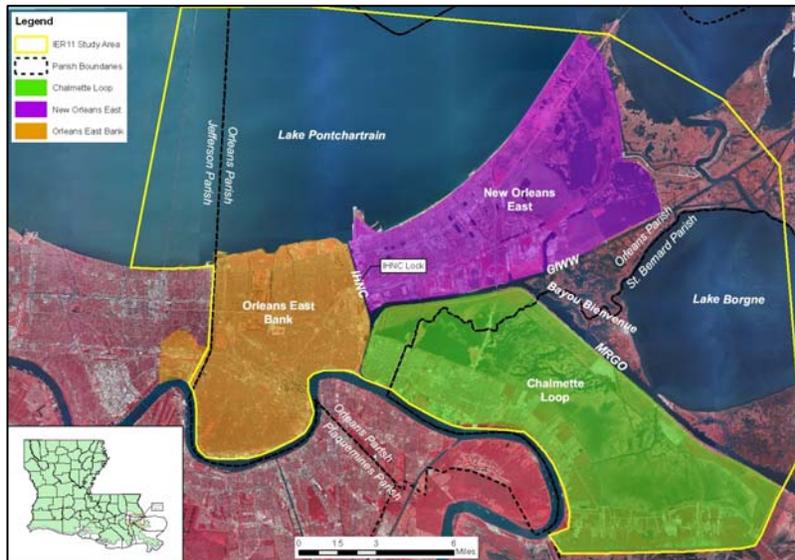


**DRAFT INDIVIDUAL ENVIRONMENTAL REPORT  
SUPPLEMENTAL**

**IMPROVED PROTECTION ON THE INNER HARBOR NAVIGATION  
CANAL**

**ORLEANS AND ST. BERNARD PARISHES, LOUISIANA**

**IER # 11 TIER 2 BORGNE SUPPLEMENTAL**



**US Army Corps  
of Engineers®**

October 2009

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# 1. INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Mississippi Valley Division, New Orleans District (CEMVN), has prepared this Individual Environmental Report #11 Tier 2 Borgne Supplemental (IER #11 Tier 2 Borgne Supplemental) to evaluate the potential impacts associated with proposed project revisions to the original IER #11 Tier 2 Borgne.

On October 21, 2008, the District Commander signed the Decision Record for IER #11 Tier 2 Borgne. IER #11 Tier 2 Borgne is hereby incorporated by reference into this supplemental document. Copies of the document and other supporting information are available upon request or at [www.nolaenvironmental.gov](http://www.nolaenvironmental.gov). This supplemental document has been prepared to address proposed changes in the Government's approved plan.

IER #11 Tier 2 Borgne proposed construction of this project in two phases. The first phase, called "advanced measures" was originally scheduled for completion by June 2009. These advanced measures would have provided some level of flood protection prior to the 2009 hurricane season. The intent was to have the GIWW bypass swing gate, a cofferdam across the footprint of the GIWW sector gate, and a cofferdam at Bayou Bienvenue in place, and completion of the floodwall across the marsh and MRGO to a height of +20.75 feet. Project delays in addressing navigation industry concerns, and other factors impacted the start of project construction. This delay precluded the achievement of advanced measures by June 2009. As such, the construction sequencing has been modified from that discussed in the October 21, 2008 Decision Record.

The current construction schedule anticipates completion of the floodwall across the marsh and MRGO to a height of 14.75 feet by December 2009. Additionally, a cofferdam around the footprint of the GIWW barge gate is expected by August 2010, and the floodwall parapet (to a height of +24 feet) is anticipated to be complete by October 2010.

## 1.1 PRIOR REPORTS

A number of studies and reports on water resources development in the proposed project area have been prepared by the USACE, other Federal, state, and local agencies, research institutes, and individuals. Pertinent studies, reports and projects completed since October 2008 are discussed below:

### Lake Pontchartrain and Vicinity Hurricane Protection Project

- On 8 September 2009, the CEMVN Commander signed a Decision Record on IER #29 entitled "Contractor-Furnished Borrow Material #4, Orleans, St. John the Baptist, and St. Tammany Parishes, Louisiana." 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 Hurricane and Storm Damage Risk Reduction System (HSDRRS).

