boundary of the Barataria Preserve Unit of Jean Lafitte National Historical Park and Preserve.  
<http://www.nps.gov/legal/testimony/108th/jlafitte.pdf>

Times Picayune Article, 3 April 2009, Jean Lafitte Park gets room to grow, extends protection.  
[http://www.nola.com/news/index.ssf/2009/04/jean\\_lafitte\\_park\\_gets\\_room\\_to.html](http://www.nola.com/news/index.ssf/2009/04/jean_lafitte_park_gets_room_to.html)

Wells, Douglas C., Coastal Environments, Inc., 2007. Management Summary: Cultural Resources Assessment of the Harvey-Westwego Segment (IER # 14), West Bank and Vicinity Hurricane Protection Levee, Jefferson Parish, Louisiana. Submitted to U.S. Army Corps of Engineers, New Orleans District.

Wells, Douglas C., Coastal Environments, Inc., 2009. Management Summary: Reconnaissance Survey of the Redesignated e Harvey-Westwego Segment (IER # 14), West Bank and Vicinity Hurricane Protection Levee, Jefferson Parish, Louisiana. Submitted to U.S. Army Corps of Engineers, New Orleans District

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## APPENDICES

### Appendix A

#### List of Acronyms and Definitions of Common Terms

| <b>Acronym</b> | <b>Definition</b>  |
|----------------|--|
| AAHU           | Average Annualized Habitat Units   |
| CAA            | Clean Air Act  |
| CAR            | Coordination Act Report  |
| CED            | Comprehensive Environmental Document                                       |
| CEMVN          | Corps of Engineers, Mississippi Valley Division, New Orleans District      |
| CEQ            | Council on Environmental Quality   |
| CERCLA         | Comprehensive Environmental Response, Compensation, and Liability Act      |
| CFR            | Code of Federal Regulations  |
| CIT            | Commercial Investment Trust  |
| CMSA           | Consolidated Metropolitan Statistical Area                                 |
| CWA            | Clean Water Act  |
| CWPPRA         | Coastal Wetlands Planning, Protection and Restoration Act                  |
| CZM            | Coastal Zone Management  |
| EA             | Environmental Assessment   |
| EIS            | Environmental Impact Statement   |
| EL             | Elevation  |
| E.O.           | Executive Order  |
| ER             | Engineering Regulation   |
| ESA            | Endangered Species Act   |
| ESA            | Environmental Site Assessment  |
| ESRI           | Environmental Systems Research Institute                                   |
| FONSI          | Finding of No Significant Impacts  |
| FT             | Feet   |
| GIWW           | Gulf Intracoastal Waterway   |
| HSDDRS         | Hurricane and Storm Damage Risk Reduction System                           |
| HEP            | Habitat Evaluation Procedure   |
| HPS            | Hurricane Protection System  |
| HTRW           | Hazardous, Toxic, and Radioactive Waste                                    |
| HWY            | Highway  |
| IER            | Individual Environmental Report  |
| IPCC           | Intergovernmental Panel on Climate Change                                  |
| JLNHPP         | Jean Lafitte National Historical Park and Preserve-Barataria Preserve Unit |
| LACPR          | Louisiana Coastal Protection and Restoration                               |
| LCRP           | Louisiana Coastal Resource Program   |

|         |  |
|---------|--|
| LDEQ    | Louisiana Department of Environmental Quality                  |
| LDNR    | Louisiana Department of Natural Resources                      |
| LPV     | Lake Pontchartrain and Vicinity                                |
| MBTA    | Migratory Bird Treaty Act                                      |
| MPH     | Miles Per Hour   |
| MSA     | Metropolitan Statistical Area                                  |
| NAA     | Non-Attainment Area  |
| NAAQS   | National Ambient Air Quality Standards                         |
| NAVD 88 | North American Vertical Datum of 1988                          |
| NEPA    | National Environmental Policy Act of 1969                      |
| NFIP    | National Flood Insurance Program                               |
| NHPA    | National Historic Preservation Act                             |
| NOAA    | National Oceanic and Atmospheric Administration                |
| NPS     | National Park Service  |
| NWR     | National Wildlife Refuge                                       |
| OCS     | Outer Continental Shelf  |
| O&M     | Operations and Maintenance                                     |
| OMRR&R  | Operation, Maintenance, Repair, Replacement and Rehabilitation |
| OPLMA   | Omnibus Public Lands Management Act                            |
| OSE     | Other Social Effects   |
| PA      | Programmatic Agreement   |
| P&G     | Principles and Guidelines                                      |
| PI      | Plasticity Index   |
| P.L.    | Public Law   |
| PPA     | Project Partnering Agreements                                  |
| RCRA    | Resource Conservation and Recovery Act                         |
| REC     | Recognized Environmental Condition                             |
| RED     | Regional Economic Development                                  |
| ROD     | Record of Decision   |
| ROW     | Right-of-Way   |
| SHPO    | Louisiana State Historic Preservation Officer                  |
| SPH     | Standard Project Hurricane                                     |
| T&E     | Threatened and Endangered Species                              |
| USACE   | U.S. Army Corps of Engineers                                   |
| USFWS   | U.S. Fish and Wildlife Service                                 |
| VE      | Value Engineering  |
| WBV     | West Bank and Vicinity   |
| WRDA    | Water Resources Development Act                                |
| WVA     | Wetland Value Assessment                                       |

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

## **Appendix B**

### **Public Comments and Responses**

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

November 30, 2009  
509 Third Avenue  
Harvey, La. 70058

**"The configuration of our environment is a by-product of the developer's pursuit of profit." – Peter Seidel, 2001**

**"This we know, Earth does not belong to man. Man belongs to Earth. Man did not weave the web of life, he is merely a strand in it. Whatever he does to the web, he does to himself." – Chief Seattle, 1852**

"If you're living in a group, it will help neither them nor you if you set about eating your fellows...  
The oxygen in the air is generated by green plants. They vent it into the atmosphere and we animals greedily breathe it in." –  
Carl Sagan & Ann Druyan, "Shadows of Forgotten Ancestors", 1992

"Only after the last tree has been cut down, only after the last river has been poisoned, only after the last fish has been caught, only then will you find that money cannot be eaten." – Cree Indian prophesy

Ms. Joan M. Exnicios  
New Orleans District  
U. S. Army Corps of Engineers  
Environmental Planning and  
Compliance Branch  
CEMVN-PM-R  
P. O. Box 60267  
New Orleans, La. 70160

U. S. Fish & Wildlife Service  
646 Cajundome Blvd., #400  
Lafayette, La. 70506-4290

Dear Ms. Exnicios(s):

I am writing today as a person who has been involved with Jean Lafitte National Historical Park & Preserve since around 1970 (years before its actual creation by law) and as a person who physically worked for over 20 years to preserve the wetlands known variously as the Abrahams Tract and the CIT Tract. The Corps of Engineers has seemingly continued to always do all in its power to destroy those wetlands, and/or to allow them to be destroyed.

Not surprisingly, then, having read your Draft IERS #14.a, I am left with the usual feelings of disgust and exasperation. The corps never stops finding excuses to destroy wetlands, and now wetlands which have finally been approved for inclusion within the National Park unit. A floodwall can be built to a height of 50 feet, should you so desire, just so that gates are built therein and left open at known wildlife crossings unless there is a verifiable report of an approaching hurricane or storm system which would be expected to threaten existing residential areas with high tides. There is no need to build a levee with a 325 foot base width other than a desire to destroy wetlands and plunder the public treasury..

Neither I nor anyone else needs to tell you how many water bugs or alligators would be forever lost on those 42 more acres of those wetlands for which we have fought so long and hard over the last 40 years. The only logical and moral choices for the Corps in this instance are either a floodwall or "no action".

Thank you.

Yours truly,

  
Joseph F. Vincent, Member

cc:  
EPA, Region 6, Dallas; Pontchartrain Basin Foundation; Coalition to  
Restore Coastal Louisiana; Sierra Club

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



REPLY TO  
ATTENTION OF

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

DEC 18 2009

Planning Division  
Environmental Planning  
and Compliance Branch

Mr. Joseph Vincent  
509 Third Avenue  
Harvey, Louisiana 70058

Dear Mr. Vincent:

This is in response to your November 30, 2009, letter, concerning the draft Individual Environmental Report Supplemental (IERS) #14.a.

Comment: You recommend that a floodwall or the no-action alternative be constructed instead of the proposed levee.

Response: As part of developing the proposed levee alternative, the US Army Corps of Engineers (Corps) investigated alternatives to the flood side levee shift including a floodwall. The unreinforced levee was selected as the proposed alternative because of its (1) low adverse human impacts, (2) relatively short construction duration, and (3) low cost. Each alternative was evaluated with respect to risk reduction and reliability, adverse environmental impacts (human and natural), time and constructability, and cost. The summary of the alternative evaluation process is being included in the final IERS document to clarify the selection rationale for the levee alternative and can be found in appendix E. Alternative selection is based on an evaluation of a series of criteria, not solely environmental impacts.

A floodwall alternative was considered during alternative development but was not the proposed alternative because of high cost and project duration. During the evaluation process, it was determined that the total project cost for the floodwall alternative would be between 4.9 times to 6 times higher than the cost of the proposed flood side levee shift. Project duration is directly related to soil conditions at the project site and standard construction procedures that have been adopted for Hurricane Storm Damage Risk Reduction System (HSDRRS) work. Soil conditions at the project site would necessitate a significant amount of excavation or degrading of existing levee to provide an adequate foundation to construct the T-wall and support piles of a floodwall. The need to perform a levee degrade causes openings in the system and reduces the ability of the system to provide storm risk reduction. As a standard procedure for the HSDRRS work, only short reaches of embankment, typically 2,000 linear feet of embankment per contract, are concurrently degraded during hurricane season. This restriction reduces the risk of flooding during construction by minimizing the size of openings in the storm damage risk reduction system, and at the same time, this construction practice significantly increases construction durations.

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

-2-

Implementing the no action alternative, the Government's approved action, as discussed in IER #14 is not a viable alternative because that design would not provide a 100-year level of risk reduction with respect to the new design criteria. The term "100-year level of risk reduction" refers to a level of protection that reduces the risk of hurricane storm surge and wave-driven flooding that the New Orleans Metropolitan area has a 1 percent changed of experiencing each year. After IER #14 was completed the USACE adopted more rigorous design guidelines for the HSDRRS to achieve 100-year level of risk reduction.

Although we have not eliminated impacts to the 42 acres of cypress tupelo swamp, of which approximately 15 acres is located within the Jean Lafitte National Historical Park and Preserve (JLNHPP), the Corps has been working cooperatively with the West Jefferson Levee District to develop a land swap between the JLNHPP and the West Jefferson Levee District to swap land that would be impacted by levee construction for lands held by the West Jefferson Levee District in the interior of the JLNHPP and along the southeastern boundary of the JLNHPP. We have been working closely with JLNHPP staff and the West Jefferson Levee District, to develop a mutually agreeable land swap in the JLNHPP while pursuing the goal of providing 100-year level of risk reduction for the New Orleans Metropolitan area.

Thank you for commenting on the draft IER. If you have additional questions, please contact Ms. Beth Nord at (504) 862-2167.

Sincerely,

  
for Joan M. Exnicios  
Chief, Environmental Planning and  
Compliance Branch

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*



December 14, 2009

Ms. Joan M. Exnicios  
New Orleans District  
U. S. Army Corps of Engineers  
CEMVN-PM-R  
P. O. Box 60267  
New Orleans, La. 70160

**Re: IER-14a, Draft Supplemental Document.**

Dear Ms. Exnicios,

I am writing on behalf of the Louisiana Audubon Council. We understand that the Corps did not arrange for easements for the levee system as part of the legislation passed this year to expand the boundary of the Jean Lafitte National Historical Park and Preserve (JLNHPP). The Corps is now planning on expanding the base of the levee on the flood side to encroach on land owned by the NPS.

Because of the inadequacies of this supplemental IER, outlined below, we request that a new supplemental document be prepared to address the public's concerns. We also request a response to the issues raised in this letter and that they be included in a new supplemental document.

We oppose the expansion of the levee toe into the wetlands belonging to the NPS. The new Park property is now protected. It took over 10 years of great effort by civic organizations and the NPS, working with Congress, to assure permanent transfer of these public lands. The Corps has had adequate time to incorporate the necessary easements into the legislation. Why wasn't it done?

**Inadequacy of Draft Supplemental Document:**

Alternative designs

**2.2.3 Floodwall (WBV-14.c.2)** "This alternative is comprised of constructing a floodwall within the existing levee alignment. No additional ROW would be required to construct this alternative."

There are alternative designs which could be used to avoid taking Park property. For example, a modified alternative could use the inverted "T"-wall for those segments along the boundary of the JLNHPP. This would avoid any adverse impacts by reducing the berm and the levee footprint on the flood side. Please add this to the list of alternatives to be discussed in a new supplemental document.

Park Legislation:

The front cover of IER-14a document has an incorrect map of the JLNHPP. There was adequate time to correct this error since the legislation passed on March 30, 2009 and the IER was prepared in Nov. 2009 - 7 months later. This is inexcusable and sloppy work. The map does not include land transferred to the NPS in the CIT tract nor the Bayou aux Carpes tract both of which are impacted by this alignment.

"The passage of the Omnibus Public Lands Management Act in April 2009 authorized the transfer of these lands from the USACE to the National Park Service for inclusion in the JLNHPP (Times Picayune 2009)." p.14.

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*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

This is a false statement. The Omnibus Public Land Management Act of 2009 was signed by President Obama on March 30th. It became law at 3:11 pm EST that day. (from Whitehouse website).

There was adequate time to include the map and boundary information in this IER. It is astounding that the Corps used only a Times-Picayune article as the reference regarding the park legislation. Did the TP also provide the Corps with a map?

The new JLNHPP boundary was not included in other maps in the document. Include the pertinent boundaries in the new supplemental IER. Show the interface between the boundary of the project and the areas of encroachment into the Park. Show on maps the area of Park to be taken. There was adequate time to include maps and data showing the number of acres of NPS land to be taken by the levee design. The correct park boundary was not included in the document. This is important information of interest to the public.

New Levee Design Guidelines:

Please provide us with the new design criteria *i.e.*, "more rigorous design guidelines." The levee design has expanded from a 150 to a 325 ft footprint. (see Fig. 3). This is a 116% increase in the width.

When new guidelines were promulgated in "late 2008" did they consider the storm buffering effect of forested wetlands on the design of the flood side of the levee? Were the new guidelines enacted to remove trees near the toe of the levee? How much protection would an 80 ft swath of cypress trees provide to the levee?

"The additional 100 foot width on the flood side would include levee, stability berm and vegetative free zone." p. 5. What do you mean as "vegetative free zone"? Is the onerous vegetation cypress trees? Or is it grass?

We request that the new HSDRRS guidelines be included in a new supplemental to let the public know how they differ from the old guidelines.

Is this new design to be used for all the federal hurricane levees built or reconstructed in the future? Will the new design criteria be used for the Morganza to the Gulf Project? Donaldson to the Gulf? Or are these new criteria restricted to the rebuilding of the LPVHP?

On page 5 of the draft IER 14a it states, "The additional 100 foot width on the flood side would include levee, stability berm and vegetative free zone." What do you mean as "vegetative free zone"? Is the onerous vegetation cypress trees? Or is it grass? Explain. Did the design of a widened berm, ("100 ft") on the flood side, consider the extensive wetlands in front of the levee which protect it from storm surges?

**Proper Oversight by/of the Corps:**

How can we be sure that the contractor will not violate the construction boundary and further encroach into the Park? Because of lack of oversight, a contractor encroached into the 404(c) Bayou aux Carpes swamp and the Park along the Barataria Waterway. We also understand that there was an encroachment into the Park by a contractor digging up borrow from land west of Highway 45.

There appears to be a pattern of poor supervision by Corps personnel. Are there other examples of supervision failures which haven't been made public yet? Does the Corps outsource its inspection work?

We request that a plan be included in a new supplemental IER which commits the Corps to proper supervision and regular inspection of the worksites for this project. A schedule of inspection should be part of the IER to avoid additional supervisory failures.

**Direct Impacts: Segment WBV-14.c.2**

Besides the 27.75 acres of wetlands to be destroyed by the original levee design (IER-14), the new expanded levee will add another 42 acres for a total of 71.75 acres of forested wetlands which would be destroyed. How many acres will be eliminated by indirect impacts?

The IER-14a states; "An additional 42 acres of cypress-tupelo swamp would be cleared, grubbed and filled as part of the levee flood side shift and enlargement. The proposed filled area for WBV-14.c.2 levee enlargement is part of the Commercial Investment Trust (CIT) Tract. The CIT Tract consists of wetlands adjacent to Bayou Segnette, owned by the Federal Government and is considered medium to

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

high quality swamp (National Park Service 2004). The filling of 42 acres of cypress-tupelo swamp for the construction of the levee enlargement would significantly reduce the areas wildlife habitat value and eliminate the flood storage and water quality function of these areas." p. 14.

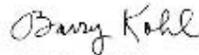
We understand that the Corps will take 15 acres of JLNHPP land. Please include in the revised IER the exact location of this land to be taken. Is the entire area marked in red on figure 2 included within the JLNHPP? If not provide that information with specific acreage shown.

**Request for new Supplemental IER:**

Because of the omissions and inadequacies of the document and the fact that the project directly impacts the Jean Lafitte National Historical Park and Preserve, we request that a new supplemental IER be prepared and circulated for public comment. This revised document should include corrections, additional information, and propose additional alternative designs to minimize the taking of Park land.

We also request a public meeting to discuss the draft IER, the projects impacts on the JLNHPP and potential changes to the project. Thank you.

Sincerely,



Dr. Barry Kohl  
President, LAC

cc:  
Carol Clark, Superintendent JLNHPP  
Horst Greczmiel, CEQ  
Matt Rota, GRN  
Haywood Martin, Sierra Club  
John Ettinger, EPA  
Mark Davis, Tulane Univ  
Paul Kemp, NAS

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



REPLY TO  
ATTENTION OF

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

FEB 04 2010

Regional Planning and  
Environmental Division, South  
New Orleans Environmental Branch

Dr. Barry Kohl  
Louisiana Audubon Council  
1522 Lowerline Street  
New Orleans, Louisiana 70118-4010

Dear Dr. Kohl:

This is in response to your letter dated December 14, 2009, concerning the draft Individual Environmental Report Supplemental (IERS) #14.a.

Comment: You have requested a public meeting and recommend that, due to the inadequacies of the document, a new supplemental document be prepared to address the public's concerns.

Response: A public meeting will be held on February 4, 2010, at 6:30 p.m., at Visitation of Our Lady School in Marrero, Louisiana. We will respond individually to specific comments. However, since there is no additional analysis warranted, a new supplemental document will not be prepared or put out for an additional review. Corrections and clarifications specifically related to the Commercial Investment Trust (CIT) Tract have been incorporated into the final IER document.

Comment: "We oppose the expansion of the levee toe into the wetlands belonging to the National Park Service. The new park property is now protected. It took over 10 years of great effort by civic organizations and the NPS working with Congress, to assure permanent transfer of these public lands. The US Army Corps of Engineers (USACE) has had adequate time to incorporate the necessary easements into the legislation. Why wasn't it done?"

Response: Prior to Hurricane Katrina, the USACE was working to provide easements to the West Jefferson Levee District (WJLD) within the CIT Tract for the existing levee alignment, in anticipation of a future transfer of the CIT Tract from the USACE to the National Park Service (NPS). In the time period immediately following Hurricane Katrina, real estate activities that did not immediately support the hurricane recovery effort were reprioritized, and as a result, easements for operation and maintenance of the existing levee were not transferred from the USACE to the WJLD.

Since Hurricane Katrina, modifications to the levees and floodwalls that comprise the Hurricane Storm Damage and Risk Reduction System (HSDRRS) have been underway. This effort will ultimately provide a 100-year level of risk reduction to the area. Initially, as described in IER 14, Westwego to Harvey Levee, the plan for the 14.c reach consisted of a levee enlargement with a protected-side shift within existing rights-of-way (ROW). No impacts to Cypress-Tupelo Swamp were identified for the 14.c reach in IER 14. Additional engineering and design were conducted after IER 14 was prepared. The additional levee design resulted in the proposed plan discussed in IERS 14.a. The proposed plan calls for a larger levee footprint with a flood side shift and additional ROW.

Following the passage of the Omnibus Public Land Management Act of 2009 on March 30<sup>th</sup> of the same year, administration of the CIT Tract<sup>1</sup> land was transferred to the NPS without the issue of the easement transfer to the WJLD fully resolved. The USACE and the NPS continue to work on resolving this issue. Additional discussion regarding the transfer and status of the CIT Tract is provided below in the section addressing the comments regarding park legislation.

Comment: "There are alternative designs which could be used to avoid taking park property. For example, a modified alternative could use the inverted "T-wall for those segments along the boundary of the Jean Lafitte National Historical Park and Preserve (JLNHPP)."

Response: The floodwall alternative was not chosen due to high cost. Soil conditions at the site would necessitate a significant amount of excavation or degrading of existing levee to provide an adequate foundation to construct the T-wall and support piles. Relative to earthen levee and depending on the soil conditions at that particular location, the cost of floodwall construction can be between 4 and 10 times greater than the cost of an earthen levee. It is estimated that if just the reach of the project that is adjacent to the CIT Tract were constructed as an inverted T-wall that the total project cost would increase by approximately 100 percent over the cost of the proposed levee construction. The modified levee floodwall combination also would be eliminated because of cost.

Comment: "Park Legislation: The front cover of IER 14a document has an incorrect map of the JLNHPP. There was adequate time to correct this error since the legislation passed on March 30, 2009, and the IER was prepared in November 2009-7 months later. This is inexcusable sloppy work. The map does not include the land transferred to the NPS in the CIT Tract nor the Bayou aux Carpes Tract both of which are impacted by this alignment."

---

<sup>1</sup> The "CIT Tract" was acquired by the United States in 1994 in settlement of a regulatory taking suit brought against the United States stemming from a Section 404 permit denial by the USACE, *The CIT Group/Equipment Financing, Inc. v. United States*, Claims Court No. 90-4027 L. The administration of the property was given to the USACE as the NPS did not want to take the administration of the property at that time.

Response: The information regarding the Omnibus Land Management Act has been corrected in the final IERS 14.a. However, it is difficult to depict the boundary of the JLNHPP at the CIT Tract when land transfer is incomplete. The legislation that transferred the administration of the CIT Tract from the USACE to the NPS, left the issue of determining the portion of the CIT Tract that would be dedicated to flood protection a matter to be worked out between those two agencies (16 U.S.C. 230a section (a)(1)(B)(iii) ). As that determination is still being deliberated by the USACE and the NPS, no accurate depiction can be made as to what part of the CIT Tract lands will become part of the flood protection and what part will become part of the JLNHPP.

At the onset of discussions between the NPS and the USACE, it was decided that, in the best interest of the long-term administration of the West Bank and Vicinity (WBV) project and the JLNHPP that the WJLD should not have just an easement on the area needed for flood protection, but should own it in fee. Accordingly, the WJLD, the USACE and the NPS agreed to work out a swap of land that would result in the WJLD owning the land needed for the WBV project, and the NPS owning other property more suitable to inclusion in the JLNHPP. The appraisal, titles and other transfer matters are currently underway in order to achieve this end. Until the swap is finalized, one cannot depict the JLNHPP boundary at that location.

Comment: "New Levee design guidelines: Please provide us with the new design criteria i.e., "more rigorous design guidelines." The levee design has expanded from a 150 to a 325 ft footprint. (see Fig 3). This is a 116% increase in width."

Response: The current version of the HSDRRS Design Guidelines can be found on the public website at <http://www.mvn.usace.army.mil/eng/hurrdesign.asp>. This site includes previous versions of the design guidelines, as well as links to additional publications, manuals and regulations that are related to the design of the HSDRRS.

The initial levee footprint was based on preliminary estimates with limited geotechnical information. Upon further design, including the collection and analysis of additional geotechnical information, it was determined that an expanded footprint was needed for this levee reach. This design is based on post-Katrina guidelines which incorporate lessons learned from the Interagency Performance Evaluation Task Force study.

Comment: "When new guidelines were promulgated in "late 2008", did they consider the storm buffering effect of forested wetlands on the design of the flood side of the levee? Were new guidelines enacted to remove trees near the toe of the levee? How much protection would an 80 foot swath of cypress trees provide to the levee?"

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Response: The designs are developed for a projected 2057 elevation and since the presence of forested wetlands or other wetlands cannot be guaranteed, the benefits of a vegetation buffer are conservatively not included into project design.

Comment: ““The additional 100 foot width on the flood side would include levee, stability berm and vegetative free zone” p.5. What do you mean as “vegetative free zone”? Is the onerous vegetation cypress trees? Or is it grass?”

Response: The USACE Engineer Manual EM 1110-2-301 – Guidelines for Landscape Planting and Vegetative Management at Floodwalls, Levees and Embankment Dams (January 1, 2000) defines the Vegetation-Free Zone as an area ... “where no type of vegetation, with the exception of grass, is permitted.” This zone is required for maintenance and flood-fighting activities and must be easily accessible at all times.

Proper operation and maintenance (O&M) of levee systems is a critical component of public safety and the consequences of O&M issues, such as vegetation on levees, floodwalls or dams, go beyond a breach or failure. While vegetation and other encroachments can harm the structural integrity of the infrastructure, it can also obscure visibility for visual inspections, impede access for maintenance and inspection, and/or hinder emergency flood fighting operations.

Comment: “We request that the new HSDRRS guidelines be included in a new supplemental to let the public know how they differ from the old guidelines.” Is this new design to be used for all the federal hurricane levees built or reconstructed in the future? Will the new design criteria be used for the Morganza to the Gulf Project? Donaldson to the Gulf? Or are these new criteria restricted to the rebuilding of the Lake Pontchartrain & Vicinity Hurricane Protection (LPVHP)?”

Response: The HSDRRS Design Guidelines have been posted on our public webpage since October 2007 and can be found at <http://www.mvn.usace.army.mil/eng/hurrdesign.asp>. The link to design guidelines will be included in the final IERS document. The design guideline document has not been included in the final IERS because it is readily available on the internet and is over 400 pages in length. A hard copy of the guidelines was previously forwarded to you on January 26, 2010. The guidelines and revisions to the guidelines are posted on the webpage to ensure the public has access to this information. This site includes previous versions of the design guidelines as well as links to additional publications, manuals and regulations that are related to the design of the HSDRRS. These guidelines will be used to design all components of the HSDRRS as well as the federal work on the Morganza to the Gulf and Donaldsonville to the Gulf Projects.

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Comment: “Proper Oversight by/of the USACE: How can we be sure that the contractor will not violate the construction boundary and further encroach into the Park?”

Response: USACE contractors have the responsibility to ensure quality control of their construction activities by following the requirements of plans and specifications, employee training and on site inspection while the USACE staff of engineers and inspectors monitors the quality assurance of the construction, that is, the progress and quality of the contractor’s work throughout the construction period. When deficiencies are noted, the government inspector works with the contractor to correct those deficiencies promptly. Through quality control, quality assurance and the continued review of ongoing work and information sharing, the USACE strives to improve construction monitoring and government plans and specifications to avoid repeating errors.

Comment: “Direct Impacts: Segment WBV-14.c.2. “How many acres will be eliminated by indirect impacts?” “We understand that the USACE will take 15 acres of JLNHPP land. The correct park boundary is not included in the document.””

Response: As stated in our comments on the legislation above, it is difficult to depict the boundary of the JLNHPP at the CIT Tract. The legislation that transferred the administration of the CIT Tract from the USACE to the NPS left the issue of determining the portion of the CIT Tract that would be dedicated to flood protection a matter to worked out between those two agencies (16 U.S.C. 230a section (a)(1)(B)(iii) ). As that determination is still being deliberated by the CEMVN and the NPS, no accurate depiction can be made as to what part of the CIT Tract lands will become part of the flood protection and what part will become part of the JLNHPP. The flood side shift of the levee impacts approximately 15 acres of the CIT Tract property directly by direct impacts. As discussed in the draft IERS indirect impacts such as temporary degradation of water and air quality are anticipated; however, no additional acres of swamp would be eliminated by indirect impacts for the WBV-14.c.2 levee reach or the areas adjacent to the Ames and Mt. Kennedy Pumping Stations and floodwall. A map showing the JLNHPP boundary is not included or specified in the document because the determination of the boundary is not fully resolved.

Comment: “Request for new Supplemental IER: Because of the omissions and inadequacies of the document and the fact that the project directly impacts the JLNHPP, we request that a new supplemental IER be prepared and circulated for public comment.”

Response: Since impacts to cypress-swamp, recreation and the JLNHPP were described and disclosed in the draft IERS, additional analysis is not warranted and an additional draft IERS will not be prepared. The draft IERS addressed impacts to the CIT Tract and the transfer of those lands to the NPS in both Section 3.2.1 Cypress- Tupelo Swamp (Wetlands) and in Section 3.2.8 Recreation. The draft IER estimates impacts to the JLNHPP and assigned all 42 acres of

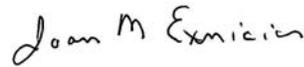
*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

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cypress-swamp impacts to the JLNHPP. However, this overestimates the impacts to the CIT Tract as the tract only borders roughly a third of the WBV-14.c.2 levee reach and, therefore, represents only a portion of the total impacts to cypress-swamp. The draft IERS clearly states that the Cypress-Tupelo Swamp that would be filled for levee construction would be eliminated. While the draft overestimates the acres of the CIT Tract impacted, the determination as to what part of the CIT Tract lands will become part of the flood protection and what part will become a part of the JLNHPP is still being deliberated. We have been working closely with JLNHPP staff and the WJLD, to develop a mutually agreeable land swap while pursuing the goal of providing 100-year level of risk reduction for the New Orleans Metropolitan area.

Thank you for your comments regarding the draft IERS; if you have additional questions please contact Beth Nord at (504)862-2167.

Sincerely,



Joan M. Exnicios  
Chief, New Orleans Environmental Branch

Copies Furnished:

Carol Clark,  
Superintendent  
Jean Lafitte National Historical Park and Preserve  
419 Decatur Street  
New Orleans, Louisiana 70130-1035

Horst Greczmiel  
Council on Environmental Quality  
722 Jackson Place Northwest  
Washington, D.C. 20503

Matt Rota  
Gulf Restoration Network  
Post Office Box 2245  
New Orleans, Louisiana 70176

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

-7-

Haywood Martin  
Sierra Club Delta Chapter  
716 Adams Street  
New Orleans, Louisiana 70118

John Ettinger  
Environmental Protection Agency  
C/O USACE  
7400 Leake Avenue  
New Orleans, Louisiana 70118

Mark Davis  
Tulane Law School  
Weinmann Law, Room 355-F  
6329 Freret Street  
New Orleans, Louisiana 70118

Paul Kemp  
National Audubon Society  
633 Magnolia Wood Drive  
Baton Rouge, Louisiana 70808

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Louisiana*

---

**From:** AmadPlanc@aol.com  
**Sent:** Thursday, February 04, 2010 1:20 PM  
**To:** MVN Environmental  
**Subject:** IER supplemental14.a hurricane levee Harvey to westwego

US Army Corps  
of Engineers  
Patricia Leroux  
P.O.box 60267  
New Orleans,La. 70160-0267

Re: IER 14.a Hurricane levee.  
2/4/2010

Because I havent much information on the redoing this section on the levee,My question is why after all these years the Corps now feels it has to make all these changes.? Why is the Corps so intent on destroying federal properties especially the Jean Lafitte National Park and it buffer zone .? I was at all those meeting on the west bank hurricane levees in the early eighties and we were not told that the Corps was going to destroy a large cypress swamp in the parks protection zone(made a 100 acre lake ) which will get larger .The corps found the money to build the wall along peter road, leaving the biggest tax base outside the Hurricane protection project, knowing there was a much ,much cheaper way and give theses business along the east side of the Harvey canal, Hurricane protection.?

I believe all of this should be fully INVESTIGATED!!!!!!!!!!!!!!  
PLEASE MAKE ALL OF MY COMMENTS PART OF THIS E.I.S

THANK YOU AMADEE PLANCHE, jr.

## **Appendix C**

### **Members of Interagency Environmental Team**

|                     |  |
|---------------------|--|
| Kyle Balkum         | Louisiana Dept. of Wildlife and Fisheries              |
| Catherine Breaux    | U.S. Fish and Wildlife Service                         |
| David Castellanos   | U.S. Fish and Wildlife Service                         |
| Frank Cole          | Louisiana Department of Natural Resources              |
| Gregory Ducote      | Louisiana Department of Natural Resources              |
| John Ettinger       | U.S. Environmental Protection Agency                   |
| Heather Finley      | Louisiana Dept. of Wildlife and Fisheries              |
| Amanda Green        | Office of Coastal Protection and Restoration Authority |
| Jeffrey Harris      | Louisiana Department of Natural Resources              |
| Richard Hartman     | NOAA National Marine Fisheries Service                 |
| Christina Hunnicutt | U.S. Geologic Survey                                   |
| Barbara Keeler      | U.S. Environmental Protection Agency                   |
| Kirk Kilgen         | Louisiana Department of Natural Resources              |
| Tim Killeen         | Louisiana Department of Natural Resources              |
| Brian Lezina        | Louisiana Dept. of Wildlife and Fisheries              |
| Brian Marcks        | Louisiana Department of Natural Resources              |
| Ismail Merhi        | Office of Coastal Protection and Restoration Authority |
| David Muth          | U.S. National Park Service                             |
| Jamie Phillippe     | Louisiana Dept. of Environmental Quality               |
| Manuel Ruiz         | Louisiana Dept. of Wildlife and Fisheries              |
| Angela Trahan       | U.S. Fish and Wildlife Service                         |
| David Walther       | U.S. Fish and Wildlife Service                         |
| Patrick Williams    | NOAA National Marine Fisheries Service                 |

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

## **Appendix D**

### **Agency Correspondence, Comments and Responses**

**Nord, Beth P MVN**

---

**From:** Richard Hartman [Richard.Hartman@noaa.gov]  
**Sent:** Thursday, July 09, 2009 8:29 AM  
**To:** Nord, Beth P MVN  
**Subject:** Re: Follow up version of Magnuson -Stevens Coordination letter

Beth - NMFS concurs with the Corps of Engineers determination that the proposed actions to be taken to implement IER 14 would have no impact to essential fish habitat. Because there is no adverse impact, there is no requirement to coordinate with NMFS under provisions of the Magnuson-Stevens Fishery Conservation and Management Act.

Richard Hartman

Nord, Beth P MVN wrote:

>  
> <<document2009-07-08-145705.pdf>>  
> Richard  
> Thanks for the call this morning. Revised letter but did not send  
> second set of the enclosure.  
>  
> Beth  
>

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
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SEMINOLE TRIBE OF FLORIDA  
TRIBAL HISTORIC PRESERVATION OFFICE

TRIBAL HISTORIC  
PRESERVATION OFFICE  
SEMINOLE TRIBE OF FLORIDA  
AH-TAH-THI-KI MUSEUM  
HC-61, BOX 21A  
CLEWISTON, FL 33440  
PHONE: (863) 983-6549  
FAX: (863) 902-1117



TRIBAL OFFICERS  
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PRISCILLA D. SAYEN  
TREASURER  
MICHAEL D. TIGER

Michael Swanda  
Department of the Army  
New Orleans District, Corps of Engineers  
P.O. Box 60267  
New Orleans, LA 70160-0267

THPO#: 003940

Wednesday, July 29, 2009

**Subject:** Assessment of Effects for IER #14 (Harvey-Westwego Segment), West Bank and Vicinity Hurricane Protection Levee, Jefferson Parish, LA

Dear Mr. Swanda,

The Tribal Historic Preservation Office of the Seminole Tribe of Florida (STOF-THPO) has received your correspondence concerning the aforementioned project. The STOF-THPO concurs with your findings of "no historic properties affected" within the APE for this project. However, the STOF-THPO would like to be informed should any archaeological and/or historic resources be discovered during the construction process.

We thank you for the opportunity to review the information that has been sent to date regarding this project. Please reference **THPO-003940** for any related issues.

We look forward to working with you in the future.

Sincerely,



FOR

**Direct routine inquiries to:**

Willard Steele,  
Tribal Historic Preservation Officer

Dawn Hutchins,  
Compliance Review Supervisor

ETY:dh

Ah- Tah- Thi- Ki Museum, HC-61, Box 21-A, Clewiston, Florida 33440  
Phone (863) 902-1113 ♦ Fax (863) 902-1117

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



## Choctaw Nation of Oklahoma

P.O. Box 1210 • Durant, OK 74702-1210 • (580) 924-8280

Gregory E. Pyle  
Chief

Gary Batton  
Assistant Chief

July 30, 2009

Joan Exnicios  
Dept of the Army  
New Orleans District, Corp of Engineers  
PO Box 60267  
New Orleans, Louisiana 70160-0267

Dear Joan Exnicios:

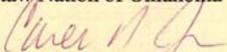
We have reviewed the following proposed project (s) as to its effect regarding religious and/or cultural significance to historic properties that may be affected by an undertaking of the projects area of potential effect.

Project Description: Westwego, Individual Environmental Report #14, Jefferson Parish

Comments: After review of the above-mentioned project(s), to the best of our knowledge, it will have no adverse effect on any historic properties in the project's area of potential effect. However, should construction activities exposed human remains, buried archaeological materials such as chipped stone, tools, pottery, bone, glass or metal items, or should it uncover evidence of buried historic building materials such as rock foundations, brick, or hand-poured concrete, this office should be contacted immediately at 1-800-522-6170 ext. 2137.

Sincerely,

Terry D. Cole  
Tribal Historic Preservation Officer  
Choctaw Nation of Oklahoma

By:   
Caren A. Johnson  
Administrative Assistant

CAJ: vr

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana

BOBBY JINDAL  
GOVERNOR



HAROLD LEGGETT, PH.D.  
SECRETARY

**State of Louisiana**  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
ENVIRONMENTAL SERVICES

AUG 04 2009

U.S. Army Corps of Engineers- New Orleans District  
P.O. Box 60267  
New Orleans, LA 70160-0267

Attention: Beth Nord

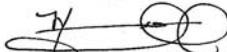
RE: Water Quality Certification (WQC 080213-04/AI 156035/CER 20090001)  
Corps of Engineers Individual Environmental Report (IER#14) Supplemental  
Jefferson Parish

Dear Ms. Nord:

The Department has reviewed your revised application for a Corps of Engineers permit for the construction of the Westwego to Harvey Levee in Jefferson Parish. This revision concerns the shift and widening of levee reach WBV-14.c.2, replacement of floodwalls at the Ames and Mount Kennedy Pump Stations and the relocation of pipelines in the WBV-14.f levee reach.

The requirements for Water Quality Certification have been met in accordance with LAC 33:IX.1507.A-E. Based on the information provided in your application, we have determined that the placement of the fill material will not violate the water quality standards of Louisiana provided for under LAC 33:IX.Chapter 11. Therefore, the Department has issued a Water Quality Certification.

Sincerely,

  
Melvin C. Mitchell, Sr.  
Administrator  
Water Permits Division  
MCM/jjp

Post Office Box 4313 • Baton Rouge, Louisiana 70821-4313 • Phone 225-219-3181 • Fax 225-219-3309  
[www.deq.louisiana.gov](http://www.deq.louisiana.gov)

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SECRETARY  
PRISCILLA D. SAYEN  
TREASURER  
MICHAEL D. TIGER

Michael Swanda  
U.S. Army Corps of Engineers  
Planning, Programs, and Project Management Division  
Environmental Planning and Compliance Branch  
P.O. Box 60267  
New Orleans, LA 70160-0267



THPO#: 004003

Thursday, August 06, 2009

**Subject:** Assessment of Effects for IER #14, West Bank and Vicinity, Harvey-Westego, Jefferson Parish, LA

Dear Mr. Swanda,

The Tribal Historic Preservation Office of the Seminole Tribe of Florida (STOF-THPO) has received your correspondence concerning the aforementioned project. The STOF-THPO concurs with your findings of "no historic properties affected" within the APE for this project. However, the STOF-THPO would like to be informed should any archaeological and/or historic resources be discovered during the construction process.

We thank you for the opportunity to review the information that has been sent to date regarding this project. Please reference **THPO-004003** for any related issues.

We look forward to working with you in the future.

Sincerely,

**Direct routine inquiries to:**

Willard Steele,  
Tribal Historic Preservation Officer

Marion Smith,  
Compliance Review Supervisor

JLP:ms

Ah- Tah- Thi- Ki Museum, HC-61, Box 21-A, Clewiston, Florida 33440  
Phone (863) 902-1113 ♦ Fax (863) 902-1117

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



MITCHELL J. LANDRIEU  
LIEUTENANT GOVERNOR

**State of Louisiana**  
OFFICE OF THE LIEUTENANT GOVERNOR  
DEPARTMENT OF CULTURE, RECREATION & TOURISM  
OFFICE OF CULTURAL DEVELOPMENT  
DIVISION OF ARCHAEOLOGY

PAM BREAU  
SECRETARY

August 13, 2009

Ms. Joan Exnicios  
Chief, Environmental Planning and Compliance Branch  
New Orleans District, Corps of Engineers  
P.O. Box 60267  
New Orleans, LA 70160-0267

Re: CRM Management Summary  
Louisiana Division of Archaeology Report No. 22-3016-1  
*Management Summary: Reconnaissance Survey of the  
Redesigned Harvey-Westwego Segment (IER 14),  
West Bank and Vicinity Hurricane Protection Levee,  
Jefferson Parish, Louisiana*  
Coastal Environments, Inc.

Dear Ms. Exnicios:

We are in receipt of your letter dated July 20, 2009, transmitting two copies of the above-cited report. We have completed our review and have the following comments to offer.

We concur with the findings presented in the draft report that it does not appear that any archaeological sites or other historic properties (i.e. standing structures) will be affected by the planned project for which the investigations were done.

Technical comments concerning several minor items are included with this letter, as are photocopied pages of the draft report with other comments/corrections noted. Please address these as appropriate in the preparation of the final report for this project and transmit two copies of the final report for our files. Should you have any questions concerning our comments, do not hesitate to contact Dennis Jones in the Division of Archaeology at (225) 342-8170 or by email at [djones@crt.state.la.us](mailto:djones@crt.state.la.us).

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

Ms. Joan Exnicios  
August 13, 2009  
Page 2

Sincerely,



Scott Hutcheson  
State Historic Preservation Officer

SH:DJ:s

C: Dr. Doug C. Wells, Coastal Environments, Inc. (w/enclosures)

TECHNICAL COMMENTS

1. Page 1. Please provide a citation for Figure 1 in the text to precede the figure itself.
2. Figure 1. Please designate on Figure 1 the limits of the “northern third” of right-of-way that is being changed for IER 14.
3. Page 3. A map showing the specific locations of the revised right-of-way in Figure 1 would be helpful, as well as the information that this revision consists of 6.5 ac. It is unclear from the figures presented in the report where the “V-levee segment between Highway 45 and the eastern terminus” that has not been developed is located. Please indicate this area (or Highway 45) in Figure 2.
4. Pages 13-14, Figure 5. Please show Lapalco Blvd., Section 87 west of Estelle and other locations mentioned in the text on page 13 in Figure 5.
5. Pages 15-18. The text and figures on these pages do a good job of presenting the conditions within the areas investigated.



Figure 1. Aerial photograph showing the Harvey-Westwego Hurricane Protection Levee right-of-way.

the southeast) (Figure 1). This includes 12.9 mi (20.7 km) of levee, 7,013 linear feet (2,137.6 m) of floodwall construction, and fronting protection modifications for the Westminster, Ames, Mt. Kennedy, Old Westwego and New Westwego pumping stations. CEMVN is undertaking these improvements in order to protect the portions of the Greater New Orleans Area situated on the Mississippi River's right descending bank from storm surges associated with tropical weather events.

The initial scope of work for the Harvey-Westwego segment called for a 500 ft (152 m) right-of-way on the flood and protected sides of the levee. However, in June of 2007, the construction plans were changed to confine the proposed construction work to the current levee right-of-way, restricting the Area of Potential Effects (APE) to the previously-impacted corridor (Wells 2007). Then, in June of 2009, CEI received notification that the proposed right-of-way had changed again, expanding into previously unsurveyed areas in the northern third of the Harvey-Westwego segment. This expansion called for a 200 ft right-of-way on the flood side of the levee.

#### *Natural Setting*

Located along the backslope of the Mississippi River's natural levee in Jefferson Parish, Louisiana, the project area lies within the Barataria Basin, a broad, low region dominated by wetlands. The project area was once characterized almost entirely by cypress swamps and marshes, but forced drainage and filling has drastically altered the environment of much of the protected side of the levee. The flood side of the levee is still largely marsh and swamp, although subsidence has created areas of open water in the marsh. Levees along the Mississippi have prevented fresh water and sediments from reaching the marsh, further accelerating its deterioration. Urban and industrial development of the natural levee of the Mississippi River and its distributaries proceeded rapidly in the latter half of the twentieth century in this region, and only the V-leeve segment between Highway 45 and the eastern

and urban development. Few areas were identified for standing structure survey, and none were located within the current study area.