- On 30 June 2009, the CEMVN Commander signed a Decision Record on IER # 5 entitled “Lake Pontchartrain and Vicinity, Permanent Protection System for the Outfall Canals Project on 17<sup>th</sup> Street, Orleans Avenue, and London Avenue Canals, Jefferson and Orleans Parishes, Louisiana.” The document evaluates the potential effects associated with the construction and maintenance of a permanent protection system for the 17th Street, Orleans Avenue, and London Avenue Canals.
- On 29 June 2009, the CEMVN signed a Decision Record on Individual Environmental Report Supplemental (IERS) # 1 entitled “Lake Pontchartrain and Vicinity, LA Branche Wetlands Levee, St. Charles Parish, Louisiana.” The supplemental document evaluates the potential effects associated with the proposed project revisions to the original IER #1.
- On 25 June 2009, the CEMVN signed a Decision Record on IER # 6 entitled “Lake Pontchartrain and Vicinity, New Orleans East Citrus Lakefront Levee, Orleans Parish, Louisiana.” The document evaluates the potential effects associated with proposed improvements to three reaches of the East Orleans Hurricane Risk Reduction Levee that were originally constructed as part of the LPV project.
- On 23 June 2009, the CEMVN signed a Decision Record on IER # 8 entitled “Lake Pontchartrain and Vicinity, Bayou Dupre Control Structure, St. Bernard Parish, Louisiana.” The document evaluates the potential effects associated with the proposed improvement or replacement of a flood control structure on Bayou Dupre.
- On 19 June 2009, the CEMVN signed a Decision Record on IER # 7 entitled “Lake Pontchartrain and Vicinity, New Orleans Lakefront to Michoud Canal, Orleans Parish, Louisiana.” The document evaluates the potential effects associated with proposed improvements to three reaches of the East Orleans Hurricane Risk Reduction Levee that were originally constructed as part of the LPV project.
- On 26 May 2009, the CEMVN signed a Decision Record on IER # 10 entitled “Lake Pontchartrain and Vicinity, Chalmette Loop Levee, St. Bernard Parish, Louisiana.” The document evaluates the potential impacts associated with the proposed construction of a T-wall floodwall on top of the existing Chalmette Loop levee.
- On 13 March 2009, the CEMVN signed a Decision Record on IER # 4 entitled “Lake Pontchartrain and Vicinity, Orleans East Bank, New Orleans Lakefront Levee, West of Inner Harbor Navigation Canal to Eastbank of 17th Street Canal, Orleans Parish, Louisiana.” The document was prepared to evaluate the potential impacts associated with improving the Orleans lakefront hurricane risk reduction features.
- On 18 February 2009, the CEMVN signed a Decision Record on IER # 12 entitled “GIWW, Harvey, and Algiers Levees and Floodwalls, Jefferson, Orleans, and Plaquemines Parishes, Louisiana.” The document was prepared to evaluate potential impacts associated with the proposed construction and upgrades of levees, floodwalls,

floodgates, and pumping station(s) within a portion of the West Bank and Vicinity (WBV) HSDRRS.

- On 3 February 2009, the CEMVN signed a Decision Record on IER # 25 entitled “Government Furnished Borrow Material # 3, Orleans, Jefferson, and Plaquemines Parishes, Louisiana.” The document was prepared to evaluate the potential impacts associated with the possible excavation of four Government Furnished borrow areas.
- On 21 October 2008, the CEMVN signed a Decision Record on IER # 11 Tier 2 Borgne entitled "Improved Protection on the Inner Harbor Navigation Canal, Tier 2 Borgne, Orleans and St. Bernard Parishes, Louisiana." The document was prepared to evaluate the potential impacts associated with constructing a surge barrier near Lake Borgne.
- On 20 October 2008, the CEMVN signed a Decision Record on IER # 26 entitled "Pre-Approved Contractor Furnished Borrow Material # 3, Jefferson, Plaquemines, and St. John the Baptist Parishes, Louisiana, and Hancock County, Mississippi." The document was prepared to evaluate the potential impacts associated with the actions taken by commercial contractors as a result of excavating borrow areas for use in construction of the HSDRRS.

## **2. ALTERNATIVES**

### **2.1 DESCRIPTION OF THE ALTERNATIVES**

At the time of the completion of the original IER #11 report, engineering designs had not been finalized for all of the actions and alternatives. Since that time, engineering details of the action have been further developed and revised. Therefore, the changes to the action that could result in further impact to the natural or human environmental are being addressed in this IER Supplemental.

No Action. Under the no action alternative the Government-approved action, as described in IER #11 Tier 2 Borgne, would be constructed.

Proposed Action. The proposed action consists of constructing those actions approved in IER #11 Tier 2 Borgne, with the exception of a vertical lift gate in lieu of a sector gate on Bayou Bienvenue (figure 1).

## **2.2 PROPOSED ACTION**

### **Bayou Bienvenue Gate**

A vertical lift gate consisting of a steel trussed gate operated by winch systems and supported by two structural steel towers and a steel trussed span over the gate and channel (figures 2 and 3) would be constructed where the Borgne Barrier crosses Bayou Bienvenue. The structure would also include an independent vehicular lift bridge system (approximately 12 feet wide by 58 feet long), located on the protected side of the lift gate to provide access as needed to cross the 56 feet wide channel, without the need to lower the gate. The lift bridge would be supported by the tower structure and operated by winch systems (figure 4).

The structural steel towers would be supported by two concrete abutments on either side of the channel. A concrete monolith adjacent to the gate could provide access to the towers, a generator and control facility, fuel storage tank, vehicular parking and adequate space for a truck turnaround (figure 5). The concrete monolith foundation would be a pile supported base slab at sill elevation -8.00 feet. To allow navigation, the lift gate and bridge would provide 35 feet of vertical clearance in the raised position from a water elevation of +1.0 foot [North American Vertical Datum (2004.65) (NAVD88)]. The currently approved plan has no vertical clearance restrictions.



**Figure 1: Location of proposed modification to Bayou Bienvenue gate design**

The north and south ends of the flood gate monolith would tie into the adjacent barrier floodwall. The vertical lift gate would have the same 56 feet wide navigable opening as the currently approved plan, but the footprint would be approximately 50% smaller than the originally proposed sector gate. Therefore, additional barrier wall would be built to complete the system.