As noted above, the APE under the newest set of construction plans was limited to three stretches of high-probability area totaling 6.5 ac (2.6 ha) on the flood side of existing levee. Following the issuance of rights-of-entry in June of 2009, personnel from CEI began survey of these high-probability areas identified in the first stages of this project. Areas A and C were classic cypress-tupelo swamplands, showing every indication of being permanently flooded (Figure 6). Probing was conducted at 15-m intervals at the foot of the levee within these two locations to check for the presence of archaeological deposits (particularly shell middens) within 2.0 m of the current ground surface. No indications of buried deposits were noted in these locations.

Aerial photography of the central area (Area B) suggested higher ground at this location. Shovel testing at this location revealed that the dry land within the APE is covered in a thick layer of fill and modern (1960s to 1980s) trash. Shovel testing was conducted at 30 m intervals in two transects spaced 30 m apart. Auger testing was also attempted, but no location could be found that would allow an auger test beyond 90 cm below surface, due to the density of trash (Figures 7, 8). A typical shovel test revealed a 15 cm deep layer of dark grayish brown (10YR 4/2) clay near the surface, filled with plastic sheeting, nylon rope, and plastic bottles. A thin layer of sterile, yellowish brown (10YR 5/4) sand fill underlay this to a depth of 17 cm below surface. Finally a thick deposit of dark gray (10YR 4/1) clay fill mixed with dark grayish brown to brown (10YR 4/2 to 4/3) clays and silty clays descended to a depth of at least 88 cm below surface. Modern trash abounded in this layer, including plastic dish soap bottles, 2-liter soda bottles, 10 oz soda bottle glass fragments with paper and foam labels, plastic shoe soles, nylon rope, ceramic bathroom tile, aluminum cans, plastic milk jugs, and similar, modern household trash. The area appears to have been used as a dump during the 1970s and 1980s, possibly for the adjacent subdivision on the protected side of the levee.

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



## ALABAMA-COUSHATTA TRIBE OF TEXAS

571 State Park Rd 56 • Livingston, Texas 77351 • (936) 563-1100

August 14, 2009

Michael Swanda  
U.S. Army Corps of Engineers  
New Orleans District  
P.O. Box 60267  
New Orleans, LA 70160-0267

Dear Mr. Swanda:

On behalf of Chief Oscola Clayton Sylestine and the Alabama-Coushatta Tribe, our appreciation is expressed on your agency's efforts to consult us regarding expansion of the Area of Potential Effect for Individual Environmental Report #14 Harvey – Westwego for Jefferson Parish.

Our Tribe maintains ancestral associations within the state of Louisiana despite the absence of written records to completely identify Tribal activities, villages, trails, or grave sites. It is our objective to ensure any significances of Native American ancestry including the Alabama-Coushatta Tribe are administered with the utmost attention.

Upon review of the July 20, 2009 documents submitted to our Tribe, no known impacts to religious, cultural, or historical assets of the Alabama-Coushatta Tribe of Texas should occur in conjunction with this proposal based upon the absence of identified cultural resources during recent investigations. Therefore, we concur with your "no historic properties affected" recommendation and have no objections to the proceeding of this proposal.

However, in the event of inadvertent discovery of human remains and/or archaeological artifacts, activity in proximity to the location must cease and appropriate authorities, including this office, notified without delay. Should you require additional assistance, please do not hesitate to contact us.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Bryant J. Celestine".

Bryant J. Celestine  
Historic Preservation Officer

Telephone: 936 – 563 – 1181

[celestine.bryant@actribe.org](mailto:celestine.bryant@actribe.org)

Fax: 936 – 563 – 1183

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana

09/02/2009 10:01 FAX 3372914149

US Fish&Wildlife Service

001

2009-08-28 11:59

504-862-2088 >>

3372914149 P 3/5

Planning, Programs, and  
Project Management Division  
Environmental Planning  
and Compliance Branch

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

*Debra A. Frutkin*  
Acting Supervisor  
Louisiana Field Office  
U.S. Fish and Wildlife Service

Date: *8/28/09*

Mr. James F. Boggs  
Field Supervisor  
U.S. Fish and Wildlife Service  
646 Cajundome Blvd - Suite 400  
Lafayette, Louisiana 70506

SUBJECT: Review of IER 14 S Project

Dear Mr. Boggs:

OPTIONAL FORM 99 (7-90)

**FAX TRANSMITTAL** # of pages **1**

|                      |                            |
|----------------------|----------------------------|
| To: <i>Beth Nord</i> | From: <i>David Walther</i> |
| Dept./Agency         | Phone #                    |
| Fax #                | Fax #                      |

NSN 7540-01-317-7388 5099-101 GENERAL SERVICES ADMINISTRATION

The U.S. Army Corps of Engineers New Orleans District (CEMVN) is conducting investigations and preparing Nation Environmental Policy Act (NEPA) compliance documentation for twenty-one proposed levee projects. This documentation will consist of revision to the design of project features previously described in Individual Environmental Report (IER) 14 ( IER 14 Supplement). Coordination was initially conducted for IER 14 in October 2007. IER 14 was released for public review on 30 June 2008. The Decision Record for IER 14 was signed on August 26, 2008. The U.S. Fish and Wildlife Service (USFWS) in their letters dated November 26, 2007, May 20, July 31, and August 18, 2008, indicated that the proposed action would have no effect on any known threatened or endangered species or their critical habitat. Since IER 14 was prepared, more restrictive geotechnical design criteria have been established which has resulted in changes in the project design. The areas that will be addressed in the 14 S document include the following:

WBV-14.c Reach WBV-14c extends from its western end at the Westwego Pump Station # 2 to the abandoned Orleans Village Pump Station. The right of way has been expanded 40 ft to the flood side of the existing levee alignment. An area of approximately 42 acres would be newly impacted.

WBV-14.b Reach WBV-14.b extends from the abandoned Orleans Village Pump Station to Hwy 45 and includes the Ames Pump Station (WBV- 37) and the Mt. Kennedy Pump Station (WBV-43). Demolish and replace floodwalls, install bottom paving and bank stabilization material. Only a small along the Millaudon Canal bankline and canal bottom would be newly impacted.

WBV-14.f Reach WBV-14. f extends from Highway 45 to the V-line levee floodwall. Within this reach relocate two gas pipelines by horizontal directional drilling below the

West Bank and Vicinity,  
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Louisiana

BOBBY JINDAL  
GOVERNOR



SCOTT A. ANGELLE  
SECRETARY

**State of Louisiana**  
DEPARTMENT OF NATURAL RESOURCES  
OFFICE OF COASTAL RESTORATION AND MANAGEMENT

November 10, 2009

Joan Exnicios  
U. S. Army Corps of Engineers, New Orleans District  
P. O. Box 60267  
New Orleans, Louisiana 70160-0267

RE: **C20080048**, Coastal Zone Consistency Modification 1  
**U. S. Army Corps of Engineers, New Orleans District**  
IER 14: WBV, Westwego to Harvey Levee, modification to expand footprint of Reach  
WBV14.c, and replace floodwall along Reach WBV14.b, **Jefferson Parish, Louisiana**

Dear Ms. Exnicios:

The above referenced project modification has been reviewed for consistency with the approved Louisiana Coastal Resources Program (LCRP) as required by Section 307 of the Coastal Zone Management Act of 1972, as amended. The modification, as proposed in the application, is consistent with the LCRP.

Please be advised that the pipeline lowering projects described in the Consistency Determination modification are being reviewed as independent projects; please refer to C20090424 (Chevron) and C20090425 (Enterprise) should you have any questions. Inquiries may be directed to Jeff Harris of the Consistency Section at (225) 342-7949 or 1-800-267-4019.

Sincerely,

A handwritten signature in blue ink that reads "Gregory J. DuCote".

Gregory J. DuCote  
Administrator

GJD/jdh

cc: David Walther, USFWS  
Richard Hartman, NMFS  
Barbara Keeler, EPA  
Dave Butler, LDWF  
Jaime Phillippe, LDEQ  
Frank Cole, CMD FI  
Jason Smith, Jefferson Parish  
David Muth, Jean Lafitte National Historical Park

Coastal Management Division • Post Office Box 44487 • Baton Rouge, Louisiana 70804-4487  
(225) 342-7591 • Fax (225) 342-9439 • <http://www.dnr.state.la.us>  
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United States Department of the Interior

FISH AND WILDLIFE SERVICE  
646 Cajundome Blvd.  
Suite 400  
Lafayette, Louisiana 70506  
November 10, 2009



Colonel Alvin B. Lee  
District Engineer  
U.S. Army Corps of Engineers  
Post Office Box 60267  
New Orleans, Louisiana 70160-0267

Dear Colonel Lee

Please reference the purposed supplement to Individual Environmental Report (IER) 14 for the Westwego to Harvey Levee, Jefferson Parish Louisiana. The Corps has recently proposed modifications to that project. That project is in response to Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (Supplemental 4). That law authorized the Corps of Engineers (Corps) to upgrade two existing hurricane protection projects (i.e., Westbank and Vicinity of New Orleans [WBV] and the Lake Pontchartrain and Vicinity) in the Greater New Orleans area in southeast Louisiana to provide protection against a 100-year hurricane event. This draft supplemental report contains an analysis of the impacts on fish and wildlife resources that would result from changes to the previously proposed plan, and provides recommendations to minimize and/or mitigate project impacts on those resources. Furthermore, this report corrects a previous impact analysis for a levee reach not being addressed in the supplement to IER 14.

The proposed project was authorized by Supplementals 4 and 5 which instructed the Corps to proceed with engineering, design, and modification (and construction where necessary) of the above mentioned hurricane protection projects. Procedurally, project construction has been authorized in the absence of the report of the Secretary of the Interior that is required by Section 2(b) of the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). Therefore, to fulfill the coordination and reporting requirements of the FWCA, the Service will be providing post-authorization 2(b) reports for each IER.

This draft supplemental report incorporates and supplements our FWCA Reports that addressed impacts and mitigation features for the WBV of New Orleans (dated November 10, 1986, August 22, 1994, November 15, 1996, and June 20, 2005), the November 26, 2007, Draft Programmatic FWCA Report that addressed the hurricane protection improvements authorized in Supplemental 4, and our August 18, 2008 report that addressed impacts resulting from implementation of IER 14 and corrects our previous supplement having the same date as this report. This draft supplemental report does not constitute the report of the Secretary of the Interior as required by Section 2(b) of the FWCA. A draft report has been provided to the Louisiana Department of



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Westwego to Harvey Levee, Jefferson Parish,  
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Wildlife and Fisheries and the National Marine Fisheries Service; their comments will be incorporated into this report.

The study area is located in the south-central portion of Jefferson Parish within the Mississippi River Deltaic Plain of the Lower Mississippi River Ecosystem. Higher elevations occur on the natural levees of the Mississippi River and its distributaries. Developed lands are primarily associated with natural levees, but extensive wetlands have been leveed and drained to accommodate residential, commercial, and agricultural development. Levees have been installed for flood protection purposes, often with negative effects on adjacent wetlands. However, extensive wetlands and associated shallow open waters still dominate the landscape outside the flood control levees. Habitat types in the project area include forested wetlands (i.e., bottomland hardwoods and swamps), non-wet bottomland hardwoods, marsh, open water, and developed areas. Factors that will strongly influence future fish and wildlife resource conditions outside of the protection levees include freshwater input and loss of coastal wetlands. All habitat within and adjacent to the project area will likely experience losses due to development, subsidence, and erosion. As previously mentioned, the Service has provided FWCA Reports for the WBV project. Those reports contain a thorough discussion of the significant fish and wildlife resources (including those habitats) that occur within the study area. Additional information about the study area and a discussion of the significant fish and wildlife resources (including habitats) that occur within that study area are contained in our August 2008 report (available at: [http://www.fws.gov/filedownloads/ftp\\_gis/R4/Louisiana\\_ES/Walther/IER%202/](http://www.fws.gov/filedownloads/ftp_gis/R4/Louisiana_ES/Walther/IER%202/)). That report contains information concerning project design and alternatives examined. For brevity, that discussion is incorporated by reference herein, but the following brief descriptions are provided to update and augment the previously mentioned information.

The Barataria Preserve unit of Jean Lafitte National Historical Park and Preserve (JLNHPP) is located on the west bank of the Mississippi River and managed by the National Park Service (NPS). The existing Federal levee that is proposed for further modification is located adjacent to the Commercial Investment Trust (CIT) Tract. The CIT Tract consists of swamp adjacent to Bayou Segnette that was owned by the Corps as the result of a 1994 lawsuit. The passage of the Omnibus Public Lands Management Act in April 2009 authorized the transfer of these lands from the Corps to the JLNHPP. Impacts to Federal lands should be mitigated on adjacent Federal lands within the vicinity of IER 14, if feasible. The NPS has no authority to enter into agreements with others to allow uses which adversely affect park lands. Therefore, NPS lands cannot be directly utilized or adversely impacted by any flood control project feature unless authorized explicitly by Congress. For additional information concerning NPS lands within the area please contact Chief of Resource Management David Muth (504) 589-3882 extension 128, ([david\\_muth@nps.gov](mailto:david_muth@nps.gov)).

The proposed project involves upgrading the existing flood protection levees and floodwalls that provide protection to the towns of Harvey and Westwego and other adjacent communities. The western end of the project originates just south of the Lapalco Boulevard in Westwego and continues along the existing flood protection project to its eastern terminus approximately 2.9 miles northeast of the vertex of the V-levee. The project is designed to use existing rights-of-

way (ROW) and levees within previously disturbed areas, which will serve to minimize environmental impacts. Some proposed features, however, would require new construction ROWs and would impact fish and wildlife habitats. The design, construction, and maintenance would be similar to that previously designed and constructed for the existing levee along this alignment.

The existing Harvey to Westwego levee is divided into five reaches, however, only the plans for two reaches (i.e., WBV – 14b and 14c) are proposed for modification, therefore only those reaches will be addressed in this supplemental report. Reach WBV-14b extends from the Orleans Village Pump Station to State Highway 45. Reach WBV-14c extends 3.3 miles from the western terminus (i.e., Westwego Pump Station # 2) to the abandoned Orleans Village Pump Station. Current levee heights for this reach are approximately 14 feet North American Vertical Datum of 1988 (NAVD88).

The previous selected plan for Reach WBV-14c would have expanded the protected-side levee foot print to achieve 100-year protection. All work would take place within the existing ROW and the levee would be raised to 14 feet NAVD88. Geotextile fabric and/or deep soil mixing would be incorporated into the levee to improve stability, support, seepage cutoff, and seismic retrofit. Existing floodwalls at the pump station within this reach would be replaced with a flood wall (inverted T or L design) constructed up to 16 feet NAVD88 and fronting protection would be provided to operating pump station. Proposed modifications to reach 14b and 14c include the floodside expansion (i.e., elimination of protected side expansion) and various changes to flood protection at the pumping stations. Changes at those pumping stations would not result in any additional impacts to fish and wildlife resources. Floodside expansion was determined necessary because of the risk involved with construction techniques that would have been necessary to utilize protected side expansion (e.g., degrading levees to place geo-textile fabric).

For Reach WBV-14f, the proposed plan is not being modified; however, the previous impact analysis was conducted using a 100-year period-of-analysis. The correct period-of-analysis should have been 50 years (Table 1).

Project impacts would result from floodside ROW expansion and construction of levees. Although some construction will occur in cleared areas and on existing levees, project implementation will also directly impact swamps that provide high habitat value for diverse fish and wildlife resources. Impacts resulting from borrow pit creation are being addressed in separate IERs, therefore, impacts, mitigation, and Service recommendations concerning borrow pits will not be included in this report.

Impacts to swamp were quantified by acreage and habitat quality (i.e., average annual habitat unit or AAHUs) and are presented in Table 1. The Service used the Habitat Assessment Methodology (HAM) (Louisiana Department of Natural Resources 1994) to quantify the impacts of proposed flood protection features. The habitat assessment model for swamp within the Louisiana Coastal Zone utilized in this evaluation was modified from those developed in the Service's Habitat Evaluation Procedures (HEP) (U.S. Fish and Wildlife Service 1980). For each

habitat type, those models define an assemblage of variables considered important to the suitability of an area to support a diversity of fish and wildlife species. The HAM, however, uses a community-level evaluation approach instead of the species-based approach used with HEP. Further explanation of how impacts/benefits are assessed with HAM, and an explanation of the assumptions affecting habitat suitability (i.e., quality) index (HSI) values for each target year, are available for review at the Service's Lafayette, Louisiana, Field Office.

As indicated in Table 1, our HAM analyses determined that the proposed changes to the project would result in the additional direct loss of 42 acres of swamp (24 AAHUs). Total project impacts with the proposed modifications would result in the direct loss of 90.5 acres of bottomland hardwoods (67.17 AAHUs) and 71.75 acres of swamp (41 AAHUs).

**Table 1: Impacts of IER 14 (Westwego to Harvey Levee) Jefferson Parish, 100-year Level Protection**

| <b>Levee Reach</b> | <b>IER 14 Prior Impacts (acres) and Habitat Type</b> | <b>IER 14 Total Impacts, including supplemental (acres) and Habitat Type</b> | <b>AAHUs lost</b>  |
|--------------------|--|--|--------------------|
| WBV 14c            | 0  | 42   | 24                 |
| WBV 14b.           | 29.75, swamp   | 29.75, swamp   | 17.02              |
| WBV 14f            | 45.5, blh <sup>1</sup>                               | 45.5, blh <sup>1</sup>   | 37.17 <sup>3</sup> |
| WBV 14d            | 0.5, blh   | 0.5, blh   | 0.33               |
| WBV 14e            | 44.5, blh <sup>2</sup>                               | 44.5, blh <sup>2</sup>   | 29.67              |
| Total              | 120.25   | 162.25   | 108.19             |

<sup>1</sup>blh = bottomland hardwoods

<sup>2</sup>The Corps classified this area as swamp based in part on the presence of cypress in the canopy, however, the Service assessed this area as blh because of the altered wetland functions and the greater number of co-dominant blh tree species which prevented the use of the swamp assessment model.

<sup>3</sup>The AAHUs for 14f were previously incorrectly calculated to be 18.58.

#### **FISH AND WILDLIFE CONSERVATION MEASURES**

The President's Council on Environmental Quality defined the term "mitigation" in the National Environmental Policy Act regulations to include:

- (a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during

the life of the action; and (e) compensating for the impact by replacing or providing substitute resources or environments.

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

The Service's Mitigation Policy (Federal Register, Volume 46, No. 15, January 23, 1981) identifies four resource categories that are used to ensure that the level of mitigation recommended by Service biologists will be consistent with the fish and wildlife resource values involved. Considering the high value of swamp for fish and wildlife and the relative scarcity of that habitat type, those wetlands are usually designated as Resource Category 2 habitats, the mitigation goal for which is no net loss of in-kind habitat value. Toward that end, the Service recommends that the following planning objectives be adopted to guide future project studies.

1. Conserve important fish and wildlife habitat (i.e., bottomland hardwoods, cypress swamps) by minimizing the acreage of those habitats directly affected by flood control features.
2. Ensure impacts and encroachment onto National Park Service lands are avoided. Unavoidable impacts and encroachments, when permissible should be minimized and appropriately mitigated.
3. Future maintenance and associated activities (e.g., staging areas, access routes, pipeline lowerings, etc.) should be identified, planned and coordinated with the JLNHPP staff to avoid future potential impacts to National Park Service lands.
3. Fully compensate for any unavoidable losses of wetland habitat or non-wet bottomland hardwoods caused by project features.

#### **SERVICE POSITION AND RECOMMENDATIONS**

The Service does not object to providing improved hurricane protection to the Greater New Orleans area and the proposed changes to EIR 14 provided the following fish and wildlife conservation recommendations and those provided in our August 18, 2008, report are incorporated into future project planning and implementation. Recommendations that were provided in that report but are not relevant to proposed project modification have been omitted.

1. To the greatest extent possible, situate flood protection features so that destruction of wetlands and non-wet bottomland hardwoods are avoided or minimized.
2. Ensure impacts and encroachment onto National Park Service lands are avoided.

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

Unavoidable impacts and encroachments, when permissible by that agency, should be minimized and appropriately mitigated. Point of contact for the National Park Service (NPS) is Chief of Resource Management David Muth (504) 589-3882 extension 128, (david\_muth@nps.gov)

3. Future maintenance and associated activities (e.g., staging areas, access routes, pipeline lowerings, etc.) should be identified, planned and coordinated with the JLNHPP staff to avoid future potential impacts to National Park Service lands.
4. Forest clearing associated with project features should be conducted during the fall or winter to minimize impacts to nesting migratory birds, when practicable.
5. The project's first Project Cooperation Agreement (or similar document) should include language that specifies the responsibility of the local-cost sharer to provide operational, monitoring, and maintenance funds for mitigation features.
6. Further detailed planning of project features (e.g., Design Documentation Report, Engineering Documentation Report, Plans and Specifications, or other similar documents) should be coordinated with the Service, NMFS, LDWF, Environmental Protection Agency (EPA) and Louisiana Department of Natural Resources (LDNR). The Service shall be provided an opportunity to review and submit recommendations on the all work addressed in those reports.
7. If a proposed project feature is changed significantly or is not implemented within one year of the date of our Endangered Species Act consultation letter, we recommend that the Corps reinstate coordination with this office to ensure that the proposed project would not adversely affect any federally listed threatened or endangered species or their habitat.
8. The Corps shall fully mitigate for any unavoidable losses of wetlands (108.19 AAHUs) caused by project features. Development and implementation of those mitigation plans should be done in concert with the Service and other resource agencies. To the extent feasible, impacts to Federal lands should be mitigated on Federal lands within the vicinity of IER 14.

Should you or your staff have any questions regarding this report, please contact David Walther (337/291-3122) of this office.

Sincerely,



James F. Boggs  
Supervisor  
Louisiana Field Office

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

cc: National Marine Fisheries Service, Baton Rouge, LA  
Jean Lafitte National and Historical Park and Preserve, New Orleans, LA  
EPA, Dallas, TX  
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA  
LA Dept. of Natural Resources, CMD, Baton Rouge, LA  
OCPR, Baton Rouge, LA

LITERATURE CITED

Louisiana Department of Natural Resources. 1994. Habitat assessment models for fresh swamp and bottomland hardwoods within the Louisiana coastal zone. Louisiana Department of Natural Resources, Baton Rouge, Louisiana. 10 pp.

U.S. Fish and Wildlife Service. 1980. Habitat evaluation procedures. U.S. Fish and Wildlife Service, Division of Ecological Services, Washington, D.C. Ecological Services Manual 102.