During construction of the gate, a cofferdam would be required across Bayou Bienvenue. As described in IER #11 Tier 2 Borgne, four 48 inch culverts would provide water flow across this cofferdam during construction.

All other features of the two miles of new floodwall/gated system described in IER #11 Tier 2 Borgne would remain the same.

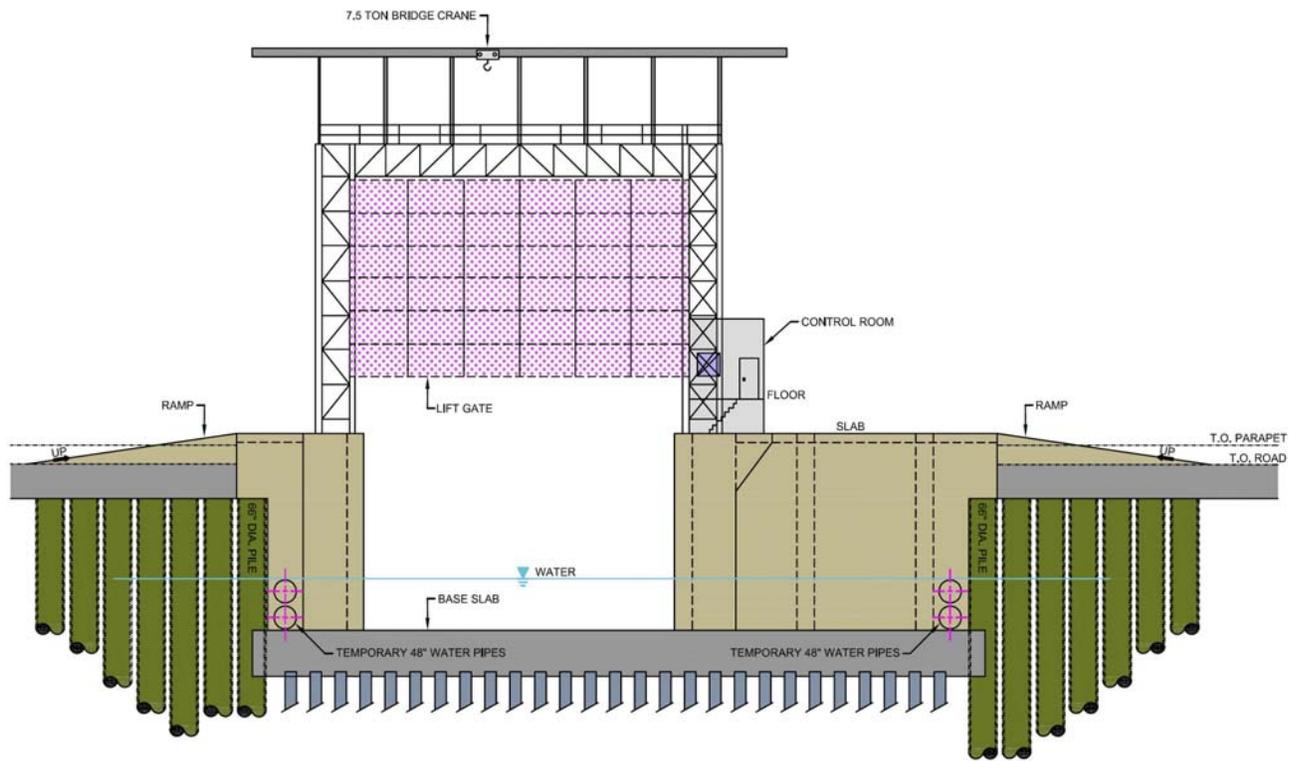


Figure 2: Conceptual plan for Bayou Bienvenue vertical lift gate in open position

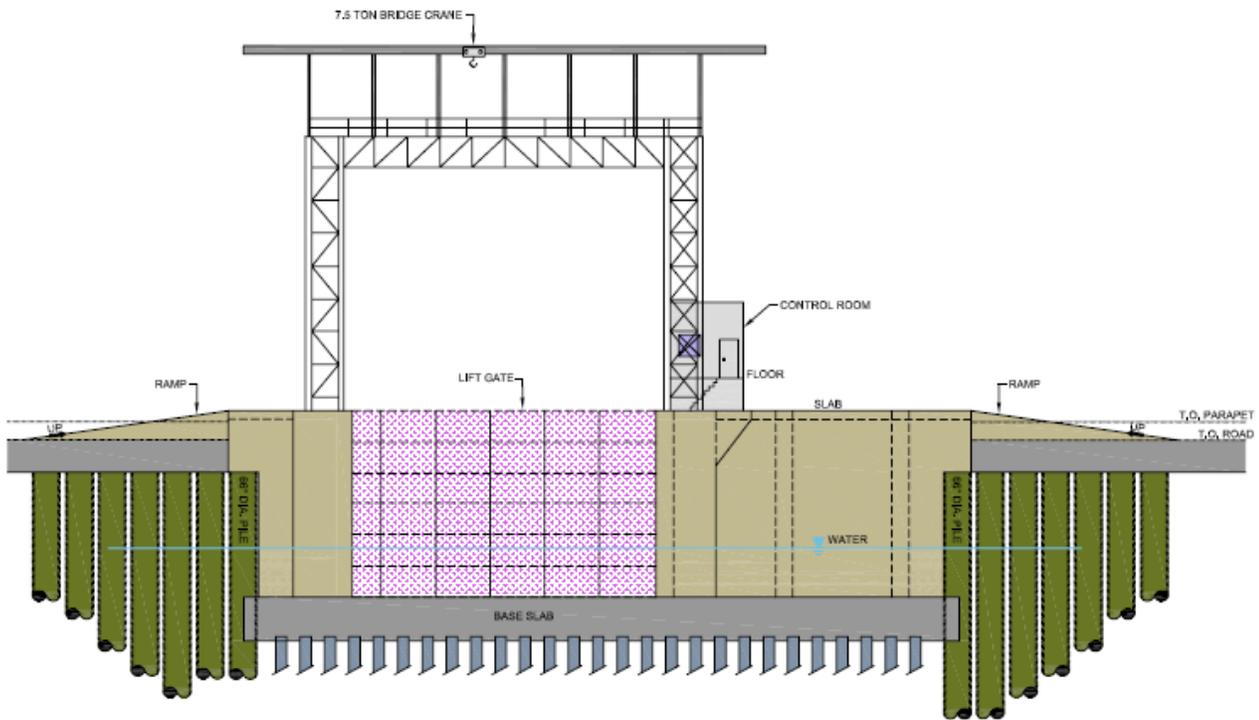


Figure 3: Conceptual plan for Bayou Bienvenue vertical lift gate in closed position

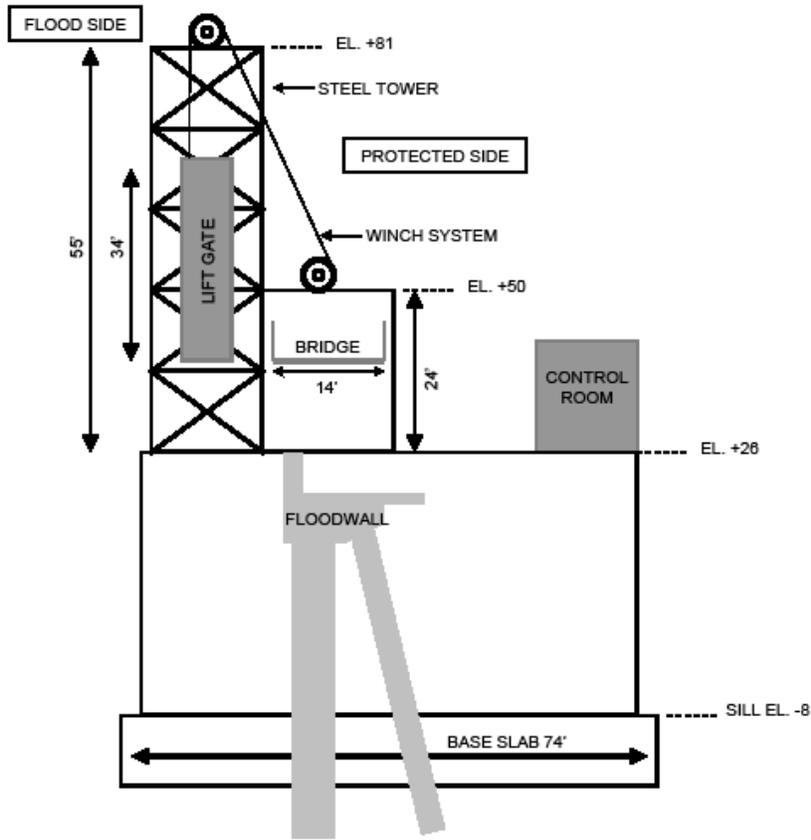


Figure 4: Bayou Bienvenue vertical lift gate and bridge complex in profile view

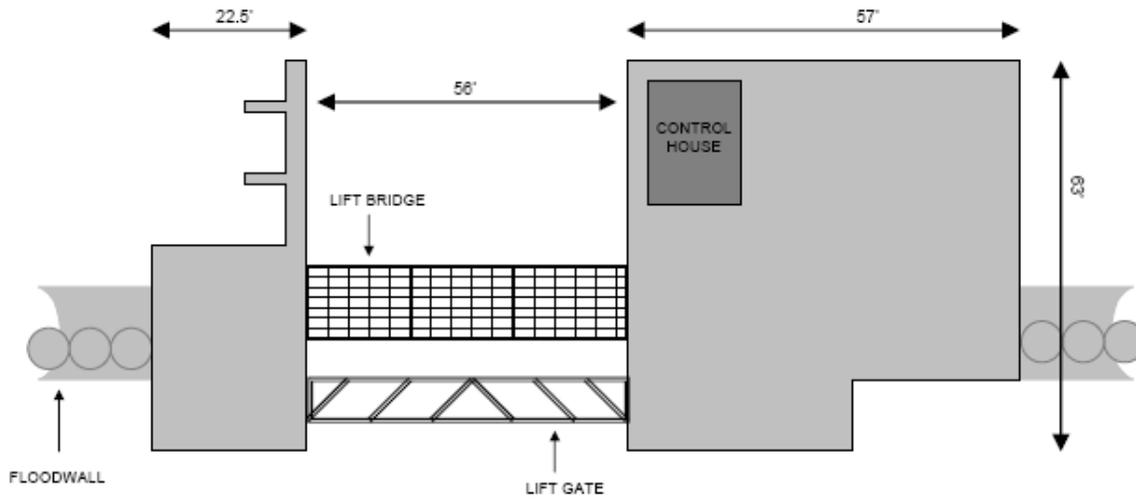


Figure 5: Bayou Bienvenue vertical lift gate and bridge complex in plan view

## 2.3 ALTERNATIVES TO THE PROPOSED ACTION

### No Action.

All features of the two miles of new floodwall/gated system described in IER #11 Tier 2 Borgne would remain the same. At Bayou Bienvenue, a sector gate structure would be constructed to provide a 56 ft wide permanent navigation pass with a sill elevation of -8 ft and protection to an elevation of +26 ft.