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



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

November 18, 2009 F/SER46/RH:jk  
225/389-0508

Ms. Joan Exnicios, Chief  
Environmental Planning and Compliance Branch  
Planning, Programs, and Management Division  
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 public notice titled "**West Bank and Vicinity, New Orleans, LA; Greater New Orleans Hurricane and Storm Damage Risk Reduction System Project; Westwego to Harvey Levee; Individual Environmental Report Supplemental (IERS) #14.a and #14.b.**" This public notice, dated November 16, 2009, describes a number of revisions to the project previously described in Individual Environmental Report (IER) 14. These revisions include expanding the right-of-way for a 3.29-miles long levee 100 feet to the flood size, changing pumps at the Ames Pumping Station, minor T-wall modifications adjacent to two pumping stations, and two pipeline relocations. According to the public notice, the proposed work is necessary to meet more rigorous design guidelines adopted after the IER #14 report was completed.

The proposed project revisions would increase impacts to cypress-tupelo swamp by approximately 42 acres. However, none of the wetland areas proposed to be impacted are categorized as essential fish habitat or directly supportive of marine fishery resources. It is our understanding that mitigation to offset all wetland impacts would be identified in a separate IER document and that the selection of the appropriate mitigation would be coordinated with NMFS.

Because project revisions would not impact NOAA trust resources and the selection of appropriate mitigation would be coordinated with the natural resource agencies, NMFS has no comments to provide at this time. We appreciate the opportunity to review and comment on this public notice.

Sincerely,

  
fsr Miles M. Croom  
Assistant Regional Administrator  
Habitat Conservation Division

c:  
FWS, Lafayette, Holland  
EPA, Dallas, Mick  
LA DNR, Consistency, Ducote  
F/SER46, Swafford  
Files



West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701

November 23, 2009 F/SER46/RH:jk  
225/389-0508

Ms. Joan Exnicios, Chief  
Environmental Planning and Compliance Branch  
Planning, Programs, and Management Division  
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 received the draft **Individual Environmental Report Supplemental (IERS) #14** transmitted by your letter dated November 16, 2009. The draft IERS evaluates and quantifies the impacts associated with providing increased 100-year level of hurricane protection to the section of levee between Westwego and the Harvey Levee in Jefferson Parish, Louisiana.

NMFS has reviewed the draft IERS and finds that the disclosure and assessment of impacts associated with the preferred alternative is adequate. However, in attempting to understand why the New Orleans District selected the preferred alternative over the two other alternatives evaluated (earthen levee unreinforced with landside canal shift and floodwall), NMFS finds that information to be missing from the IERS. Considering that the preferred alternative increases impacts to cypress-tupelo swamp by 42 acres over the floodwall, and by 25.5 acres for the other alternative, NMFS believes the selection rationale should be more thoroughly described in the document. It should be noted that those wetlands to be impacted by the project are now part of the Jean Lafitte National Historical Park and Preserve owned and managed by the National Park Service. In discussing this project with staff of the U.S. Fish and Wildlife Service, we were informed that they believed there were substantial cost increases associated with the alternatives that were not selected and some right-of-way issues. Unfortunately, this information was not provided or summarized in the IERS document to allow reviewers to understand why the most environmentally damaging alternative was selected.

While the selected alternative would result in significant adverse impacts to cypress-tupelo swamp, NMFS agrees that area is not categorized as essential fish habitat nor does it provide habitat supportive of marine fishery resources. As is stated in the IERS, details regarding compensatory mitigation for all adverse wetland impacts will be disclosed and analyzed in a forthcoming Mitigation Individual Environmental Report. As such, we have no further comments to provide on the draft IERS #14.



*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

2

We appreciate the opportunity to review and comment on the draft IERS.

Sincerely,



 Miles M. Croom  
Assistant Regional Administrator  
Habitat Conservation Division

c:  
FWS, Lafayette, Walther  
EPA, Dallas, Ettinger  
NPS, Barataria Preserve, Muth  
LA DNR, Consistency, Ducote  
F/SER46, Swafford  
Files

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



REPLY TO  
ATTENTION OF

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

DEC - 7 2009

Planning Division  
New Orleans Environmental  
Branch

Mr. Miles M. Croom  
Assistant Regional Administrator  
Habitat Conservation Division  
Southeast Regional Office  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701

Dear Mr. Croom:

This is in response to your November 23, 2009 letter (F/SER46/GC;jk), concerning the draft Individual Environmental Report Supplemental (IERS) #14.a.

Comment: "However in attempting to understand why the New Orleans District selected the preferred alternative over the two other alternatives evaluated (earthen levee unreinforced with landside canal shift and floodwall), NMFS finds that information to be missing from the IERS. Considering that the preferred alternative increases impacts to cypress-tupelo swamp by 42 acres over the floodwall, and by 25.5 acres for the other alternative, NMFS believes the selection rational should be more thoroughly described in the document. It should be noted that those wetlands to be impacted by the project are now part of the Jean Lafitte National Historical Park and Preserve owned and managed by the Nation Park Service. In discussing this project with staff of the U.S. Fish and Wildlife Service, we were informed that they believed there were substantive cost increases associated with the alternatives that were not selected and some right-of-way issues. Unfortunately, this information was not provided or summarized in the IERS documentation to allow reviewers to understand why the most environmentally damaging alternative was selected."

Response: We revised the final IERS to include a land use section. The land use section identifies the need to remove approximately 100 structures, mostly residential, for construction of the Earthen Levee (Unreinforced) with Landside Canal Shift alternative. Additionally, on page 5 of the final IERS document, we have added the following information; "In order to demonstrate the selection relational for the WBV-14.c reach, a summary of the alternative evaluation process, is provided in appendix E. The unreinforced levee was selected because of its (1) low adverse human impacts (2) relatively short construction duration and (3) low cost. Each alternative was evaluated with respect to risk reduction and reliability, adverse environmental impacts (human and natural), time and constructability and cost.". The AEP summary for the 14.c.2 reach, which was presented during the Hurricane Storm Damage and Risk Reduction System interagency team meeting held on April 6, 2009, has been incorporated

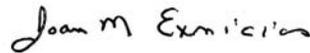
*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

-2-

into the final IERS as appendix E. The AEP summary compares the alternatives with evaluation criteria that include relative cost and right-of-way requirements.

Thank you for commenting on the draft IER. If you have additional questions please contact Beth Nord at (504)862-2167.

Sincerely,



Joan M. Exnicios  
New Orleans Environmental  
Branch

Copies Furnished:

Richard D. Hartman  
NMFS-Habitat Conservation Division  
Louisiana State University  
Baton Rouge, LA 70803-7535

James F. Boggs  
Field Supervisor  
U.S Fish and Wildlife Service  
646 Cajundome Blvd. – Suite 400  
Lafayette, LA 70506

Don Hoffman  
EPA, Region VI- Office of Planning and  
Coordination/Mail Code 6EN-XP  
1445 Ross Avenue  
Dallas, TX 75202-2733

David P. Muth  
Chief of Planning and Resource Stewardship  
Jean Lafitte National Historical Park and Preserve  
419 Decatur St.  
New Orleans, LA 70130-1035

Gregory P. Ducote  
Interagency Affairs-LADNR  
CMD  
P.O. Box 44487, Capital Station  
Baton Rouge, LA 70804-4487

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

Rusty Swafford  
NMFS- Habitat Conservation Division  
4700 Avenue U, Bldg 302  
Galveston, TX 77551

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

Message sent via my email account

---

From: Diane Hewitt <Diane.Hewitt@LA.GOV>  
To: Exnicios, Joan M MVN  
Sent: Mon Nov 23 16:28:53 2009  
Subject: DEQ SOV: 91120/2680 USACE IERS #14 WESTWEGO

November 23, 2009

Joan M. Exnicios, Chief  
USACE Environ. Planning Branch  
P.O. Box 60267  
New Orleans, LA 70160-0267  
joan.m.exnicios@usace.army.mil <mailto:joan.m.exnicios@usace.army.mil>

RE:

91120/2680

USACE IERS #14 WESTWEGO

NOTICE OF AVAILABILITY

Jefferson Parish

1

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

Dear Ms. Exnicios:

The Department of Environmental Quality (LDEQ), Offices of Environmental Assessment and Environmental Services have received your request for comments on the above referenced project. Please take any necessary steps to obtain and/or update all necessary approvals and environmental permits regarding this proposed project.

There were no objections based on the information in the document submitted to us. However, the following comments have been included below. Should you encounter a problem during the implementation of this project, please notify LDEQ's Single-Point-of-contact (SPOC) at (225) 219-3640.

The Office of Environmental Services/Permits Division recommends that you investigate the following requirements that may influence your 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.
- \* LDEQ has stormwater general permits for construction areas equal to or greater than one acre. It is recommended that you contact the LDEQ Water Permit Division at (225) 219-3181 to determine if your proposed improvements require one of these permits.
- \* All precautions should be observed to control nonpoint source pollution from construction activities.
- \* 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 to inquire about the possible necessity for permits. 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, Jefferson Parish is classified as an attainment parish with the National Ambient Air Quality Standards for all criteria air pollutants.

Please forward all future requests to Ms. Diane Hewitt, LDEQ/Performance Management/ P.O. Box 4301, Baton Rouge, LA 70821-4301, and your request will be processed as quickly as possible.

If you have any questions, please feel free to contact me at (225) 219-4079 or by email at [diane.hewitt@la.gov](mailto:diane.hewitt@la.gov) <<mailto:diane.hewitt@la.gov>> . Permitting questions should be directed to the Office of Environmental Services at (225) 219-3181.

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

Sincerely,

Diane Hewitt  
Performance Management  
LDEQ/Community and Industry Relations  
Business and Community Outreach Division  
Office of the Secretary  
P.O. Box 4301 (602 N. 5th Street)  
Baton Rouge, LA 70821-4301  
Phone: 225-219-4079  
Fx: 225-325-8208  
E-mail: [diane.hewitt@la.gov](mailto:diane.hewitt@la.gov)

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana

Bobby Jindal  
GOVERNOR



Alan Levine  
SECRETARY

**State of Louisiana**  
Department of Health and Hospitals  
Office of Public Health

December 7, 2009

Joan Exnicios  
USACE - New Orleans District  
Environmental Planning and Compliance  
CEMVN-PM-R  
P.O. Box 60267  
New Orleans, LA 70160-0267

Re: Draft IER #14 Supplemental

This office is in receipt of your Solicitation of View regarding the above referenced project(s).

Based upon the information received from your office we have no objection to the referenced project(s) at this time. The applicant shall be aware of and comply with any and all applicable Louisiana State Sanitary Code regulations (LAC 51, as applicable). Furthermore, should additional project data become available to this office that in any way amend the information upon which this office's response has been based, we reserve the right of additional comment on the referenced project(s).

In the event of any future discovery of evidence of non-compliance with the Louisiana Administrative Code Title 51 (Public Health-Sanitary Code) and the Title 48 (Public Health-General) regulations or any applicable public health laws or statutes which may have escaped our awareness during the course of this cursory review, please be advised that this office's preliminary determination on this Solicitation of View of the project(s) shall not be construed as absolving the applicant of responsibility, if any, with respect to compliance with the Louisiana Administrative Code Title 51 (Public Health-Sanitary Code) and the Title 48 (Public Health-General) regulations or any other applicable public health laws or statutes.

Respectfully,

A handwritten signature in black ink, appearing to read "Johan Forsman".

Johan Forsman  
Geologist  
Engineering Services Section  
Center for Environmental Health Services  
Telephone: (225) 342-7309  
Electronic mail: johan.forsman@la.gov

Bienville Building • P.O. Box 4489 • Baton Rouge, Louisiana 70821-4489  
Phone #: 225/342-7499 • Fax #: 225/342-7303 • WWW.DHLLA.GOV  
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West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana

United States Department of Agriculture



Natural Resources Conservation Service  
3737 Government Street  
Alexandria, LA 71302

(318) 473-7795  
Fax: (318) 473-7750

December 7, 2009

Ms. Joan M. Exnicios  
Chief, Environmental Planning and Compliance Branch  
U.S. Army Corps of Engineers  
Planning, Programs, and Project Management Division  
P.O. Box 60267  
New Orleans, Louisiana 70160-0267

Dear Ms. Exnicios:

RE: **IER # 14.A SUPPLEMENTAL  
WESTWEGO TO HARVEY LEVEE  
JEFFERSON PARISH, LOUISIANA**

In response to your request for NRCS review of the referenced project site location to identify natural resource constraints, if any, that may impact design and permitting, I have reviewed the Farmland and Hydric Soil Classifications.

Farmland Classification

The Farmland Protection Policy Act (FPPA)-Subtitle I of Title XV, Section 1539-1549 of PL 97-98, final rules and regulations were published in the Federal Register on June 17, 1994. These rules state that projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forestland, pastureland, cropland, or other land, but not water or urban built-up land.

NRCS policy clarifies the Rule by stating that activities not subject to FPPA include:

1. Federal permitting and licensing
2. Projects planned and completed without assistance of a federal agency
3. Projects on land already in urban development or used for water storage
4. Construction within an existing right-of-way purchased on or before August 4, 1984.
5. Construction for national defense purposes
6. Construction of on-farm structures needed for farm operations
7. Surface mining, where restoration to agricultural use is planned
8. Construction of new minor secondary structures, such as a garage or storage shed.

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Louisiana*

Ms. Exnicios  
December 7, 2009  
Page 2 of 2

The soils on the proposed levee improvements are not Prime Farmland and will not require a farmland conversion impact rating. Furthermore, NRCS does not believe that the proposed project will impact any NRCS work in the vicinity. However, NRCS does recommend that appropriate erosion control measures are employed during the construction of the project to minimize any adverse effect on the surrounding environment.

Should you have any questions regarding the above comments, feel free to contact Patra Ghergich, District Conservationist, in our Franklin Field Office at (337) 828-1461, Ext. 3, or John Boatman, District Conservationist, in our Thibodaux Field Office at (985) 447-3871, Ext. 3.

Sincerely,



E.J. "Ed" Giering II, P.E.  
State Conservation Engineer

cc: Patra Ghergich, District Conservationist, NRCS, Franklin, Louisiana  
John Boatman, District Conservationist, NRCS, Thibodaux, Louisiana

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana

Famland Classification—Jefferson Parish, Louisiana  
(IER # 14.a Supplemental)

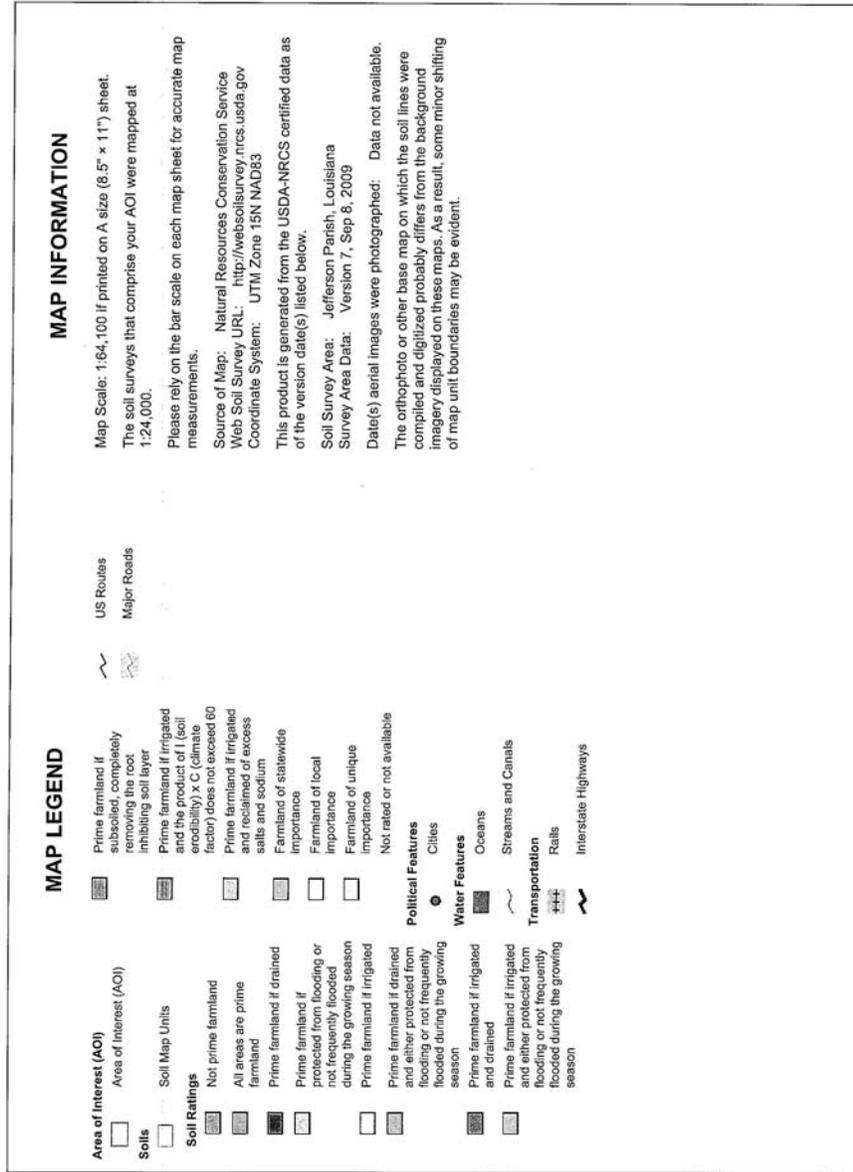


USDA Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

12/7/2009  
Page 1 of 3

Farmland Classification—Jefferson Parish, Louisiana  
(IER # 14.a Supplemental)



USDA  
Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

12/7/2009  
Page 2 of 3

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

Farmland Classification--Jefferson Parish, Louisiana

IER # 14.a Supplemental

## Farmland Classification

| Farmland Classification— Summary by Map Unit — Jefferson Parish, Louisiana |                                       |                              |                |                |
|--|---------------------------------------|------------------------------|----------------|----------------|
| Map unit symbol  | Map unit name                         | Rating                       | Acres in AOI   | Percent of AOI |
| Ae   | Allemands muck, drained               | Not prime farmland           | 73.3           | 3.2%           |
| AR   | Allemands muck                        | Not prime farmland           | 206.1          | 8.9%           |
| BB   | Barbary muck                          | Not prime farmland           | 926.8          | 40.0%          |
| Cm   | Cancienne silt loam                   | All areas are prime farmland | 112.2          | 4.8%           |
| Co   | Cancienne silty clay loam             | All areas are prime farmland | 104.6          | 4.5%           |
| Ha   | Harahan clay                          | All areas are prime farmland | 11.2           | 0.5%           |
| KE   | Kenner muck                           | Not prime farmland           | 16.5           | 0.7%           |
| Sh   | Schriever silty clay loam             | All areas are prime farmland | 33.2           | 1.4%           |
| Sk   | Schriever clay                        | All areas are prime farmland | 585.9          | 25.3%          |
| Va   | Vacherie silt loam, gently undulating | All areas are prime farmland | 16.7           | 0.7%           |
| W  | Water                                 | Not prime farmland           | 201.5          | 8.7%           |
| Ww   | Westwego clay                         | Not prime farmland           | 27.5           | 1.2%           |
| <b>Totals for Area of Interest</b>   |                                       |                              | <b>2,315.5</b> | <b>100.0%</b>  |

### Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

### Rating Options

*Aggregation Method:* No Aggregation Necessary

*Tie-break Rule:* Lower

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana

DEC-10-2009 12:01

USCOE CENTRAL EVAL SEC

504 862 2574 P.01



BOBBY JINDAL  
GOVERNOR

State of Louisiana

ROBERT J. BARHAM  
SECRETARY

DEPARTMENT OF WILDLIFE AND FISHERIES  
OFFICE OF WILDLIFE

JIMMY L. ANTHONY  
ASSISTANT SECRETARY

December 8, 2009

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

RE: *Application Number: IERS #14 Westwego to Harvey Levee Supplemental*  
*Applicant: U.S. Army Corps of Engineers- New Orleans District*  
*Public Notice Date: November 16, 2009*

Dear Ms. Stiles:

The professional staff of the Louisiana Department of Wildlife and Fisheries (LDWF) has reviewed the above referenced Public Notice. Based upon this review, the following has been determined:

LDWF understands that the Army Corps of Engineers must now satisfy more rigorous design guidelines; however, we ask if the additional impacts to 42 acres of cypress tupelo swamp could be reduced. For instance, could the footprint of the flood side levee reinforcement berm be safely reduced by using geosynthetic reinforcement, soil additives or other methods? Could the proposed new 100 feet of right-of-way be reduced? Would it be feasible to utilize structures similar to T-walls atop the levee crown to meet project goals within a reduced overall footprint?

LDWF looks forward to reviewing the forthcoming complementary comprehensive mitigation IER(s). The Army Corps of Engineers shall provide adequate and appropriate mitigation for impacts to wetland function.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Jimmy L. Anthony".

Jimmy L. Anthony  
Assistant Secretary

P.O. BOX 98000 • BATON ROUGE, LOUISIANA 70898-9000 • PHONE (225) 763-2800  
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*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

DEC-10-2009 12:01

USCOE CENTRAL EVAL SEC

504 862 2574 P.02

Page 2

Application Number: IERS #14 Westwego to Harvey Levee Supplemental  
December 8, 2009

mw

c: Matthew Weigel, Biologist  
EPA, Marine & Wetlands Section  
USFWS Ecological Services

TOTAL P.02

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



REPLY TO  
ATTENTION OF

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

DEC 18 2009

Planning Division  
Environmental Planning  
and Compliance Branch

Mr. Jimmy Anthony  
Assistant Secretary  
State of Louisiana  
Department of Wildlife and Fisheries  
Office of Wildlife  
PO Box 98000  
Baton Rouge, Louisiana 70898-9000

Dear Mr. Anthony:

This is in response to your December 8, 2009, letter, concerning the draft Individual Environmental Report Supplemental (IERS) #14.a.

Comment: "LDWF understands that the Army Corps of Engineers must now satisfy more rigorous design guidelines; however, we ask if the additional impacts to 42 acres of cypress tupelo swamp could be reduced. For instance, could the footprint of the flood side levee reinforcement berm be safely reduced by using geosynthetic reinforcement, soil additives or other methods? Could the proposed new 100 feet of right-of-way be reduced? Would it be feasible to utilize structures similar to T-walls atop the levee crown to meet project goals within a reduced overall footprint?"

Response: As stated on page 12 of the draft IERS, an earthen levee with geotextile reinforcement was considered as an alternative but eliminated due to the inability to provide interim flood protection during a levee degrade which would be necessary to install the geotextile reinforcement. The need to perform a levee degrade provides openings in the system and reduces the ability of the system to provide storm risk reduction. As a standard procedure for the Hurricane Storm Damage Risk Reduction System (HSDRRS) work, only short reaches of embankment, typically 2,000 linear feet of embankment per contract, are concurrently degraded during hurricane season. This restriction reduces the risk of flooding during construction by minimizing the size of openings in the storm damage risk reduction system and at the same time, this construction practice significantly increases construction durations. As stated on page 13 of the draft IERS, a soil mixing (soil additive) alternative was eliminated due to cost.