## 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### 3.1 ENVIRONMENTAL SETTING

IER #11 Tier 2 Borgne 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 will be made in this document.

### 3.2 SIGNIFICANT RESOURCES

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

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

**Table 1**  
**Significant Resources in Project Study Area**

<b>Significant Resource</b>	<b>Impacted</b>	<b>Not Impacted</b>
Hydrology		X*
Water Quality		X*
Wetlands		X*
Fisheries		X*
Essential Fish Habitat		X*
Wildlife		X*

Threatened or Endangered Species		X*
Non-wet Uplands		X*
Cultural Resources		X*
Recreational Resources	X	
Aesthetic (Visual) Resources		X*
Air Quality		X*
Noise		X*
Transportation	X	
Socioeconomic Resources	X	

\*= The proposed action poses no additional impacts above those described in IER #11 Tier 2 Borgne; therefore these significant resources are not discussed in this document.

Existing conditions for the below resources were discussed in IER #11 Tier 2 Borgne and are incorporated by reference for each significant resource discussed in this document.

### 3.2.1 Recreational Resources

#### Discussion of Impacts

##### No Action

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

Without implementation of the proposed action for Bayou Bienvenue, a sector gate as discussed in IER #11 Tier 2 Borgne would be constructed. Consequently, direct, indirect, and cumulative impacts on recreational resources would not differ from those described previously in the original IER #11 Tier 2 Borgne.

##### Proposed Action

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

One marina operates in the vicinity of the Bayou Bienvenue gate, and CEMVN queried the marina operator as to possible potential impacts from construction of a vertical lift gate in lieu of a sector gate, given the clearance restriction of the lift gate. The operator indicated that the vessels using this route are shrimp boats and recreational vehicles, with drafts of 1 to 5 feet. Because the vertical clearance for the vertical lift gate is 35 feet, recreational vessels are not anticipated to be hindered by the proposed action. It is possible that an occasional recreational boat will require a clearance greater than 35 feet. That vessel would be required to traverse the area via the navigable gate on the Gulf Intracoastal Waterway (GIWW). Therefore, no significant impacts to recreational resources are anticipated. Indirect and cumulative impacts on recreational resources would not differ from those described previously in the original IER #11 Tier 2 Borgne.

### **3.2.2 Transportation**

#### Discussion of Impacts

##### No Action

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

Without implementation of the proposed action for Bayou Bienvenue, a sector gate as discussed in IER #11 Tier 2 Borgne would be constructed. Consequently, direct, indirect, and cumulative impacts on transportation resources would not differ from those described previously in the original IER #11 Tier 2 Borgne.

##### Proposed Action

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

Commercial boats such as shrimp boats operating in the Lake Borgne area should not be impacted by the 35 feet vertical clearance as their booms in the raised position typically do not meet or exceed this height. Any commercial vessels using the waterway could divert around the Golden Triangle marsh at the intersection between the GIWW and MRGO. The marina operator queried for this analysis indicated that vessels transiting to Lake Borgne via the GIWW would have an added transit time of approximately 1 hour depending on the type and speed of the vessel. Actual additional mileage would be based on the alternate route selected by the vessel operators. CEMVN does not believe that this additional time poses a substantial economic impact on operating costs for vessel operators.

### **3.2.3 Socioeconomic resources**

#### Discussion of Impacts

##### No Action

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

Without implementation of the proposed action for Bayou Bienvenue, a sector gate as discussed in IER #11 Tier 2 Borgne would be constructed. Consequently, direct, indirect, and cumulative impacts on socioeconomic resources would not differ from those described previously in the original IER #11 Tier 2 Borgne.

## Proposed Action

### *Direct, Indirect and Cumulative Impacts*

As described in the above sections relating to recreational resources and transportation, the vertical lift gate is not anticipated to pose a substantial economic impact to the marina or operating costs for vessel operators. Therefore, very minor or no new socioeconomic impacts are anticipated from this change in gate type.

## **4. CUMULATIVE IMPACTS**

Aside from impacts disclosed in IER #11 Tier 2 Borgne, there would be no additional cumulative impacts within the IER project area due to the proposed action.

## **5. SELECTION RATIONALE**

The proposed action would reduce project costs by approximately \$50 million while minor additional impacts to the human or natural environment would be expected. A vertical lift gate would have a smaller and less complicated footprint than the approved sector gate. The proposed vertical lift gate would greatly reduce maintenance costs as minimal gate maintenance would be required as the gate is stored in the raised position out of the water, and there would be no need to dewater the structure for maintenance or inspection. Vehicular access would be provided without lowering the gate, whereas the sector gate would require closure to provide vehicular access.

## **6. COORDINATION AND CONSULTATION**

### **6.1 AGENCY COORDINATION**

Preparation of this IER Supplemental has been coordinated with appropriate 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 held concerning this and other IER projects.

The U.S. Fish and Wildlife Service (USFWS) reviewed the proposed action to see if it would affect any Federally listed Threatened & Endangered (T&E) species, or their critical habitat. The USFWS concurred with the CEMVN in a letter dated June 27, 2008 that the proposed action would not have adverse impact on T&E species.

The Louisiana Department of Natural Resources reviewed the modification to Coastal Zone Management Consistency Determination C20080280 for IER #11 Tier 2 Borgne. The proposed action was found to be consistent with the Louisiana Coastal Restoration Plan (LCPR), as per a letter dated September 8, 2009. A modified Fish and Wildlife Coordination Act Report (CAR) was provided by the USFWS on September 18, 2009. The September 18, 2009 report along with the October 9, 2008 Final Fish and Wildlife Coordination Act (FWCA) Report addresses the study area, significant fish and wildlife species, and project construction to be conducted within the IER #11 Tier 2 Borgne project area. The Final and modified CARs concluded that the USWFS does not object to the construction of the proposed project provided that fish and wildlife conservation recommendations are implemented concurrently with project implementation.

The USFWS believes that the project-specific recommendations provided in the October 9, 2008 Final FWCA Report continue to remain valid.

## **7. MITIGATION**

No new wetland impacts are anticipated from the proposed action. The compensatory mitigation discussed in IER #11 Tier 2 Borgne remains valid.

## **8. COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS**

Construction of the proposed action would not commence until the proposed action achieves environmental compliance with all applicable laws and regulations. Environmental compliance for the proposed action will be achieved upon coordination of this IER with appropriate agencies, organizations, and individuals for their review and comments.

## **9. CONCLUSIONS**

### **9.1 INTERIM DECISION**

In lieu of the sector gate at Bayou Bienvenue, CEMVN now proposes to construct a vertical lift gate consisting of a steel trussed gate operated by winch systems and supported by two structural steel towers and a steel trussed span over the gate and channel. The structure would also include an independent vehicular lift bridge system (approximately 12 feet wide by 56 feet long), located on the protected side of the lift gate to provide access as needed to cross the 56 feet wide channel, without the need to lower the gate. The lift bridge would be supported by the tower structure and operated by winch systems.

The CEMVN has assessed the environmental impacts of the proposed action and has determined that the proposed action would not have any impacts to the human or natural environment aside from those previously discussed in IER #11 Tier 2 Borgne.

## 9.2 PREPARED BY

The point of contract for this IER Supplemental is Mr. Gib Owen, USACE, New Orleans District, CEMVN-PM-RS. Table 2 lists the preparers of relevant sections of this report. Mr. Owen can be reached at the U.S. Army Corps of Engineers, New Orleans District; CEMVN-PM-RS, P.O. Box 60267, New Orleans, Louisiana 70118.

Environmental Team Leader	Gib Owen, USACE
Environmental Coordinator	Laura Lee Wilkinson, USACE
Environmental Project Manager	Lee Walker, Evans-Graves Engineers
Socioeconomic Analysis	Joseph Mann, USACE
Technical Editor	Jennifer Darville, USACE
Internal Technical Review	Tim George, USACE
Office of Counsel	Robert Northey and Rita Trotter, USACE

## **APPENDIX A: LIST OF ACRONYMS AND DEFINITIONS OF COMMON TERMS**

CEMVN	U.S. Army Corps of Engineers, New Orleans District
CAR	Coordination Act Report
FONSI	Finding of No Significant Impact
FWCA	Fish and Wildlife Coordination Act
GIWW	Gulf Intracoastal Waterway
HSDRRS	Hurricane and Storm Damage Risk Reduction System
IER	Individual Environmental Report
IHNC	Inner Harbor Navigation Canal
LCRP	Louisiana Coastal Restoration Plan
LDEQ	Louisiana Department of Environmental Quality
LDNR	Louisiana Department of Natural Resources
LPV	Lake Pontchartrain and Vicinity
MRGO	Mississippi River Gulf Outlet
PDT	Project Delivery Team
ROD	Record of Decision
SIR	Supplemental Information Report
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WBV	West Bank and Vicinity

## **APPENDIX B: PUBLIC COMMENT**

**All public comments received during the 30-day public comment period will be provided in this appendix of the Final IER**

## **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
John Ettinger	U.S. Environmental Protection Agency
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
David Muth	U.S. National Park Service
Jamie Phillippe	Louisiana Dept. of Environmental Quality
Heather Finley	Louisiana Dept. of Wildlife and Fisheries
Reneé Sanders	Louisiana Department of Natural Resources
Angela Trahan	U.S. Fish and Wildlife Service
David Walther	U.S. Fish and Wildlife Service
Patrick Williams	NOAA National Marine Fisheries Service
Ismail Merhi	Office of Coastal Protection and Restoration