A floodwall alternative also was considered during alternative development but was not the proposed alternative because of high cost and due to project duration. A combination levee with T-wall incorporated into the levee crown was eliminated early in the design process. Soil

-2-

conditions at the site would necessitate a significant amount of excavation or degrading of existing levee to provide an adequate foundation to construct the T-wall and support piles. The combination levee with floodwall stick up was eliminated early in the evaluation process because of cost, and time required for construction.

Throughout the design process, alternatives were evaluated with respect to a series of criteria, including environmental impacts both human and natural. The proposed alternative of levee with a flood side shift was selected based on the collective evaluation of all the criteria considered. Construction duration or time, which relates to meeting the Corps' goal of completing much of the work in the HSSRRS that will raise the level of risk reduction in the New Orleans area by June 2011, becomes a more significant factor in the evaluation process as June 2011 approaches.

The unreinforced levee was selected because of its (1) low adverse human impacts, (2) relatively short construction duration, and (3) low cost. Each alternative was evaluated with respect to risk reduction and reliability, adverse environmental impacts (human and natural), time and constructability and cost. The Alternative Evaluation Process (AEP) summary for the 14.c.2 reach has been incorporated into the final IERS as appendix E. The AEP summary compares the alternatives with evaluation criteria that include relative cost and right-of-way requirements. The development and adoption of more rigorous design criteria has resulted in a growth in the overall levee footprint. To meet these new more rigorous criteria features such as the levee reinforcement berm cannot be safely reduced.

Although we have not eliminated impacts to the 42 acres of cypress tupelo swamp, of which approximately 15 acres is located within Jean Lafitte National Historical Park and Preserve (JLNHPP), the USACE has been working cooperatively with the West Jefferson Levee District to develop a land swap between the JLNHPP and the West Jefferson Levee District to swap the lands that would be impacted by levee construction for lands held by the West Jefferson Levee District in the interior of the JLNHPP and along the southeastern boundary of the JLNHPP. We have been working closely with JLNHPP staff, to develop a mutually agreeable land swap in the JLNHPP while pursuing the goal of providing 100-year level of risk reduction for the New Orleans Metropolitan area.

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

-3-

Thank you for commenting on the draft IER. If you have additional questions, please contact Ms. Beth Nord at (504) 862-2167.

Sincerely,

  
for Joan M. Exnicios  
Environmental Planning  
and Compliance Branch

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

-4-

Copies Furnished:

Matthew Weigel  
Department of Wildlife and Fisheries  
Office of Wildlife  
PO Box 98000  
Baton Rouge, Louisiana 70898-9000

Mr. Timothy Landers  
Chief, Marine and Coastal Section  
US Environmental Protection Agency  
Region 6  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733

Mr. James F. Boggs  
Field Supervisor  
US Fish and Wildlife Service  
646 Cajundome Boulevard – Suite 400  
Lafayette, Louisiana 70506

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



## United States Department of the Interior

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



L7617

December 15, 2009

Colonel Alvin B. Lee  
New Orleans District, U.S. Army Corps of Engineers  
Post Office Box 60267  
New Orleans, Louisiana 70160-0267

Dear Colonel Lee:

Jean Lafitte National Historical Park and Preserve (JLNHPP) has received the draft **Individual Environmental Report Supplemental (IERS) #14** transmitted by letter dated November 16, 2009. The draft IERS evaluates and quantifies the impacts associated with providing increased 100-year level of hurricane protection to the section of levee between Westwego and the Harvey Levee in Jefferson Parish, Louisiana. We have also received a copy of a letter from your office to Miles M. Croom, National Marine Fisheries Service (NMFS), dated December 7, 2009, which responds to some of the questions raised by NMFS about IERS 14 in a November 23, 2009 letter.

Since the Record of Decision (ROD) for IER 14 was signed on August 26, 2008, management of the so-called "CIT tract" which bounds the easternmost reach of WBV.c.2, was transferred by Congress from the Corps of Engineers (COE) to the National Park Service (NPS) as a result of the Omnibus Public Lands Act of 2009 signed into law on March 30, 2009. The transfer took place pursuant to language in Section 7105 of the act which addressed boundary adjustments for the Barataria Preserve Unit of JLNHPP. The act also included language which recognized the need for NPS and COE to work together along the Barataria Preserve boundary "to ensure adequate hurricane protection of the communities located in the area." (Sec. 902.(a)(1)(B)(i)(iii)).

The preferred alternative proposes to expand the footprint of the levee on NPS lands by clearing and filling a strip of baldcypress-water tupelo swamp on the transferred property. The exact acreage of NPS land that COE would need in this alternative is not quantified. We estimate the area to be approximately 15 acres.

The preferred alternative was chosen over the two other alternatives evaluated (earthen levee unreinforced with landside canal shift and floodwall) because "(1) low adverse impacts, relatively short construction duration, and (3) low cost." We understand that the redesign of the levee corridor in this reach resulted from the adoption of new more stringent risk reduction guidelines after IER #14 was completed and the ROD signed. We are further cognizant of the need to provide adequate flood protection. However, the analysis conducted in the alternative evaluation process (AEP) did not take into consideration the impact on NPS land separately from the impacts to non-federal land. Given that Congress has now transferred management of these lands to NPS, we believe a separate analysis is warranted. There are three distinct reaches in WBV-14c: Westwego Pumping Station # 2 east to

the west levee of Westminster subdivision; the north-south levee of Westminster subdivision which runs from Lapalco Blvd. to the Westminster Pumping Station; and the east-west reach which runs from the Westminster Pumping Station to the north-south Ames levee. Only the last reach involves NPS lands.

Many of the impacts evaluated as negative in both the AEP and the IERS for a landside shift are specific to one of those three reaches, but would not be relevant to the reach affecting NPS lands and resources. We note that alternative risk reduction methods such as a concrete floodwall or soil mixing were rejected for reasons of cost. However, in this very same document, in analyzing alternatives for the Ames and Mount Kennedy Pumping Stations, you write: “designs that impacted the adjacent Jean Lafitte Nation (sic) Historical Park and Preserve-Barataria Preserve Unit (JLNHPP) lands were eliminated from consideration.” We further note that on reach WBV-14d and in the WBV-12 West Closure Complex (WCC), floodwalls were also chosen by COE to avoid impacts to NPS lands. We further note that soil mixing, rejected for this reach, is the method to be used for WBV 7 along the GIWW in Bayou Sauvage National Wildlife Refuge.

We are concerned that these inconsistencies in approach raise more question than are answered by the IERS. Before NPS can fully evaluate any future request for access to NPS lands for an expansion of the levee footprint, we request a more complete analysis of the questions we’ve raised.

We also offer the following comments on the document:

1. The cover map is inaccurate and fails to show the relationship of the Preserve boundary to the levee corridor in the CIT tract, adjacent to Oak Cove, and in Bayou aux Carpes.
2. The photo map on page 6 (fig. 2) should show the NPS property. Furthermore, the map obscures the outline of the existing levee and the nature of the habitat to be destroyed under the preferred alternative.
3. On p. 12, 2.2.4, line 4, “nation” should be “national”.
4. On p. 14, 3.2.1, final paragraph, the statement “the area will be located in a remote section of the park that has limited road access” might be somewhat misleading. After all, the tract is adjacent to the levee corridor which separates it from populous residential areas. While in the short term the levee project would not significantly impact public access to this section of the park, there could be long term impacts, as the levee corridor provides opportunities for access, both pedestrian and visual, to the Preserve. It is possible that at some point after the HDRSS is complete, plans outlined in the November 1998 “Recreational Trail Corridor Concept and Design Recommendations” done by NPS for COE at the behest of Congress could be implemented. Furthermore, the phrase “when this area is incorporated” is misleading, since the transfer took place when the act was signed by the President on March 30, 2009.
5. On p. 25 under “Direct and Indirect Impacts” “42 acres of future park lands” are identified. However, the actual park acreage is about 15, and is not future, but current.

We note that the Notice of Availability for this IERS included the Chevron and Enterprise Pipeline crossings (WBV-14.f). We understand that they were left out of the IERS because of proposed modifications to the Enterprise Pipeline crossing proposal, and we look forward to reviewing the future IERS. However, we note that there is no reference in this IERS to the Southern Natural Gas pipeline crossings, one of which impacts the WBV.c.2 reach. As we have indicated in discussions with your staff, we are perplexed by the seeming inconsistencies in risk reduction requirements for different pipelines.

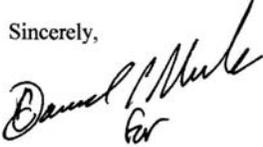
*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

We have no objections to the plans for the Ames and Mt. Kennedy floodwalls.

We request that mitigation for any unavoidable impacts be conducted within park boundaries on NPS lands under NPS supervision.

We appreciate the opportunity to review and comment on the draft IERS.

Sincerely,

A handwritten signature in black ink, appearing to read "Carol A. Clark" with a stylized flourish below it.

Carol A. Clark  
Superintendent

Copies furnished:  
Joan Exnicios, COE-NOD  
Beth Nord, COE-NOD  
Richard Hartman-NMFS  
James Boggs-USFWS  
David Walther-USFWS  
Barbara Keeler-EPA  
John Ettinger-EPA  
Gregory Ducote-LADNR  
Tim Killeen-LADNR  
Frank Cole-LADNR

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



REPLY TO  
ATTENTION OF

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

DEC 18 2009

Planning Division  
Environmental Planning  
and Compliance Branch

Ms. Carol A. Clark  
Superintendent  
Jean Lafitte National Historical Park and Preserve  
National Park Service  
419 Decatur Street  
New Orleans, Louisiana 70130-1035

Dear Ms. Clark:

This is in response to your December 15, 2009 letter, concerning the draft Individual Environmental Report Supplemental (IERS) #14.a.

In your letter, you request that information regarding the date of transfer of the Commercial Investment Trust tract lands to the National Park Service be corrected and the document clarify direct impacts to the Jean Lafitte National Historical Park and Preserve (JLNHPP). Throughout the IERS document, we have revised the status of the land transfer accordingly, and further clarified the acres impacted within the JLNHPP versus the total acres of cypress-tupelo swamp impacts.

In addition, you request that approximately 1.26 miles of the 3.29-mile reach of the WBV-14.c.2 levee enlargement be evaluated separately because the proposed levee enlargement along the 1.26 miles would directly impact JLNHPP lands and because the impacts specific to the 1.26-mile reach differ from the impacts of the remaining 2.03 miles of proposed levee enlargement if shifted to the land side. While the impacts to Lapalco Boulevard would only occur on the most western portion of the proposed landside shift of the WBV-14.c.2 levee, impacts to protected side wetlands, interior drainage canals and residential structures would occur if a landside shift occurred along the 1.26 miles of the JLNHPP boundary. Throughout the Hurricane Storm Damage Risk Reduction System (HSDRRS), design process alternatives have been evaluated with respect to a suite of criteria. Although the flood damage risk reduction alternative identified as the proposed action may differ from project area to project area, the process utilized to evaluate alternatives is consistent. The unreinforced levee was selected because of its (1) low adverse human impacts, (2) relatively short construction duration, and (3) low cost. For the alternatives evaluated by the Alternative Evaluation Process (AEP) for the WBV-14.c.2 reach, each alternative was evaluated with respect to risk reduction and reliability, adverse environmental impacts (human and natural), time and constructability, and cost. As discussed in the HSDRRS interagency meetings and disclosed in the draft IERS, direct impacts to the JLNHPP would occur if the proposed alternative is selected. Because of this and

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Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

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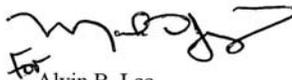
the fact that the AEP evaluates alternatives with respect to a suite of criteria, we do not believe that segmenting analysis of the 3.29-mile reach of the WBV-14.c.2 levee is warranted.

To address your specific comment about being able to avoid impacts to the JLNHPP in other parts of the HSDRRS, we provide the following. We were able to avoid impacting JLNHPP lands for the floodwall redesign at the Ames and Mt. Kennedy Pumping Stations, because we were able to redesign the temporary containment features and the discharge monoliths within the Millaudon Canal. Without the buffer, the Millaudon Canal provided between the Pumping Stations and the JLNHPP, it is unlikely we would have been able to avoid impacts to JLNHPP lands. Other reaches of the system have their own unique conditions, and as such, the proposed or selected alternative at one location cannot be compared one to one with a proposed or selected alternative at another location with potentially completely different conditions or impacts. The use of the Alternative Evaluation Process (AEP) has provided consistency for the evaluation of alternatives. It is important to remember that time and the goal of providing the 100-year level of risk reduction by June 2011 is one of the criteria of the AEP.

Although we have not eliminated impacts to the 42 acres of cypress tupelo swamp, of which approximately 15 acres is located within JLNHPP, the US Army Corps of Engineers has been working cooperatively with the West Jefferson Levee District to develop a land swap between the JLNHPP and the West Jefferson Levee District to swap the lands that would be impacted by levee construction for lands held by the West Jefferson Levee District in the interior of the JLNHPP and along the southeastern boundary of the JLNHPP. As you are aware, we have been working closely with JLNHPP staff, to develop a mutually agreeable land swap while pursuing the goal of providing 100-year level of risk reduction for the New Orleans Metropolitan area.

Thank you for commenting on the draft IER. If you have additional questions, please contact Ms. Joan Exnicios, Chief, Environmental Planning and Compliance Branch at (504) 862-1760.

Sincerely,



for  
Alvin B. Lee  
Colonel, US Army  
District Commander

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

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Copies Furnished:

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Field Supervisor  
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Louisiana Department  
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P.O. Box 44487, Capital Station  
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Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

-4-

Mr. Frank Cole  
Louisiana Department  
of Natural Resources  
PO Box 44487, Capital Station  
Baton Rouge, Louisiana 70804-4487

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



## United States Department of the Interior

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



December 15, 2009

Colonel Alvin B. Lee  
District Engineer  
U.S. Army Corps of Engineers;  
P.O. Box 60267  
New Orleans, Louisiana 70160-0267

Dear Colonel Lee:

The U.S. Fish and Wildlife Service (Service) has reviewed the draft Individual Environmental Report (IER) Supplemental, West Bank and Vicinity (WBV), Westwego to Harvey Levee, Jefferson Parish, Louisiana, #IER14.a, and a Public Notice for that IER and work to be included in proposed IER 14.b, transmitted to our office via a November 16, 2009, letter from Ms. Joan M. Exnicios, Chief of your Environmental Planning and Compliance Branch. That study was conducted in response to Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (i.e., Supplemental 4). That law authorized the Corps of Engineers (Corps) to upgrade the Lake Pontchartrain and Vicinity and the WBV hurricane protection projects to provide protection against a 100-year hurricane event. The Service submits the following comments in accordance with provisions of the National Environmental Policy Act (NEPA) of 1969 (83 Stat. 852; 42 U.S.C. 4321 et seq.).

### General Comments

The Public Notice for proposed IER4.b indicates that two pipeline relocations will be accomplished by directional drilling under the levee. Directional drilling will result in disturbance and impacts to the Jean Lafitte National and Historical Park and Preserve (JLNHPP). The Service recommends that the feasibility of utilizing floodwalls at all pipeline crossings be examined in detail and the results of that examination be presented to the Service and JLNHPP staff. If use of floodwalls is feasible and less damaging to JLNHPP, the Service recommends that method be utilized in all pipeline crossings.

The IER provides a good description of fish and wildlife resources in the project area and project impacts on those resources. Wetlands in the project area provide important habitat for several Federal trust species including wading birds, neotropical migrants, and resident and migratory waterfowl. Specific comments are provided in the following section.



**Specific Comments**

Page 5, paragraph 2.1 Description of the Alternatives, WBV-14.c North Levee, No Action, and page 12, paragraph 2.3 Alternatives Eliminated From Further Consideration – These sections describe alternatives that were eliminated from consideration, however, a detailed rationale for selecting against alternatives that are less damaging to the JLNHPP is not provided. The Service recommends that those sections be revised to provide such explanations. Specific information should be provided explaining the rationale for not conducting deep soil mixing in this area when other levee reaches such as those that front Lake Borgne (e.g., IER 7) are proposing to use this technique.

In addition, the Service recommends that the Corps examine implementation of alternatives for sub-reaches of the proposed work to further minimize impacts to the JLNHPP. For example, work beginning at the eastern terminus of the Westwego Pump Station # 2 Floodwall and extending 650 feet east of the confluence of the east bank of the Westwego Canal and the levee could be constructed in a manner where impacts would extend onto the protected side because there is no apparent existing infrastructure to preclude this option.

The Service, thus far, does not object to the proposed hurricane protection features for IER14.a Supplement, provided the Service's concerns regarding the minimization of impacts to the JLNHPP are incorporated into project plans or are adequately addressed. The Service looks forward to the resolution of our concerns and is willing to meet with the Corps and staff from the JLNHPP regarding this issue. Thank you for the opportunity to provide comments on the draft supplemental IER; if you have any questions regarding our comments, please contact David Walther at (337) 291-3122.

Sincerely,



James F. Boggs  
Supervisor  
Louisiana Field Office

cc: Jean Lafitte National and Historical Park and Preserve, New Orleans, LA  
EPA, Dallas, TX  
CEMVN-PM-RS  
National Marine Fisheries Service, Baton Rouge, LA  
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA  
LA Dept. of Natural Resources (CMD), Baton Rouge, LA  
OCPR, Baton Rouge, LA

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



REPLY TO  
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DEPARTMENT OF THE ARMY  
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P.O. BOX 60267  
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DEC 18 2009

Planning Division  
Environmental Planning  
and Compliance Branch

Mr. James F. Boggs  
Field Supervisor  
US Fish and Wildlife Service  
646 Cajundome Boulevard – Suite 400  
Lafayette, Louisiana 70506

Dear Mr. Boggs:

This is in response to your December 15, 2009 letter, concerning the draft Individual Environmental Report Supplemental (IERS) #14.a.

Comment: "Page 5, paragraph 2.1 Description of the Alternatives, WBV-14.c North Levee, No Action, and Page 12, paragraph 2.3 Alternatives Eliminated From Further Consideration- These sections describe alternatives that were eliminated from consideration; however, a detailed rationale for selecting against alternatives that are less damaging to the JLNHPP is not provided. The service recommends that those sections be revised to provide such explanations. Specific information should be provided explaining the rationale for not conducting deep soil mixing in this area when other levee reaches such as those that front Lake Borgne (e.g. IER 7) are proposing to use this technique."

Response: Deep soil mixing implemented for the approximately 1.26 miles of levee that are located immediately adjacent to the Jean Lafitte National Historic Park and Preserve (JLNHPP) would increase the estimated project cost by an additional 60 percent above the total construction budget for the proposed flood side shift. This 60 percent increase does not reflect the additional cost required to implement deep soil mixing along the remainder of the WBV 14.c. 2 levee reach.

Soil mixing would also require an estimated 50 percent increase in construction duration. This is due to the time it takes to degrade the existing levee section and to conduct the deep soil mixing operation which is estimated to be completed at a rate of 20 linear feet per day per deep soil mixing rig. Finally, the need to perform a levee degrade causes openings in the system and reduces the ability of the system to provide storm risk reduction. As a standard procedure for the Hurricane Storm Damage Risk Reduction System (HSDRRS) work, only short reaches of embankment, typically 2,000 linear feet of embankment per contract, are concurrently degraded

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during hurricane season. This restriction reduces the risk of flooding during construction by minimizing the size of openings in the storm damage risk reduction system and at the same time this construction practice significantly increases construction durations. Soil mixing was eliminated because of the high cost and high estimated duration.

Comment: "In addition, the Service recommends that the Corps examine implementation of alternatives for sub-reaches of the proposed work to further minimize impacts to the JLNHPP. For example work beginning at the eastern terminus of the Westwego Pump Station #2 Floodwall and extending 650 feet east of the confluence of the east bank of the Westwego Canal and the levee could be constructed in a manner where impacts would extend onto the protected side because there is no apparent infrastructure to preclude this option."

Response: While the impacts to Lapalco Boulevard only would occur on the most western portion of the proposed landside shift of the WBV-14.c.2 levee, impacts to protected side wetlands, interior drainage canals and residential structures would occur if a landside shift occurred in the other segments. There is a major interior drainage canal located between the Westwego Pump Station #2 Floodwall and confluence of the east bank of the Westwego Canal. The interior drainage canal represents important infrastructure and would require relocation. The canal relocation would be a complicated construction feature which would increase project duration. You have requested that subunits of the 3.29-mile reach of the WBV-14.c.2 levee enlargement be evaluated separately to reduce impacts to the JLNHPP. However, infrastructure (interior drainage canals or residential structures) exist along all reaches of the alignment, including on the land side of the JLNHPP. Since the AEP evaluates alternatives with respect to a suite of criteria and infrastructure is located along all reaches of the alignment, we do not believe that segmenting analysis of the 3.29-mile reach of the WBV-14.c.2 levee is warranted nor would it result in the identification of a practicable alternative that would result in the reduction of impacts to the JLNHPP.

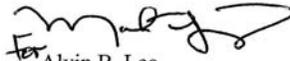
Although we have not eliminated impacts to the 42 acres of cypress tupelo swamp, of which approximately 15 acres is located within JLNHPP, the US Army Corps of Engineers has been working cooperatively with the West Jefferson Levee District (WJLD) to develop a land swap between the JLNHPP and the WJLD to swap the lands that would be impacted by levee construction for lands held by the WJLD in the interior of the JLNHPP and along the southeastern boundary of the JLNHPP. We have been working closely with JLNHPP staff, to develop a mutually agreeable land swap in the JLNHPP while pursuing the goal of providing 100-year level of risk reduction for the New Orleans Metropolitan area.

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

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Thank you for commenting on the draft IER. If you have additional questions, please contact Ms. Joan Exnicios, Chief, Environmental Planning and Compliance Branch at (504) 862-1760.

Sincerely,



Alvin B. Lee  
Colonel, US Army  
District Commander

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

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Copies Furnished:

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Mr., Richard D. Hartman  
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Mr. Jimmy Anthony  
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Mr. Gregory P. Ducote  
Interagency Affairs-LADNR  
CMD  
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Mr. Garret Graves  
Chairman  
Coastal Protection and Restoration Authority  
1051 North 3<sup>rd</sup> Street, Capitol Annex Building  
Baton Rouge, Louisiana 70807

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

December 15, 2009

Ms. Joan Exnicios  
U.S. Army Corps of Engineers  
P.O. Box 60267  
New Orleans, LA 70160-0267

Dear Ms. Exnicios:

The Environmental Protection Agency, Region 6, Ecosystems Protection Branch, has reviewed the Draft Individual Environmental Report, Supplemental, West Bank and Vicinity, Westwego to Harvey Levee, Jefferson Parish, Louisiana, IERS #14.a. On July 29, 2009, we provided comments to your office on Draft IER #14 (enclosed), which were ultimately acknowledged and addressed in the Final IER #14. The current supplement was prepared in response to changes required as a result of Corps of Engineers design guidelines that were issued after publication of Final IER # 14.