## **APPENDIX D: INTERAGENCY CORRESPONDENCE**

BOBBY JINDAL  
GOVERNOR



SCOTT A. ANGELLE  
SECRETARY

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

September 8, 2009

Elizabeth Wiggins  
Chief, Environmental Planning and Compliance Branch  
U. S. Army Corps of Engineers, New Orleans District  
P. O. Box 60267  
New Orleans, Louisiana 70160-0267

RE: **C20080280 (Modification)**, Coastal Zone Consistency  
**U. S. Army Corps of Engineers, New Orleans District**  
Direct Federal Action  
Individual Environmental Report # 11, Improved Protection on the Inner Harbor  
Navigation Canal, Tier Two Borgne; modification to construct a Vertical Lift Gate  
instead of a Sector Gate on Bayou Bienvenue, Orleans, and St. Bernard Parishes,  
Louisiana

Dear Ms. Wiggins:

The above referenced modification has been reviewed for consistency with the approved Louisiana Coastal Resource Program (LCRP) as required by Section 307 of the Coastal Zone Management Act of 1972, as amended. The modification, as proposed in the application, is consistent with the LCRP. If you have any questions concerning this determination please contact Brian Marcks of the Consistency Section at (225) 342-7939.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Greg J. DuCote".

Greg J. DuCote  
Administrator  
Interagency Affairs/Field Services Division

GJD/JH/bgm

cc: Harold Daigle, LDOTD  
Tim Killeen, CMD FC  
Wynecta Fisher, Orleans Parish  
William McCartney, St. Bernard Parish  
John Ettinger, USEPA  
Richard Hartman, NMFS  
Angela Trahan, USFWS  
Dave Butler, LDWF



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
646 Cajundome Blvd.  
Suite 400  
Lafayette, Louisiana 70506  
September 18, 2009

Colonel Robert Sinkler  
Commander  
Hurricane Protection Office  
U.S. Army Corps of Engineers  
Post Office Box 60267  
New Orleans, Louisiana 70160-0267

Dear Colonel Sinkler:

Please reference the "Individual Environmental Report (IER) 11, Improved Protection on the Inner Harbor Navigation Canal, Orleans and St. Bernard Parishes, Louisiana, Tier 2 Borgne" (IER 11, Tier 2 Borgne). 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 (Supplemental 4). That law authorized the Corps of Engineers (Corps) to upgrade some existing hurricane protection projects to provide protection against a 100-year level of protection. The Corps has recently modified the proposed plan. The U.S. Fish and Wildlife Service (Service) provided recommendations on the previously proposed plan to the Corps in the November 26, 2007, Draft Programmatic Fish and Wildlife Coordination Act (FWCA) Report on the IERs, and in the June 27, 2008, Draft and October 9, 2008, Final FWCA Reports on IER 11, Tier 2 Borgne, for the Improved Protection on the Inner Harbor Navigation Canal (IHNC), Orleans and St. Bernard Parishes, Louisiana. This letter supplements those reports and is submitted in accordance with provisions of the FWCA (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

This report has been provided to the Louisiana Department of Wildlife and Fisheries and the National Marine Fisheries Service. Their comments will be incorporated into our final supplemental report; therefore, this report does not constitute the report of the Secretary of the Interior as required by Section 2(b) of the FWCA. Furthermore, additional comments are provided in accordance with provisions of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.)

A description of 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 November 2007 and October 2008 reports. For brevity, that information and discussion is incorporated by reference herein.

The changes to the proposed plan include a change in construction schedule and sequencing as a result of not meeting advanced measures by June 2009. Also, the Bayou Bienvenue gate design has been modified to include a vertical lift gate operated by winch systems in lieu of the proposed sector gate at Bayou Bienvenue. The structure would also include an independent vehicular lift bridge system, located on the protected side of the lift gate to provide access across the 56 feet wide channel, without the need to lower the gate.

The north and south ends of the flood gate monolith would tie into the adjacent barrier floodwall. Because the vertical lift gate would have a footprint approximately 50% smaller than the originally proposed sector gate, additional barrier wall would be built to complete the system. While the proposed vertical lift gate complex is smaller than the originally approved sector gate, previously proposed cross-sectional flows will be maintained. The vertical lift gate will not extend beyond the previously evaluated footprint; therefore, no new impacts are anticipated.

The Service has reviewed the changes made to the IER 11, Tier 2, Borgne proposed plan and does not object to the construction of the newly proposed plan. The Service believes that the following recommendations presented below and provided in our October 9, 2008, Final FWCA Report continue to remain valid. Recommendations that were provided in that Final FWCA Report and that are relevant to project features that have already been constructed have been omitted.

1. Situate the flood protection barrier and associated structures so that destruction and enclosure of emergent wetlands are avoided or minimized, to the greatest extent possible.
2. The width of the construction and maintenance access channel and the plunge pool should be minimized, to the greatest extent practicable, to reduce direct impacts to estuarine wetlands.
3. The Corps shall fully compensate for any unavoidable losses of estuarine wetland habitat, forested wetland habitat and non-wet bottomland hardwoods caused by project features.
4. 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, as well as shoreline protection features.
5. Acquisition, habitat development, maintenance and management of mitigation lands should be allocated as first-cost expenses of the project, and the local project-sponsor should be responsible for operational costs. If the local project-sponsor is unable to fulfill the financial mitigation requirements for operation, then the Corps should provide the necessary funding to ensure mitigation obligations are met on behalf of the public interest.