The design changes for the recommended alternative described in this supplement will result in the loss of additional habitat within the Jean Lafitte National Historic Park and Preserve, within the so-called "CIT tract." This is a significant impact to cypress-tupelo habitat and it should be supported by a detailed rationale. However, the discussion in this document of the alternatives that were eliminated from further consideration is not substantial enough to document why less damaging alternatives were not carried forward in the study process. Specifically, alternatives such as deep soil mixing or other techniques that might allow for a smaller construction footprint or for a protected side shift should be analyzed and thoroughly explained.

Thank you for the opportunity to provide comments on this draft supplemental IER. If you have any questions regarding our concern, please call me at 214-665-6689.

Sincerely yours,

A handwritten signature in cursive script that reads "Barbara Keeler".

Barbara Keeler  
Coastal & Wetland Planning Coordinator

Enclosure

July 29, 2009

**EPA Comments on Draft IER 14**

To: Gib Owen,  
Chief, Ecological Planning and Restoration Section  
GNOHSDRRS Environmental Team Leader  
Corps of Engineers, New Orleans District

The Environmental Protection Agency has reviewed Draft Individual Environmental Report (IER) 14 for the Westwego to Harvey Levee and we offer the following comments.

**Reach WBV-14f**

The Highway 45 to the V-Line Levee Floodwall section describes a preferred alternative with a flood side shift, which would impact a forested buffer zone between the levee and the existing borrow pits. We believe that work in this area should be focused on minimizing these impacts to the forested buffer zone, possibly by further analyzing alternatives for a protected side shift.

Mitigation of all impacts to the Jean Lafitte National Historic Park and Preserve is of utmost importance and a commitment to develop a thorough mitigation plan, with the consent of the National Park Service, should be clearly stated in the IER 14. Further, all unavoidable adverse impacts to habitats within the National Park resulting from the construction of the preferred alternative for IER 14 should be mitigated within the National Park.

Section 3.2.1.1, second paragraph, indicates that the wetland forests on the flood side of the levee are in a transitional phase and are predicted to succeed "from a swamp area to a bottomland hardwood forest, which would contain a few dominant cypress trees." Due to hydrologic conditions, it seems improbable that the area would transition to anything other than a more wet habitat. Please explain the basis for this conclusion.

**Bayou aux Carpes 404(c) Area, Reach WBV-14e**

We agree with the alternative analysis for reach WBV-14e that resulted in a protected side shift, thereby avoiding impacts to the Bayou aux Carpes 404(c) area. In addition, we request that all possible measures be employed to protect against any impacts to the Bayou aux Carpes 404(c) area during the construction process.

The discussion under Section 3.2.3 needs to be clarified, particularly with respect to misleading discussions of the authority under which EPA conducted a Clean Water Act Section 404(c) determination, and the authority under which it now stands. Accordingly, we offer the following as a substitute for that section, including a heading revision.

**3.2.3 Bayou aux Carpes Wetlands Area**

As originally authorized in the 1960's, the Harvey Canal-Bayou Barataria Levee Project, south of the V-line levee, included draining over 3,000 acres of the Bayou aux Carpes swamp for development purposes. In response to environmental concerns by EPA (which was considering a "veto" of the project under Section 404(c) of the Clean Water Act) and several public interest groups, the Corps of Engineers agreed to a modified project design in 1976. The project was modified by: 1) substituting floodgates for earthen closures at the mouths of the Bayou Des Familles, Bayou aux Carpes, and the Southern Natural Gas Pipeline Canal;

2) eliminating the land reclamation features; and 3) stipulating that, if a pumping station was needed for flood control, it be operated so as to maintain the integrity of the wetlands. Jefferson Parish agreed to the modification, but was unable to provide local assurances for the modified project due to State court litigation brought by area property owners. The landowners also filed suit in federal court, requesting that the court order the Corps to complete the original project. In that lawsuit, the U.S. District Court (on remand from the U.S. Court of Appeals for the 5th Circuit), issued an order that stayed further proceedings and gave EPA a timeframe within which to decide whether or not to proceed with an action under Section 404(c) of the Clean Water Act. This provision of the Clean Water Act affords EPA the authority to designate areas in which discharges of dredged or fill material are prohibited. One reason the Corps of Engineers had ordered the Harvey Canal-Bayou Barataria Levee Project modified in 1976 was a threatened "veto" by EPA under that authority.

In October 1985, EPA exercised its authority under Section 404(c) of the Clean Water Act and, with three specific exceptions, prohibited discharges of dredged or fill material to wetlands in the Bayou aux Carpes site. This is an area bounded by the existing V-line levee, the Estelle Canal, Bayou Barataria, Bayou des Familles, and the Lafitte-Larose Hwy. The Federal District Court for the Eastern District of Louisiana subsequently found the EPA action, which rendered the original project infeasible, was consistent with the law and supported by the Agency's administrative record. The prohibition on discharges of dredged or fill material in this area remains in effect today.

In the 1980s, the Corps of Engineers proposed to construct a hurricane protection levee for the West Bank of the Parish. The preferred alternative would have resulted in the discharge of dredged or fill material to 59 acres of wetlands in the Bayou aux Carpes and to 257 acres of wetlands in the Jean Lafitte National Historic Park and Preserve. EPA rated that Draft EIS "environmentally unacceptable" based on impacts to the Bayou aux Carpes 404(c) area, inconsistency with a separate agreement with Jefferson Parish regarding wetland protection at the site, and other wetland and water quality impacts. As an alternative, EPA supported the "V-Levee North" alignment, which is the alignment that was subsequently adopted and constructed.

In addition, Section 3.2.3.1, Existing Conditions, should be revised to include a discussion of a unique habitat type in the Bayou aux Carpes 404(c) area, namely float marsh. For the last 14 years, EPA Region 6 has intermittently funded a team of ecologists lead by Dr. Charles Sasser, from the LSU Coastal Ecology Institute, to locate, map, and classify floating marshes in portions of coastal Louisiana. Prior to this work, it had been nearly five decades since any scientists had studied this marsh type. EPA interest stemmed from a lack of understanding about the habitat type and the associated management implications. Available evidence indicates that these types of marshes function quite differently from other marsh types. With regard to the Bayou aux Carpes 404(c) area, therefore, it would be critical that the hydrologic modeling for any new hurricane protection structures factor in the presence of floating marsh.

This same section in the Draft IER that describes the existing conditions of the Bayou aux Carpes 404(c) area should note that it exhibits naturally regenerating cypress trees. According to the 2005 Louisiana Governor's Science Working Group on Coastal Wetland Forest Conservation and Use, this area would be classified as Condition Class I: Sites with Potential for Natural Regeneration. The Science Working Group explained the exacting environmental requirements for successful natural regeneration of cypress and advocated placing priority on maintaining hydrologic conditions in these swamp forests. Section 3.2.2.1 (Cypress-Tupelo Swamps, Existing Conditions) should be clarified with respect to the presence of cypress in reach WBV-14e, within the Bayou aux Carpes 404(c) area.

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

The Bayou aux Carpes description under the Significant Resources section should also make note of the pending legislation to add it to the Jean Lafitte National Historic Park and Preserve. Although this is a legislative matter (and mentioned in the Mitigation section), it speaks to the existing environmental conditions, namely the high quality of the wetland habitat and the national value it exhibits.

Finally, statements regarding the quality of wetland forests on the protected side of reaches WBV-14e and WBV-14d (Section 3.2.1, third paragraph) should be corrected. The IER states that these forests are relatively pristine. However, this habitat has been significantly degraded over time due to hydrologic alterations.

Thank you in advance for your consideration of these comments. Please let me know if you have any questions or would like to discuss these comments in further detail.

Barbara Keeler  
Coastal & Wetlands Planning Coordinator  
EPA Region 6 (6WQ-EM)  
1445 Ross Ave., Suite 1200  
Dallas, TX 75202-2733  
tel: 214-665-6698  
fax: 214-665-6689  
e-mail: keeler.barbara@epa.gov

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



REPLY TO  
ATTENTION OF

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

DEC 18 2009

Planning Division  
Environmental Planning and  
Compliance Branch

Ms. Barbara Keeler  
Coastal & Wetland Planning Coordinator  
EPA, Region VI- Office of Planning and  
Coordination/Mail Code 6EN-XP  
1445 Ross Avenue  
Dallas, Texas 75202-2733

Dear Ms. Keeler:

This is in response to your December 15, 2009, letter, concerning the draft Individual Environmental Report Supplemental (IERS) #14.a.

Comment: "The design changes for the recommended alternative described in this supplement will result in the loss of additional habitat within the Jean Lafitte National Historic Park and Preserve, within the so-called 'CIT tract.' This is a significant impact to cypress-tupelo habitat and should be supported by detailed rationale. However, the discussion in this document of the alternatives that were eliminated from further consideration is not substantial enough to document why less damaging alternatives were not carried forward in the study process. Specifically, alternatives such as deep soil mixing or other techniques that might allow for a smaller construction footprint or for a protected side shift should be analyzed and thoroughly explained."

Response: We have revised the final IER to include additional information regarding the alternatives that were eliminated, and have included an Alternative Evaluation Process summary in appendix E. Additionally on page 5 of the final IERS document, we have added the following information; "The unreinforced levee was selected because of its (1) low adverse human impacts, (2) relatively short construction duration, and (3) low cost. "

The alternative of deep soil mixing was eliminated due to high cost and high estimated construction duration. The implementation of deep soil mixing for the approximately 1.26 miles of levee that are located immediately adjacent to the Jean Lafitte National Historic Park and Preserve (JLNHPP) would increase the estimated project cost by an additional 60 percent above the total construction budget for the proposed flood side shift. This 60 percent increase does not reflect the additional cost required to implement deep soil mixing along the remainder of the WBV 14.c. 2 levee reach.

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-2-

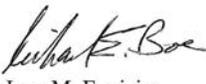
Soil mixing along the entire levee reach would also require an estimated 50 percent increase in construction duration. This is due to the time it takes to degrade the existing levee section and to conduct the deep soil mixing operation which is estimated to be completed at a rate of 20 linear feet per day per deep soil mixing rig. Finally, the need to perform a levee degrade causes openings in the system and reduces the ability of the system to provide storm risk reduction. As a standard procedure for the Hurricane Storm Damage Risk Reduction System (HSDRRS) work, only short reaches of embankment, typically 2,000 linear feet of embankment per contract, are concurrently degraded during hurricane season. This restriction reduces the risk of flooding during construction by minimizing the size of openings in the storm damage risk reduction system and at the same time this construction practice significantly increases construction durations.

A protected side shift would impact infrastructure (interior drainage canals or residential structures) which exists along the alignment including on the land side of the JLNHPP. To implement a protected side shift interior drainage canals would require relocation. The canal relocation would be a complicated construction feature which would increase project duration. Other impacts that would occur with a protected side shift include acquisition of residential structures and along some sections of the levee alignment impacts to protected side wetlands.

Although we have not eliminated impacts to the 42 acres of cypress tupelo swamp, of which approximately 15 acres is located within JLNHPP, the US Army Corps of Engineers has been working cooperatively with the West Jefferson Levee District (WJLD) to develop a land swap between the JLNHPP and the WJLD to swap the lands that would be impacted by levee construction for lands held by the WJLD in the interior of the JLNHPP and along the southeastern boundary of the JLNHPP. We have been working closely with JLNHPP staff, to develop a mutually agreeable land swap in the JLNHPP while pursuing the goal of providing 100-year level of risk reduction for the New Orleans Metropolitan area.

Thank you for commenting on the draft IER. If you have additional questions, please contact Ms. Beth Nord at (504) 862-2167.

Sincerely,

  
for Joan M. Exnicios  
Chief, Environmental Planning  
and Compliance Branch

West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
646 Cajundome Blvd.  
Suite 400  
Lafayette, Louisiana 70506  
January 13, 2010



Colonel Alvin B. Lee  
District Engineer  
U.S. Army Corps of Engineers  
Post Office Box 60267  
New Orleans, Louisiana 70160-0267

Dear Colonel Lee

Please reference the supplement to Individual Environmental Report (IER) 14 for the Westwego to Harvey Levee, Jefferson Parish Louisiana. The Corps has recently proposed modifications to that project. That project is in response to Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (Supplemental 4). That law authorized the Corps of Engineers (Corps) to upgrade two existing hurricane protection projects (i.e., Westbank and Vicinity of New Orleans [WBV] and the Lake Pontchartrain and Vicinity) in the Greater New Orleans area in southeast Louisiana to provide protection against a 100-year hurricane event. This supplemental report contains an analysis of the impacts on fish and wildlife resources that would result from changes to the previously proposed plan, and provides recommendations to minimize and/or mitigate project impacts on those resources. Furthermore, this report corrects a previous impact analysis for a levee reach not being addressed in the supplement to IER 14.

The proposed project was authorized by Supplementals 4 and 5 which instructed the Corps to proceed with engineering, design, and modification (and construction where necessary) of the above mentioned hurricane protection projects. Procedurally, project construction has been authorized in the absence of the report of the Secretary of the Interior that is required by Section 2(b) of the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). Therefore, to fulfill the coordination and reporting requirements of the FWCA, the Service will be providing post-authorization 2(b) reports for each IER.

This supplemental report incorporates and supplements our FWCA Reports that addressed impacts and mitigation features for the WBV of New Orleans (dated November 10, 1986, August 22, 1994, November 15, 1996, and June 20, 2005), the November 26, 2007, Draft Programmatic FWCA Report that addressed the hurricane protection improvements authorized in Supplemental 4, and our August 18, 2008 report that addressed impacts resulting from implementation of IER 14 and corrects our previous supplement having the same date as this report. This supplemental report constitutes the report of the Secretary of the Interior as required by Section 2(b) of the



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FWCA. A draft report was provided to the Louisiana Department of Wildlife and Fisheries and the National Marine Fisheries Service; their comments have been incorporated into this report.

The study area is located in the south-central portion of Jefferson Parish within the Mississippi River Deltaic Plain of the Lower Mississippi River Ecosystem. Higher elevations occur on the natural levees of the Mississippi River and its distributaries. Developed lands are primarily associated with natural levees, but extensive wetlands have been leveed and drained to accommodate residential, commercial, and agricultural development. Levees have been installed for flood protection purposes, often with negative effects on adjacent wetlands. However, extensive wetlands and associated shallow open waters still dominate the landscape outside the flood control levees. Habitat types in the project area include forested wetlands (i.e., bottomland hardwoods and swamps), non-wet bottomland hardwoods, marsh, open water, and developed areas. Factors that will strongly influence future fish and wildlife resource conditions outside of the protection levees include freshwater input and loss of coastal wetlands. All habitat within and adjacent to the project area will likely experience losses due to development, subsidence, and erosion. As previously mentioned, the Service has provided FWCA Reports for the WBV project. Those reports contain a thorough discussion of the significant fish and wildlife resources (including those habitats) that occur within the study area. Additional information about the study area and a discussion of the significant fish and wildlife resources (including habitats) that occur within that study area are contained in our August 2008 report (available at: [http://www.fws.gov/filedownloads/ftp\\_gis/R4/Louisiana\\_ES/Walther/IER%202/](http://www.fws.gov/filedownloads/ftp_gis/R4/Louisiana_ES/Walther/IER%202/)). That report contains information concerning project design and alternatives examined. For brevity, that discussion is incorporated by reference herein, but the following brief descriptions are provided to update and augment the previously mentioned information.

The Barataria Preserve unit of Jean Lafitte National Historical Park and Preserve (JLNHPP) is located on the west bank of the Mississippi River and managed by the National Park Service (NPS). The existing Federal levee that is proposed for further modification is located adjacent to the Commercial Investment Trust (CIT) Tract. The CIT Tract consists of swamp adjacent to Bayou Segnette that was owned by the Corps as the result of a 1994 lawsuit settlement. The passage of the Omnibus Public Lands Management Act in April 2009 authorized the transfer of these lands from the Corps to the JLNHPP. Impacts to NPS lands should be mitigated on adjacent NPS lands within the vicinity of IER 14, if feasible. The NPS has no authority to enter into agreements with others to allow uses which adversely affect NPS lands. Therefore, NPS lands cannot be directly utilized or adversely impacted by any flood control project feature unless authorized explicitly by Congress. For additional information concerning NPS lands within the area please contact Chief of Resource Management David Muth (504) 589-3882 extension 128, ([david\\_muth@nps.gov](mailto:david_muth@nps.gov)).

The proposed project involves upgrading the existing flood protection levees and floodwalls that provide protection to the towns of Harvey and Westwego and other adjacent communities. The western end of the project originates just south of the Lapalco Boulevard in Westwego and continues along the existing flood protection project to its eastern terminus approximately 2.9 miles northeast of the vertex of the V-levee. The project is designed to use existing rights-of-

way (ROW) and levees within previously disturbed areas, which will serve to minimize environmental impacts. Some proposed features, however, would require new construction ROWs and would impact fish and wildlife habitats. The design, construction, and maintenance would be similar to that previously designed and constructed for the existing levee along this alignment.

The existing Harvey to Westwego levee is divided into five reaches, however, only the plans for two reaches (i.e., WBV – 14b and 14c) are proposed for modification, therefore only those reaches will be addressed in this supplemental report. Reach WBV-14b extends from the Orleans Village Pump Station to State Highway 45. Reach WBV-14c extends 3.3 miles from the western terminus (i.e., Westwego Pump Station # 2) to the abandoned Orleans Village Pump Station. Current levee heights for this reach are approximately 14 feet North American Vertical Datum of 1988 (NAVD88).

The previous selected plan for Reach WBV-14c would have expanded the protected-side levee foot print to achieve 100-year protection. All work would take place within the existing ROW and the levee would be raised to 14 feet NAVD88. Geotextile fabric and/or deep soil mixing would be incorporated into the levee to improve stability, support, seepage cutoff, and seismic retrofit. Existing floodwalls at the pump station within this reach would be replaced with a flood wall (inverted T or L design) constructed up to 16 feet NAVD88 and fronting protection would be provided to operating pump station. Proposed modifications to reach 14b and 14c include the floodside expansion (i.e., elimination of protected side expansion) and various changes to flood protection at the pumping stations. Changes at those pumping stations would not result in any additional impacts to fish and wildlife resources. Floodside expansion was determined necessary because of the risk involved with construction techniques that would have been necessary to utilize protected side expansion (e.g., degrading levees to place geo-textile fabric).

The Service requested the Corps to re-examine the need for a floodside shift for the western most sub-reach of WBV-14c (approximately 0.5 miles in length), thus, avoiding floodside wetlands (approximately 7 acres) while also not impacting protected side residential structures. The Corps indicated that going back to a protected side shift (previous plan) would require relocation of an interior drainage canal. That relocation would have been complicated and would have increased the project duration for an unspecified length of time. In addition, the Corps did not believe that examination of a sub-reach was warranted.

For Reach WBV-14f, the proposed plan is not being modified; however, the previous impact analysis was conducted using a 100-year period-of-analysis. The correct period-of-analysis (50 years) has been utilized and that information is presented in Table 1.

Project impacts would result from floodside ROW expansion and construction of levees. Although some construction will occur in cleared areas and on existing levees, project implementation will also directly impact swamps that provide high habitat value for diverse fish and wildlife resources. Impacts resulting from borrow pit creation are being addressed in separate IERs, therefore, impacts, mitigation, and Service recommendations concerning borrow

pits will not be included in this report.

Impacts to swamp were quantified by acreage and habitat quality (i.e., average annual habitat unit or AAHUs) and are presented in Table 1. The Service used the Habitat Assessment Methodology (HAM) (Louisiana Department of Natural Resources 1994) to quantify the impacts of proposed flood protection features. The habitat assessment model for swamp within the Louisiana Coastal Zone utilized in this evaluation was modified from those developed in the Service’s Habitat Evaluation Procedures (HEP) (U.S. Fish and Wildlife Service 1980). For each habitat type, those models define an assemblage of variables considered important to the suitability of an area to support a diversity of fish and wildlife species. The HAM, however, uses a community-level evaluation approach instead of the species-based approach used with HEP. Further explanation of how impacts/benefits are assessed with HAM, and an explanation of the assumptions affecting habitat suitability (i.e., quality) index (HSI) values for each target year, are available for review at the Service’s Lafayette, Louisiana, Field Office.

As indicated in Table 1, our HAM analyses determined that the proposed changes to the project would result in the additional direct loss of 42 acres of swamp (24 AAHUs). Total project impacts with the proposed modifications would result in the direct loss of 90.5 acres of bottomland hardwoods (67.17 AAHUs) and 71.75 acres of swamp (41 AAHUs).

**Table 1: Impacts of IER 14 (Westwego to Harvey Levee) Jefferson Parish, 100-year Level Protection**

| Levee Reach | IER 14 Prior Impacts (acres) and Habitat Type | IER 14 Total Impacts, including supplemental (acres) and Habitat Type | AAHUs lost         |
|-------------|---|---|--------------------|
| WBV 14c     | 0   | 42, swamp   | 24                 |
| WBV 14b.    | 29.75, swamp                                  | 29.75, swamp  | 17.02              |
| WBV 14f     | 45.5, blh <sup>1</sup>                        | 45.5, blh <sup>1</sup>  | 37.17 <sup>3</sup> |
| WBV 14d     | 0.5, blh                                      | 0.5, blh  | 0.33               |
| WBV 14e     | 44.5, blh <sup>2</sup>                        | 44.5, blh <sup>2</sup>  | 29.67              |
| Total       | 120.25  | 162.25  | 108.19             |

<sup>1</sup>blh = bottomland hardwoods

<sup>2</sup>The Corps classified this area as swamp based in part on the presence of cypress in the canopy, however, the Service assessed this area as blh because of the altered wetland functions and the greater number of co-dominant blh tree species which prevented the use of the swamp assessment model.

<sup>3</sup>The AAHUs for 14f were previously incorrectly calculated to be 18.58.

**FISH AND WILDLIFE CONSERVATION MEASURES**

The President's Council on Environmental Quality defined the term "mitigation" in the National Environmental Policy Act regulations to include:

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

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

The Service's Mitigation Policy (Federal Register, Volume 46, No. 15, January 23, 1981) identifies four resource categories that are used to ensure that the level of mitigation recommended by Service biologists will be consistent with the fish and wildlife resource values involved. Considering the high value of swamp for fish and wildlife and the relative scarcity of that habitat type, those wetlands are usually designated as Resource Category 2 habitats, the mitigation goal for which is no net loss of in-kind habitat value. Toward that end, the Service recommends that the following planning objectives be adopted to guide future project studies.