6. Further detailed planning and design of project features (e.g., Design Documentation Report, Engineering Documentation Report, Plans and Specifications, operational plans, or other similar documents) should be coordinated with the Service, including refuge personnel, 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. The Corps should avoid impacts to Bayou Sauvage NWR, when feasible. If not feasible, the Corps should continue to coordination with Refuge personnel during planning and compatibility determination processes. A Special-Use Permit should be obtained prior to any entrance onto the refuge. Coordination should continue until construction of the flood protection barrier and marsh enhancement project are complete and prior to any subsequent maintenance. Points of contacts for that refuge are Kenneth Litzenberger, Project Leader for the Service's Southeast National Wildlife Refuges and Jack Bohannon (985) 822-2000, Refuge Manager for the Bayou Sauvage NWR. The Corps should not sign the Decision Record until a Compatibility Determination is complete.
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 each office (i.e., NMFS in St. Petersburg, Florida, and the Service's Lafayette, Louisiana, Field Office) to ensure that the proposed project would not adversely affect any Federally listed threatened or endangered species or their habitat.
9. Continued coordination should be conducted with the Louisiana Department of Wildlife and Fisheries, Scenic Rivers Program (318/343-4045) regarding any additional permits or conditions that may be required to perform work in Bayou Bienvenue.
10. Culverts installed within Bayou Bienvenue during advance measures should be placed to allow as much opening as practicable, in number, size, and diversity. To facilitate estuarine access, culverts should be placed near both sides of the channel as well as within in the center of the channel that extends to the bottom.
11. Flood protection water control structures in any watercourse should maintain pre-project cross section in width and depth to the maximum extent practicable, especially structures located in tidal passes.
12. Flood protection water control structures should remain completely open except during storm events. The GIWW by-pass swing gate structure should be positioned in the floating position during non-storm operating conditions, to allow for maximum flows through the structure.

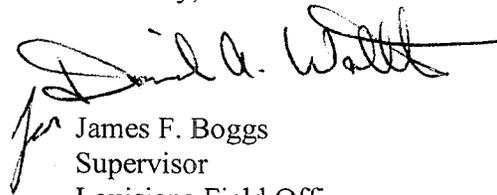
13. The number and siting of openings in flood protection levees should be optimized to minimize the migratory distance from the opening to enclosed wetland habitats.
14. Structures should include shoreline baffles and/or ramps (e.g., rock rubble, articulated concrete mat) that slope up to the structure invert to enhance organism passage. Various ramp designs should be considered, and coordination with the natural resource agencies should continue to ensure fish passage features are incorporated to the fullest extent practicable.
15. To the maximum extent practicable, structures should be designed and/or culverts selected such that average flow velocities during peak flood or ebb tides do not exceed 2.6 feet/second. This may not necessarily be applicable to tidal passes or other similar major exchange points.
16. To the maximum extent practicable, culverts (round or box) should be designed, selected, and installed such that the invert elevation is equal to the existing water depth. The size of the culverts should be selected that would maintain sufficient flow to prevent siltation.
17. Water control structures should be designed to allow rapid opening in the absence of an offsite power source after a storm passes and water levels return to normal.
18. Operational plans should be developed in coordination with the natural resource agencies to maximize the cross-sectional area open for as long as possible. Operations to maximize freshwater retention or redirect freshwater flows could be considered if hydraulic modeling demonstrates that is possible and such actions are recommended by the natural resource agencies.
19. Shoreline protection features should be constructed along the eastern shoreline of the maintenance channel and along the western shoreline of the protected side plunge pool to maintain the shoreline integrity and minimize shoreline and interior erosion. 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 and maintenance funds for shoreline protection features. If the local project-sponsor is unable to fulfill the financial requirements for maintenance of the shoreline protection features, the Corps should provide the necessary funding to ensure maintenance obligations are met on behalf of the public interest.
20. Plugs should be installed where the proposed channel intersects with natural and manmade waterways to minimize recreational boating access and reduce wave-induced erosion. 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 and maintenance funds for channel plugs. If the local project-sponsor is unable to fulfill the financial requirements for

maintenance of those plugs, the Corps should provide the necessary funding to ensure maintenance obligations are met on behalf of the public interest.

21. To further minimize recreational boater access and associated marsh impacts, signs indicating restricted-access should be posted around the maintenance channel, channel plugs, and adjacent marsh.
22. Forest clearing associated with project features should be conducted during the fall or winter to minimize impacts to nesting migratory birds, when practicable.

Thank you for the opportunity to review the proposed revisions to IER 11. If the project scope or design changes, the Service requests that the Corps reinitiate FWCA coordination to ensure that the above recommendations remain valid. If you or your staff has any questions regarding this matter, please have them contact Angela Trahan (337/291-3137) of this office.

Sincerely,



for James F. Boggs  
Supervisor  
Louisiana Field Office

cc: EPA, Dallas, TX  
Corps, Environmental Planning, New Orleans, LA  
National Marine Fisheries Service, Baton Rouge, LA  
FWS, Southeast Louisiana Refuge Complex, Lacombe, LA  
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA  
LA Dept. of Natural Resources (CMD), Baton Rouge, LA  
LA Office of Coastal Protection and Restoration, Baton Rouge, LA