1. Conserve important fish and wildlife habitat (i.e., bottomland hardwoods, cypress swamps) by minimizing the acreage of those habitats directly affected by flood control features.
2. Ensure impacts and encroachment onto NPS lands are avoided. Unavoidable impacts and encroachments, when permissible, should be minimized and appropriately mitigated on NPS lands.
3. Future maintenance and associated activities (e.g., staging areas, access routes, pipeline lowerings, etc.) should be identified, planned and coordinated with the JLNHPP staff at this time avoid future potential impacts to NPS lands.
4. Fully compensate for any unavoidable losses of wetland habitat or non-wet bottomland hardwoods caused by project features. Impacts in the vicinity of the JLNHPP should be mitigated on NPS lands, if feasible.
5. Future changes in flood control features that may impact NPS lands or floodside wetlands should be examined using sub-reaches to ensure that impacts to those areas are avoided or minimized.

### **SERVICE POSITION AND RECOMMENDATIONS**

The Service does not object to providing improved hurricane protection to the Greater New Orleans area and the proposed changes to EIR 14 provided the following fish and wildlife conservation recommendations and those provided in our August 18, 2008, report are incorporated into future project planning and implementation. Recommendations that were provided in that report but are not relevant to proposed project modification have been omitted.

1. To the greatest extent possible, situate flood protection features so that destruction of wetlands and non-wet bottomland hardwoods are avoided or minimized.
2. Ensure impacts to and encroachment onto NPS lands are avoided. Unavoidable impacts and encroachments, when permissible by that agency, should be minimized and appropriately mitigated on NPS lands. The point of contact for the JLNHPP is the Chief of Resource Management, David Muth (504) 589-3882 extension 128 (david\_muth@nps.gov).
3. Any future changes to any reach of IER 14 that may impact NPS lands or floodside wetlands should examine alternatives on a sub-reach basis to ensure all feasible alternatives have been examined. That analysis should be coordinated with the NPS, the Service and other natural resource agencies.
4. Future maintenance and associated activities (e.g., staging areas, access routes, pipeline lowerings, etc.) should be identified, planned and coordinated with the JLNHPP staff at this time to avoid future potential impacts to NPS lands.
5. Forest clearing associated with project features should be conducted during the fall or winter to minimize impacts to nesting migratory birds, when practicable.
6. The project's first Project Cooperation Agreement (or similar document) should include language that specifies the responsibility of the local-cost sharer to provide operational, monitoring, and maintenance funds for mitigation features.
7. Further detailed planning of project features (e.g., Design Documentation Report, Engineering Documentation Report, Plans and Specifications, or other similar documents) should be coordinated with the Service, NPS, NMFS, LDWF, Environmental Protection Agency (EPA) and Louisiana Department of Natural Resources (LDNR). The Service shall be provided an opportunity to review and submit recommendations on the all work addressed in those reports.
8. If a proposed project feature is changed significantly or is not implemented within one year of the date of our Endangered Species Act consultation letter, we recommend that the Corps reinitiate coordination with this office to ensure that the proposed project would not adversely affect any federally listed threatened or endangered species or their habitat.

*West Bank and Vicinity,  
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Louisiana*

9. The Corps shall fully mitigate for any unavoidable losses of wetlands (108.19 AAHUs) caused by project features. Development and implementation of those mitigation plans should be done in concert with the Service and other resource agencies. Impacts to Federal lands and those adjacent to those lands should be mitigated on NPS lands within the vicinity of IER 14.

Should you or your staff have any questions regarding this report, please contact David Walther (337/291-3122) of this office.

Sincerely,



James F. Boggs  
Supervisor  
Louisiana Field Office

cc: National Marine Fisheries Service, Baton Rouge, LA  
Jean Lafitte National and Historical Park and Preserve, New Orleans, LA  
EPA, Dallas, TX  
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA  
LA Dept. of Natural Resources, CMD, Baton Rouge, LA  
OCPR, Baton Rouge, LA

LITERATURE CITED

Louisiana Department of Natural Resources. 1994. Habitat assessment models for fresh swamp and bottomland hardwoods within the Louisiana coastal zone. Louisiana Department of Natural Resources, Baton Rouge, Louisiana. 10 pp.

U.S. Fish and Wildlife Service. 1980. Habitat evaluation procedures. U.S. Fish and Wildlife Service, Division of Ecological Services, Washington, D.C. Ecological Services Manual 102.

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Louisiana*

## **Appendix E**

### **AEP Summary**

**Summary of  
WBV-14c.2  
Alternative Evaluation Process  
Updated**

## AEP Evaluation Criteria

6 Alternatives were initially considered

Alternative 1 – Earthen Levee (Geotextile Reinforced) Deleted from Updated Summary

Alternative 2 – Earthen Levee (Unreinforced) with Landside Canal Shift

Alternative 3 – Earthen Levee (Geotextile Reinforced) Shifted Landside and Culvert in Landside Drainage Canal

Alternative 4 – Earthen Levee (Soil Mixing Columns)

Alternative 5 – Floodwall

Alternative 6 - Earthen Levee (Unreinforced) with 40- Foot Floodside Shift

3 of the 6 Alternatives were deleted from further consideration

**Alternative 1 – Earthen Levee (Geotextile Reinforced)**

This alternative was not evaluated in the Draft Design Report and deleted from the AEP Summary as a result.

3 of the 6 Alternatives were deleted from further consideration

**Alternative 3 – Earthen Levee (Geotextile Reinforced) Shifted Landside and Culvert in Landside Drainage Canal**

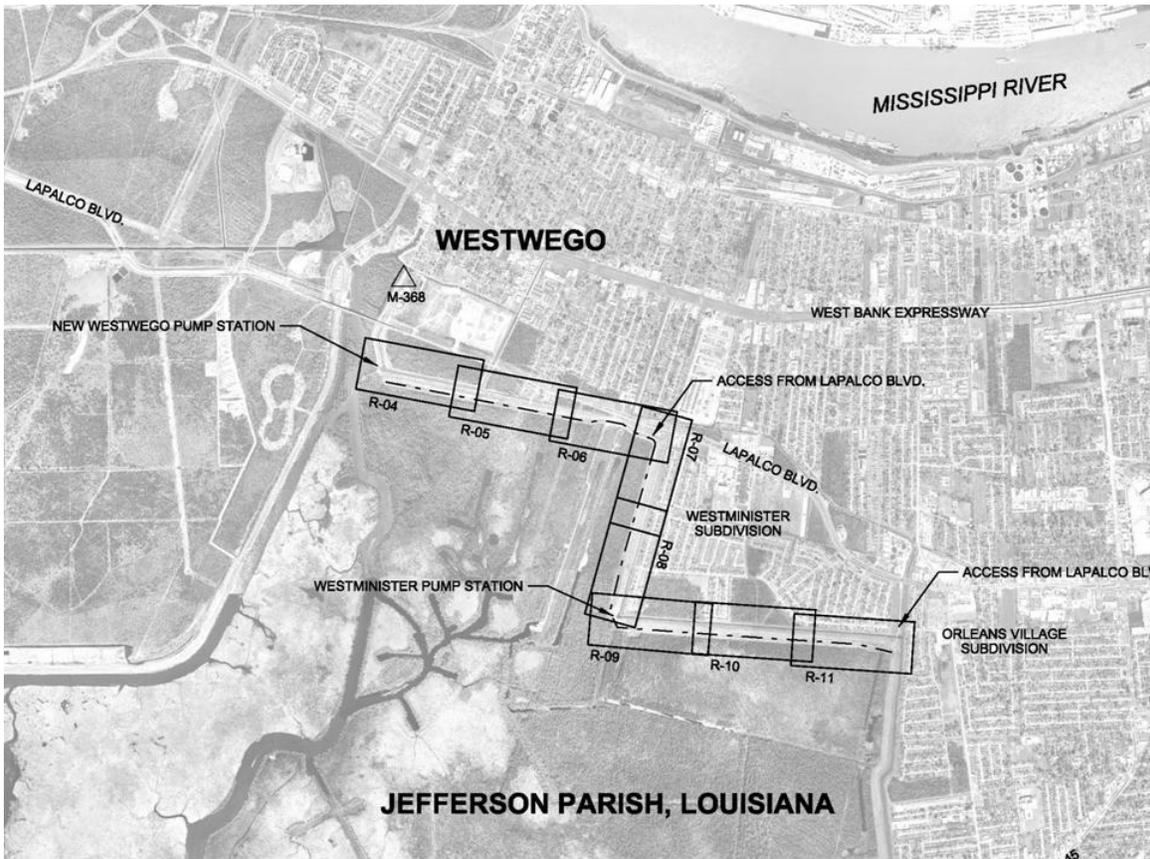
This alternative is one of the most complex construction alternatives considered. This alternative is comprised of degrading the existing levee, placing geotextile fabric and then constructing a new levee with a landside shift, relocating the existing interior drainage canals and installing a culvert in the relocated landside drainage canal. This alternative was eliminated for a variety of reasons. The landside shift of the levee and canal would result in direct impacts to adjacent residential structures and land side wetlands. The existing interior drainage canals would need to be relocated to maintain levee stability. The relocation of the canal would require additional landside ROW and result impacts to additional residential structures and landside wetlands. Additional infrastructure impacts include the relocation of a portion of Lapalco Boulevard. Because of the above, the alternatives high cost and estimated 80 percent higher construction duration than the proposed alternative, this alternative was eliminated from further consideration.

3 of the 6 Alternatives were deleted from further consideration

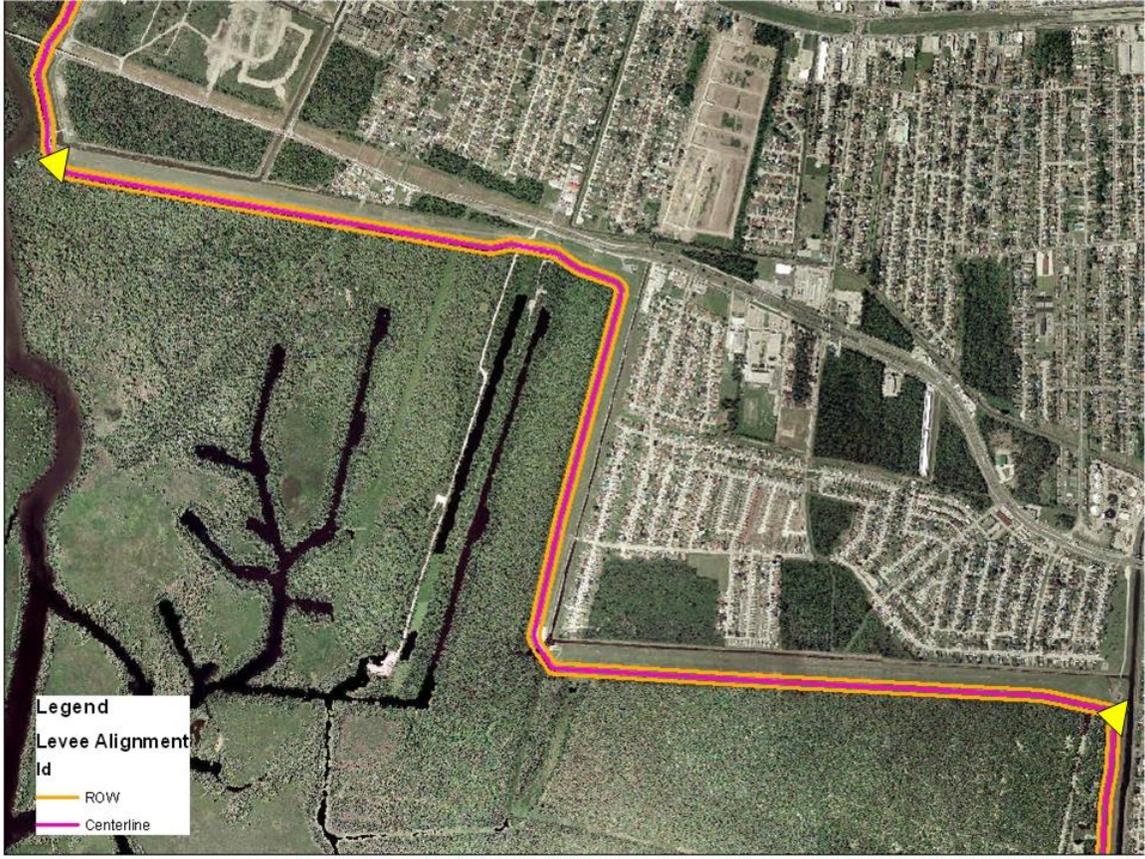
**Alternative 4 – Earthen Levee (Soil Mixing Columns)**

This alternative involves mixing or injecting soil additives to existing levee that strengthen the physical properties of the soil. It has been estimated to conduct deep soil mixing along only 40 percent of the 3.29-mile reach of WBV-14.c.2 would increase the estimated project cost by 60 percent above the total construction budget for the proposed flood side shift. This 60 percent increase does not reflect the additional cost required to implement deep soil mixing along the remainder of the WBV 14.c. 2 levee reach. Soil mixing would also require an estimated 50 percent increase in construction duration. This is due to the time it takes to degrade the existing levee section and to conduct the deep soil mixing operation which is estimated to be completed at a rate of 20 linear feet per day per deep soil mixing rig. Finally, the need to perform a levee degrade causes openings in the system and reduces the ability of the system to provide storm risk reduction. As a standard procedure for the Hurricane Storm Damage Risk Reduction System (HSDRRS) work, only short reaches of embankment, typically 2,000 linear feet of embankment per contract, are concurrently degraded during hurricane season. This restriction reduces the risk of flooding during construction by minimizing the size of openings in the storm damage risk reduction system and at the same time this construction practice significantly increases construction durations. Soil mixing was eliminated because the high cost and high estimated construction duration.

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## AEP Evaluation Criteria

3 Alternatives were evaluated against the following criteria:

- Risk Reduction and Reliability
- Environmental (Human & Natural)
- Time and Constructability
- Cost

Based on programmatic system guidance for weighting criteria, and PDT considerations of site specific information, risk reduction and reliability carried the highest weight, environmental and total project cost were weighted with the second highest weight and time/constructability considerations had the least weight.

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| <b>WBV-14.c.2 - Alternative Evaluation (Summary)</b> |  |   |  |
|--|--|---|--|
| <b>Criteria</b>                                      | <b>Alternative 2** Earthen Levee<br/>Landside shift</b>  | <b>Alternative 5 Floodwall</b>  | <b>Alternative 6 Earthen<br/>Levee Floodside Shift</b>   |
| <b>Risk Reduction/<br/>Reliability</b>               | Assessed by PDT with lower reliability than Alt 5 and same as Alt 6 due primarily to overtopping due to the need for future lifts  | Assessed by PDT to have the greatest reliability  | Assessed by PDT with lower reliability than Alt 5 and same as Alt 1 due primarily to overtopping due to the need for future lifts  |
| <b>Environmental<br/>(Human &amp;<br/>Natural)</b>   | Significant impacts to adjacent residential community<br>Noise and traffic impacts to adjacent homes and neighborhoods<br>80 ft wide additional ROW landside shift some landside wetlands impacts 8 Acres<br><i>(Note acreage of impacts updated in IERS document)</i> | Noise and traffic impacts to adjacent homes and neighborhoods<br>No additional ROW requirements                           | Noise and traffic impacts to adjacent homes and neighborhoods<br>Dump located south of alignment additional HTRW assessment may be required<br>Direct Impacts<br>100 ft wide additional ROW floodside shift<br>42 acres floodside wetland impacts<br>Includes impacts to Commercial Investment Tract |
| <b>Time/<br/>Constructability</b>                    | Longest estimated duration<br>Greatest opportunity for construction time growth due to weather<br>ROW acquisition complicated (relocation homes and canal)   | Second longest estimated duration<br>Additional redesign required<br>Levee degrade required<br>No additional ROW required | Construction duration estimated shortest<br>Second highest opportunity for construction time growth due to weather<br>ROW acquisition required   |
| <b>Cost *</b>  | Total Project Cost 3.6 X higher than Alt 6   | Total Project Cost 4.9X higher than Alt 6   | Lowest Cost  |

\* Recon to Feasibility Level Costs    \*\* Alternative incorrectly identified as 1 during 13 March 2009 meeting

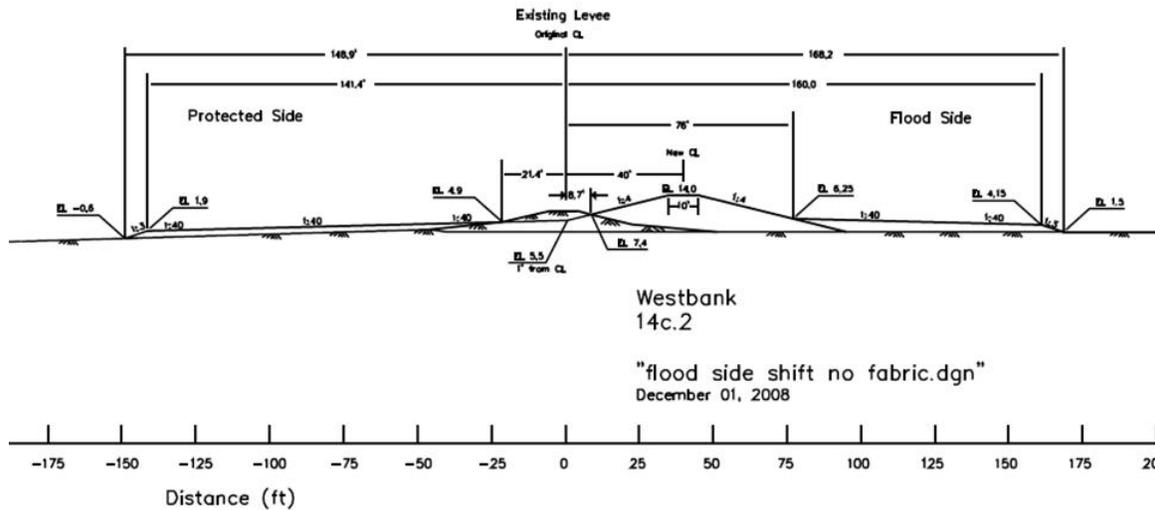
PDT AEP Recommended Proposed Action: **Alternative 6**

Levee with 100 ft additional ROW, 40 ft Floodside shift of levee centerline

***MVN PDT has determined that based on risk reduction and reliability, environmental impacts, cost, time and constructability considerations; Alternative 6 is the least damaging practicable alternative to provide the 100 year level of protection for the 14.c.2 reach portion of the West Bank hurricane and storm damage risk reduction system.***

1. New design criteria enlarged the footprint of the earthen levee section.
2. Floodside shift is due to the canal to the north of the existing levee. Filling in the canal would be cost and time prohibitive.
3. Floodside shift east of the canal would encroach on residential developments.

# WBV-14c.2 New Section



## Appendix F

### Jean Lafitte National Historical Park And Preserve Legislation

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1 **SEC. 7105. JEAN LAFITTE NATIONAL HISTORICAL PARK**  
2 **AND PRESERVE BOUNDARY ADJUSTMENT.**

3 (a) IN GENERAL.—Section 901 of the National Parks  
4 and Recreation Act of 1978 (16 U.S.C. 230) is amended  
5 in the second sentence by striking “of approximately twen-  
6 ty thousand acres generally depicted on the map entitled  
7 ‘Barataria Marsh Unit-Jean Lafitte National Historical  
8 Park and Preserve’ numbered 90,000B and dated April  
9 1978,” and inserting “generally depicted on the map enti-  
10 tled ‘Boundary Map, Barataria Preserve Unit, Jean La-  
11 fitte National Historical Park and Preserve’, numbered  
12 467/80100A, and dated December 2007,”.

13 (b) ACQUISITION OF LAND.—Section 902 of the Na-  
14 tional Parks and Recreation Act of 1978 (16 U.S.C. 230a)  
15 is amended—

16 (1) in subsection (a)—

17 (A) by striking “(a) Within the” and all  
18 that follows through the first sentence and in-  
19 serting the following:

20 “(a) IN GENERAL.—

21 “(1) BARATARIA PRESERVE UNIT.—

22 “(A) IN GENERAL.—The Secretary may  
23 acquire any land, water, and interests in land  
24 and water within the Barataria Preserve Unit  
25 by donation, purchase with donated or appro-

•S 22 ES

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1            priedated funds, transfer from any other Federal  
2            agency, or exchange.

3            “(B) LIMITATIONS.—

4            “(i) IN GENERAL.—Any non-Federal  
5            land depicted on the map described in sec-  
6            tion 901 as ‘Lands Proposed for Addition’  
7            may be acquired by the Secretary only with  
8            the consent of the owner of the land.

9            “(ii) BOUNDARY ADJUSTMENT.—On  
10           the date on which the Secretary acquires a  
11           parcel of land described in clause (i), the  
12           boundary of the Barataria Preserve Unit  
13           shall be adjusted to reflect the acquisition.

14           “(iii) EASEMENTS.—To ensure ade-  
15           quate hurricane protection of the commu-  
16           nities located in the area, any land identi-  
17           fied on the map described in section 901  
18           that is acquired or transferred shall be  
19           subject to any easements that have been  
20           agreed to by the Secretary and the Sec-  
21           retary of the Army.

22           “(C) TRANSFER OF ADMINISTRATION JU-  
23           RISDICTION.—Effective on the date of enact-  
24           ment of the Omnibus Public Land Management  
25           Act of 2009, administrative jurisdiction over

•S 22 ES

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1 any Federal land within the areas depicted on  
2 the map described in section 901 as 'Lands  
3 Proposed for Addition' is transferred, without  
4 consideration, to the administrative jurisdiction  
5 of the National Park Service, to be adminis-  
6 tered as part of the Barataria Preserve Unit.”;  
7 (B) in the second sentence, by striking  
8 “The Secretary may also acquire by any of the  
9 foregoing methods” and inserting the following:  
10 “(2) FRENCH QUARTER.—The Secretary may  
11 acquire by any of the methods referred to in para-  
12 graph (1)(A)”;  
13 (C) in the third sentence, by striking  
14 “Lands, waters, and interests therein” and in-  
15 serting the following:  
16 “(3) ACQUISITION OF STATE LAND.—Land,  
17 water, and interests in land and water”; and  
18 (D) in the fourth sentence, by striking “In  
19 acquiring” and inserting the following:  
20 “(4) ACQUISITION OF OIL AND GAS RIGHTS.—  
21 In acquiring”;  
22 (2) by striking subsections (b) through (f) and  
23 inserting the following:  
24 “(b) RESOURCE PROTECTION.—With respect to the  
25 land, water, and interests in land and water of the

•S 22 ES

1 Barataria Preserve Unit, the Secretary shall preserve and  
2 protect—

3 “(1) fresh water drainage patterns;

4 “(2) vegetative cover;

5 “(3) the integrity of ecological and biological  
6 systems; and

7 “(4) water and air quality.

8 “(e) ADJACENT LAND.—With the consent of the  
9 owner and the parish governing authority, the Secretary  
10 may—

11 “(1) acquire land, water, and interests in land  
12 and water, by any of the methods referred to in sub-  
13 section (a)(1)(A) (including use of appropriations  
14 from the Land and Water Conservation Fund); and

15 “(2) revise the boundaries of the Barataria Pre-  
16 serve Unit to include adjacent land and water.”; and

17 (3) by redesignating subsection (g) as sub-  
18 section (d).

19 (c) DEFINITION OF IMPROVED PROPERTY.—Section  
20 903 of the National Parks and Recreation Act of 1978  
21 (16 U.S.C. 230b) is amended in the fifth sentence by in-  
22 serting “(or January 1, 2007, for areas added to the park  
23 after that date)” after “January 1, 1977”.

24 (d) HUNTING, FISHING, AND TRAPPING.—Section  
25 905 of the National Parks and Recreation Act of 1978

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1 (16 U.S.C. 230d) is amended in the first sentence by  
2 striking “, except that within the core area and on those  
3 lands acquired by the Secretary pursuant to section 902(c)  
4 of this title, he” and inserting “on land, and interests in  
5 land and water managed by the Secretary, except that the  
6 Secretary”.

7 (e) ADMINISTRATION.—Section 906 of the National  
8 Parks and Recreation Act of 1978 (16 U.S.C. 230e) is  
9 amended—

10 (1) by striking the first sentence; and

11 (2) in the second sentence, by striking “Pend-  
12 ing such establishment and thereafter the” and in-  
13 sserting “The”.

14 (f) REFERENCES IN LAW.—

15 (1) IN GENERAL.—Any reference in a law (in-  
16 cluding regulations), map, document, paper, or other  
17 record of the United States—

18 (A) to the Barataria Marsh Unit shall be  
19 considered to be a reference to the Barataria  
20 Preserve Unit; or

21 (B) to the Jean Lafitte National Historical  
22 Park shall be considered to be a reference to  
23 the Jean Lafitte National Historical Park and  
24 Preserve.

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1           (2) CONFORMING AMENDMENTS.—Title IX of  
2 the National Parks and Recreation Act of 1978 (16  
3 U.S.C. 230 et seq.) is amended—

4           (A) by striking “Barataria Marsh Unit”  
5 each place it appears and inserting “Barataria  
6 Preserve Unit”; and

7           (B) by striking “Jean Lafitte National  
8 Historical Park” each place it appears and in-  
9 serting “Jean Lafitte National Historical Park  
10 and Preserve”.

11 **SEC. 7106. MINUTE MAN NATIONAL HISTORICAL PARK.**

12       (a) DEFINITIONS.—In this section:

13           (1) MAP.—The term “map” means the map en-  
14 titled “Minute Man National Historical Park Pro-  
15 posed Boundary”, numbered 406/81001, and dated  
16 July 2007.

17           (2) PARK.—The term “Park” means the  
18 Minute Man National Historical Park in the State  
19 of Massachusetts.

20           (3) SECRETARY.—The term “Secretary” means  
21 the Secretary of the Interior.

22       (b) MINUTE MAN NATIONAL HISTORICAL PARK.—

23           (1) BOUNDARY ADJUSTMENT.—

•S 22 ES

*West Bank and Vicinity,  
Westwego to Harvey Levee, Jefferson Parish,  
Louisiana*

## **Appendix G**

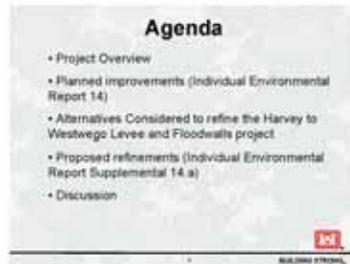
### **Public Meeting Summary**

# Public Meeting Summary

## Individual Environmental Report Supplemental 14 – Harvey to Westwego Levee Thursday, Feb. 4, 2010

|                    |   |
|--------------------|---|
| <b>Location</b>    | Visitation of Our Lady School<br>3520 Ames Blvd.<br>Marrero, LA 70072   |
| <b>Time</b>        | Open House 6 p.m. - 6:30 p.m.<br>Presentation 6:30 p.m.   |
| <b>Attendees</b>   | 16  |
| <b>Format</b>      | Open House<br>Presentation<br>Discussion  |
| <b>Handouts</b>    | <ul style="list-style-type: none"> <li>• Corps Approval Process Brochure</li> <li>• Status Map</li> <li>• Presentation</li> </ul> |
| <b>Facilitator</b> | Rachel Rodi, public affairs   |

Rachel Rodi, outreach manager:



Thanks for coming tonight, I'm Rachel Rodi. Our Agenda for tonight is the Senior Project Manager, Julie Vignes, is going to talk about the Harvey to Westwego project and then we will have Gary Brouse talk about the floodwalls in the Harvey to Westwego project.



We all know the Corps is building floodwalls and levees but it's important to understand that we can never completely protect. We all have a role in buying down risk through zoning and insurance and outreach. You should listen to your elected officials if they tell you to evacuate.

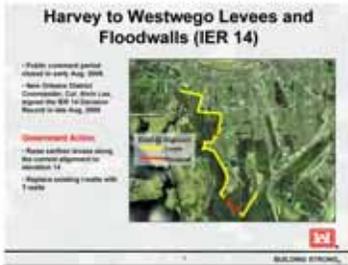


Julie Vignes: Hello I'm Julie Vignes. Tonight I'll give you a brief overview of the system as a whole and then focus on the Harvey to Westwego project.

This is a map of the whole hurricane system, we have copies in the back, and you can take them.

# Public Meeting Summary

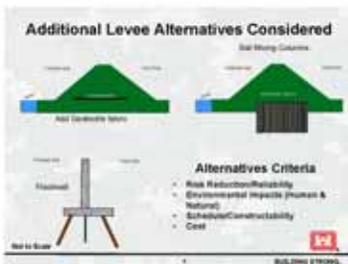
This is the proposed alignment of the Westbank and Vicinity Project. From west to east it includes 66 miles of levees and floodwalls from Ama in St. Charles Parish, around Lake Cataouatche, passing south of Marrero, traveling up the Harvey and Algiers canals and then eventually tying in to the Mississippi River levees in Plaquemines Parish. Tonight we're going to talk about the improvements we're planning to make to the Harvey to Westwego Levee. The orange box is our focus tonight and the orange dot shows you where we are right now.



This is what we described in IER 14, it identified the action which is shown in yellow as earthen levees and the floodwalls are shown in red.



Since we published that environmental document we've done more analysis and design work and we realized we had to have additional Right-of-Way to fit the levee in. We also have additional impacts. That's the scope of the supplemental IER. Here in the orange box is where there will be impacts, some of that is a portion of Jean Lafitte National and Historic Park and Preserve.



Before choosing our proposed action we looked at alternatives.

There is a levee there that would need to be raised. We looked at an alternative that would degrade the levee and put in geotextile fabric to strengthen the levee, we looked at improving the foundation of the levee by putting in soil mixing columns and we also looked at [constructing a concrete] T-wall. The normal process is we look at an alternative and then evaluate them based on factors. The primary factors are Risk and Reliability, Environmental impacts, Cost and Schedule.



After doing that alternatives analysis what we identify is the proposed action of an earthen levee raised but it has to be widened so we'll be expanding the footprint on the flood side of the levee.

This shows where we have an existing levee. We have to raise the levee and address the stability as it goes higher so it widens.

This shows where we have an existing levee. We have to raise

# Public Meeting Summary



This is what it would look like when it's constructed. Along the protected side there is an existing canal and on this side there is a cypress swamp.

This is the alignment of the levee. This is the existing levee in [turquoise] and the red is the additional Right-of-Way that is

required. It does impact 42 acres of cypress swamp.



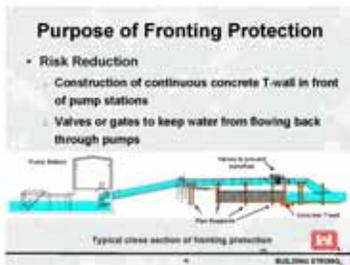
As we go through alternative analysis we do try to avoid and mitigate environmental impacts and we have to do compensatory mitigation. We are working on that plan, it will compensate for the impacts across the whole system.

The second area we're here to talk about tonight is at two of our pump stations. Gary Brouse is a Senior Project Manager he manages the floodwalls for our team.



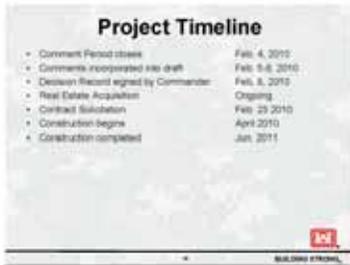
Gary Brouse: The other area covered under the Supplemental which will help accomplish the risk reduction work is at the Ames and Mt. Kennedy Pump Stations.

We call floodwalls in front of pump stations fronting protection. It's a T-wall in front of the pump station that would protect the pump. It involves extending the existing pump pipes up and over the wall and then extending them.



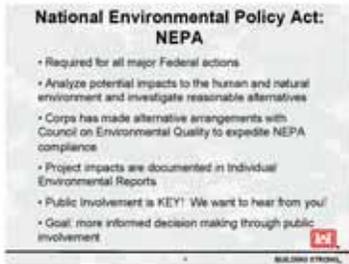
The original IER said we would replace the floodwalls and reinforce the wall in the front of the station at Mt. Kennedy and Ames. We thought we were able to accomplish that with the existing [Right-of-Way] at Ames

[Inaudible] but when we got in to the detail design we needed more Right-of-Way further out in to the canal so we're covering that under the Supplemental.

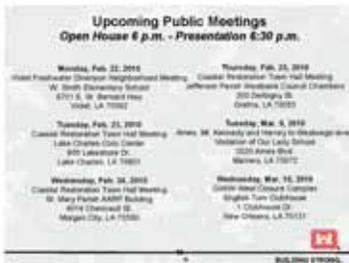


The timeline is that [Inaudible] the Ames and Mt. Kennedy we [Inaudible] we can advertise this month with an award later this spring so that we can begin construction in April. That would allow for completion of the risk system by Jun 2011

# Public Meeting Summary



Rachel Rodi: I skipped over this earlier but we're here tonight for the National Environmental Policy Act. NEPA requires us to analyze impacts [a project may cause] to bugs and bunnies but also to humans and the nation. We are doing alternative arrangements to shorten the environmental process into 18 months verse 5 years. We're here because public involvement is key [to the process].



We have several public meetings coming up. You may be interested in the coastal restoration efforts statewide and we will also talk about our efforts closer to home on Feb. 25.

You can always go to

[nolaenvironmental.com](http://nolaenvironmental.com) or call us or e-mail us your comments.



We have web sites with information that you may find helpful, [Nolaenvironmental.gov](http://Nolaenvironmental.gov) it links back to the District Web site. And you can check us out on Twitter, Facebook and Flickr, that's where we post pictures of what we are doing.

I'd like to announce that James McMennis from the State Office of Coastal Protection and Restoration is here.

**Question 1.** Unidentified speaker: You talked about pump stations, are they manned or automatic in the case of a hurricane?

**Response 1:** Gary Brouse: The Corps is responsible for putting the protection in front of the station but they are manned by Jefferson Parish. There has been an effort for safe houses to be built and so the pumps may be operated from the safe house. [The safe houses allow] the pump operators to stay safe in winds up to 250 miles per hour. The station will be manned by Jefferson Parish Drainage.

**Question 2.** Pete Robicheaux: I heard you were talking about extending the levee. How much restriction will this cause from pumping the water out?

**Response 2.** Gary Brouse: We're only extending the pipes a few extra feet to go over the floodwall we are building. There is a wall but we need to rebuild it so it meets the new design standards. We're extending those pipes over the wall, we're not adding length.

We're also going to have a separate public meeting to talk about the Ames and Mt. Kennedy construction.

The following notes were recorded by USACE contractors. These notes are intended to provide an overview of the presentations and public questions and comments, and are not intended to provide a complete or verbatim account of the meeting. This account is not intended to be a legal document.



# Public Meeting Summary

**Question 3.** Dr. Barry Kohl, Louisiana Audubon Council: I've been involved in the protection of Jean Lafitte National Park and Preserve for 30 years and helped get the legislation passed in 1978. We're concerned about that one section where you're going to encroach on the park and take land. I'm reading the response to my letter the Corps and it says you still aren't sure where the boundary was and there were maps in the legislation that shows the boundary. Could you tell me why the corps can't understand where the park boundary is? Have I missed something?

**Response 3.** Todd Klock, real estate: It's not a question of we don't know where the boundary is. We want to make sure we exchange property with the National Park Service. We will give them properties that we're using as part of CIT track but we want to evaluate how much are we going to need in the future. We want to do one transaction we don't want to do another exchange in 20 years. We know what the footprint is and we're trying to evaluate what it could be in the future. And we'll incorporate what that will be at a later date.

**Question 4.** Dr. Barry Kohl: On the description of the levee. The cross section went from 150 to 325 ft. Are you going to have to clear vegetation in front of the tow of the levee? How much additional land do you want to clear?

**Response 4.** Julie Vignes: Yes, we will clear on the flood side of the existing tow to make the wider levee. The clearing will be within that 350 ft. It includes the new levee and the berm and the vegetative free zone.

**Question 5.** Dr. Barry Kohl: So where the tow stops, there will be another 15 ft of clearance needed?

**Response 5.** Julie Vignes: Yes, that includes the levee construction and beyond tow a 15 ft vegetative free area.

**Question 6.** Dr. Barry Kohl: that's within the 250 ft?

**Response 6.** Julie Vignes: It's all within the 350 ft.

**Question 7.** Dr. Barry Kohl: I also asked about whether the design took into account the fact that there is marsh and forested wetland which would afford protection. I would like to know that you are considering the conditions of 2057 which would put us at sea level at the tow, would that be right? Your response mentions, when I ask about factoring in the vegetation, it says it doesn't factor in vegetation because we were looking at 2057 and there may not be anything left except the levee. Does the corps factor in [Inaudible]?

**Response 7.** Julie Vignes: The trees are not factored in to the design because we have no assurance they would be there before the storm surge reaches the tow [of the levee] so it's not a factor we design to.

**Question 8.** Dr. Barry Kohl: What about armoring? Will that section be armored because it will be on the Gulf [of Mexico] side?

The following notes were recorded by USACE contractors. These notes are intended to provide an overview of the presentations and public questions and comments, and are not intended to provide a complete or verbatim account of the meeting. This account is not intended to be a legal document.



# Public Meeting Summary

**Response 8.** Julie Vignes: The grass will provide armoring. In some areas we will put additional armoring to protect against overtopping of the system.

**Question 9.** Dr. Barry Kohl: But the MRGO levees had not had armoring and they failed during Hurricane Katrina, because they weren't armored. If you factor in the marsh and Lafitte Park, if you factor that in it would be different because the levee would not be [Inaudible] but you're saying you're not factoring that in. If by 2057, [Inaudible] could be at the tow of the levee and erode away. Why aren't you coming in and armoring for this section?

**Response 9.** Gary Brouse: Julie answered you by saying we're taking a more conservative approach, we can't count on the storm surge [Inaudible]. Also under the 4<sup>th</sup> Supplemental [Emergency Spending Bill], the Corps is also tasked to do an armoring program with the risk reduction system. We have an armoring team studying that and they are studying overtopping rates and what different technologies [Inaudible]. [Some of the armoring technologies] they have are grass or turf reinforcement all the way to armoring blocks. We're also looking at what kind of erosion there could be on the flood side. There is an entire team studying the armoring. It's based on our existing assumption where we can't count on the coastline to be there.

**Question 10.** Dr. Barry Kohl: Then there is no plan to armor the WBV?

**Response 10.** Gary Brouse: That's what the team is studying, what would be armored and to what extent. There are different levels of threats. They are studying with University of Colorado what type of overtopping rates there are and what causes erosion. Once they get those results they can see what kind of armoring they need to do.

**Question 11.** Dr. Barry Kohl: When would that report be available for public review?

**Response 11.** Gary Brouse: I'm not positive but the results from the University of Colorado study won't be done until later this summer and I wouldn't expect it until the fall.

**Question 12.** Dr. Barry Kohl: So we could see a document later this year?

**Response 12.** Gary Brouse: Yes

**Question 13.** Dr. Barry Kohl: So if the study shows armoring is needed when would that take place? Is there money available to protect the Westbank, Jefferson and St. Bernard Parish? Is that included in the pot of \$14 billion?

**Response 13.** Gary Brouse: There are specific dollars for armoring but until the study is completed we won't know what amount that would be. There is a programmatic plan on it. They are going to have separate public meetings for armoring. To answer you're question it's going to be done after we get the protection in place so we can come through and armor, we wouldn't tear up levees and floodwalls to put it in. It will be comprehensive.



# Public Meeting Summary

**Question 14.** Dr. Barry Kohl: That's not included in the present appropriation?

**Response 14.** Gary Brouse: There is armoring in the appropriations.

**Question 15.** Dr. Barry Kohl: I was reading the design guidelines. My big concern, because pre-Katrina [Inaudible] failed. And new geotechnical [requirements have been added into the] design. My big concern is water getting under the levee and through bad soils. What were the borings showing for this section of levee? The ones that you're going back to retrofit?

**Response 15.** Richard Pinner, chief of geotech branch: You asked what type of samples?

**Question 16.** Dr. Barry Kohl: In reading the new standards, it relates to foundations to prevent water seeping through under the levee. Because this segment was made to 350 ft, what did you find under the levee to cause you to make that [determination]?

**Response 17.** Richard Pinner: The big thing that controlled the footprint is the stability analysis and our factor of safety. This levee is being raised, we're raising it 14 ft. We require a larger berm. It's for stability for the protected side and the flood side. The footprint can handle both those conditions.

**Question 18.** Dr. Barry Kohl: What's the final height?

**Response 18.** Julie Vignes: When we design for the current elevation it will be 10.5 ft. We will constrict it above that to account for settlement so it will go to 13.5 ft.

**Question 19.** Dr. Barry Kohl: So at the end it would be?

**Response 19.** Julie Vignes: 10.5 ft but it's anticipated it would have to be raised in the future to 14 ft. Our footprint for this initial construction is to 13.5 ft which allows for settlement to make sure we're at or above the design grade of 10.5 ft.

**Question 20.** Dr. Barry Kohl: How many lifts will it take until it reaches your design?

**Response 20.** Julie Vignes: It will take three lift to get it to 14 ft.

**Question 21.** Dr. Barry Kohl: What frequency will those take? How many years will that be?

**Response 21.** Julie Vignes: It's usually a lift on average every 7-10 years to keep it above grade.

**Question 22.** Dr. Barry Kohl: So within 7-10 years there will be a second lift and then another 7 to 10 for the second lift?

**Response 22.** Julie Vignes: Yes, that's an average. It could be 12 years.

**Question 23.** Dr. Barry Kohl: You don't see additional needs from the park?



# Public Meeting Summary

**Response 24.** Julie Vignes: At this time, no. It's a possibility, we [Inaudible] over 50 years in the future, but it's a possibility.

**Question 25.** Dr. Barry Kohl: The fact that you're modeling that there would be no vegetation in front of the levee and that you're being conservative saying there would be no marsh, does that also assume the Corps is not going to pursue coastal restoration? If you would pursue coastal restoration there would be a factor of coastal restoration [in your design]. The wetlands are going to disappear and Gulf of Mexico will be at the [Inaudible].

**Response 25.** Julie Vignes: We're just taking a conservative approach. We're having [interruption].

**Question 26.** Dr. Barry Kohl: There will be 15 acres of park lands taken?

**Response 26.** Julie Vignes: Some of the impacts are within [Jean Lafitte Park] and some are not. I can't tell you exactly. We will work with other federal agencies and the state to do an assessment.

**Question 27.** Dr. Barry Kohl: Will mitigation be within the existing unit or used in another area?

**Response 27.** Julie Vignes: Our plans aren't finalized. The general approach will be mitigation in the same basin or hydrologic unit. We'll be doing mitigation plans, scoping meetings and environmental documents but we haven't identified the plan.

**Question 28.** Dr. Barry Kohl: When I met with the Colonel, there was a consensus about bundling wherever that would be. My organization, the Audubon Council, would like to see any mitigation done to the park be in the park and worked with the National Park Service because this national park is really special, it's an area we fought for for 40 years. Frank Garrett fought for 45 years. And what we're trying to do is protect that and make sure the park lasts. So I want to be sure you understand that any damage done, any mitigation should also be inside the park.

**Response 28.** Julie Vignes: We have that comment on record. We will still coordinate our mitigation plan with the Department of the Interior and the National Park Service.

**Question 29.** Dr. Barry Kohl: It said in the notice that the comment period had been extended until midnight tonight. I didn't see that before this night. Could we have sent in comments in January or February? Or were we just given tonight from 6:30 p.m. to midnight to comment?

**Response 29.** Julie Vignes: We don't know of any comment received from January through tonight.

**Comment 30.** Dr. Barry Kohl: But the draft [review period] was closed. There was nothing stated that the hearing record would be open for 60-90 days.

**Response 30.** Julie Vignes: We're not aware of any comments were received [during that time].



# Public Meeting Summary

**Question 31.** Dr. Barry Kohl: So when was [the notice of the extension] published? I would like to know more about it.

**Response 31.** Julie Vignes: [On Jan. 27 in the Times-Picayune, we can get you a copy of it.]

**Question 32.** Gail Cassard: This morning on the corner of Toussaint and Barataia there was a dump truck, is that part of this project?

**Response 32.** Julie Vignes: I'm not sure, it's possible.

**Question 33.** Gail Cassard: It was three trucks in a row. I would like to see Barataria cleaned up. A rock hit the top of my car. Who would I call to say can we get a street cleaner?

**Response 33.** Rachel Rodi: We can get you the construction hotline number before we leave. Also, Dr. Kohl you also mentioned coastal restoration earlier, we are also concerned about coastal restoration. We have upcoming meetings to talk about it.



**Question 35.** Dr. Barry Kohl: The proof would be that the Corps is modeling with the forest and marsh in front of [the levee]. If you were using those data then I'll believe you, until you do you're not factoring it in and you're looking at no coastal restoration. On determining the height, are you taking into considering sea level rise?

**Response 35.** Julie Vignes: Yes, that's why the current elevation 10.5 ft and the future is 14 ft. Storm surge, waves, sea level rise, all of those are factors.

**Question 36.** Dr. Barry Kohl: What was the level of sea level rise?

**Response 36.** Julie Vignes: I don't know for this reach.

**Question 37.** Dr. Barry Kohl: I would be interested in learning that number because oceanographers have studied it. I'd like to see that.

**Response 37.** Julie Vignes: We can get you contact information for our hydraulics team to answer.

Rachel Rodi: Thanks for coming, we'll be back on Mar. 9 to talk about Ames and Mt. Kennedy Pump Stations.