Individual Environmental Reports (IERs) 8, 9, 10 and 11 Tier 2 Borgne and borrow Chalmette Loop Hurricane Protection System and Improved Protection on the Inner Harbor Navigation Canal
Why are we here tonight?

To discuss the status of completed, in-progress and potential improvements to the Lake Pontchartrain and Vicinity portion of the Hurricane Storm Damage and Risk Reduction System.
National Environmental Policy Act:

• Required for all major Federal actions
• Analyze potential impacts to the human and natural environment and investigate reasonable alternatives
• Analyses documented in Individual Environmental Reports (IER)
• Public Involvement is KEY! We want to hear from you!
• Goal: more informed decision making through public involvement
One Team: Relevant, Ready, Responsive and Reliable

NEPA Process and Path Ahead

• The NEPA process began with public scoping meetings for IERs 8, 9, 10 and 11 in March 2007

• From March 2007 through today project alternatives have been developed, impacts are being analyzed, and public input is being solicited

• Tentative timeframe of draft IER 30-Day public review period:
  • IER 8: Early June 08
  • IER 9: Late June 08
  • IER 10: Early July 08
  • IER 11: Tier 2 Borgne: Late June 08

• Final decisions will be made approximately 45 days later
Lake Pontchartrain and Vicinity (LPV) Summary

**Completed:** LPV 141, 142, & 143 – IHNC to Bayou Bienvenue

**IER 8:** LPV 144 – Bayous Bienvenue and Dupre Flood Gates
**IER 9:** LPV 149 – Caernarvon Floodwall

**IER 10:**
- LPV 145 – Bayou Bienvenue to Bayou Dupre Levee
- LPV 146 – Bayou Dupre to Hwy 46 Levee
- LPV 147 – Hwy 46 Crossing and Bayou Road Flood Gate
- LPV 148 – Verret to Caernarvon Levee
Current Status

LPV 148.01: Verret to Caernarvon (Phase I)
• Contract awarded 31 Oct 07
• Notice to proceed issued 14 Jan 08
• To date over 132,300 yards of material delivered
• Completion date: January 2009

LPV 144 – 149: Chalmette Loop Levee System
• Investigating various options to provide 100-yr level of protection
• Scheduled to initiate design May/June 2008

St. Bernard Back Levee
• Currently investigating the feasibility of incorporating the back levee into the Federal system
IER 8
Bayou Bienvenue
and Bayou Dupre
Flood Control Structures
Bayou Bienvenue and Bayou Dupre Flood Control Structures

Bayou Bienvenue (LPV 144.1) on the Orleans/St. Bernard Parish line

Bayou Dupre (LPV 144.2) in St. Bernard Parish, Louisiana

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Bayou Bienvenue and Bayou Dupre Flood Control Structures

Alternatives

- Modify existing Control Structure in place to the 100 year elevation
- Reconstruct a new control structure at the existing location
- Construct a new control structure at any practical adjacent location (floodside or protected side of existing protection)
Bayou Bienvenue and Bayou Dupre Flood Control Structures

If the final engineering design for the IER 11 IHNC surge protection structure would provide adequate protection for the Bayou Bienvenue area, then the IER 8 decision may be re-evaluated for Bayou Bienvenue, and the No Action alternative for the Bayou Bienvenue control structure could be selected.
Conceptual Configuration of Protected Side Alternative - Bayou Bienvenue Control Structure
Conceptual Configuration of Protected Side
Alternative Bayou Dupre Control Structure
IER 9

Caernarvon Floodwall
Status of IER 9
Caernarvon Floodwall

Draft IER anticipated for public release in late June

Once recommended plan is selected and IER is complete, Plans and Specifications (P&S) will begin

Construction scheduled to begin Spring 2009

Existing Floodwall
Caernarvon Floodwall: Alternative 1
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Caernarvon Floodwall: Alternative 3

Realignment of the Levee System to the Western Side of the Caernarvon Canal
Caernarvon Floodwall: Alternative 4
Caernarvon Floodwall: Alternative 6

Realignment of T-Wall to the Far Western Side of Shallow Draft Elevating Boats
IER 10

Chalmette Loop Levee
Lake Pontchartrain and Vicinity (LPV) Summary

IER 10:
LPV 145 – Bayou Bienvenue to Bayou Dupre Levee
LPV 146 – Bayou Dupre to Hwy 46 Levee
LPV 147 – Hwy 46 Crossing and Bayou Road Flood Gate
LPV 148 – Verret to Caernarvon Levee
Chalmette Loop Levee
Engineering Alternatives

T-walls on Existing Levee
- Wave berm and no armoring
- Wave berm and armoring
- Armoring and no wave berm

Earthen Levee Alternatives
- Wave berm and stability berms
- Wave berm and stability berms with geotextiles and landside shift
- Full and ½ width wave berm, stability berms and with armoring
- Full and ½ half-wide berm, stability berms and without armoring
- Smaller wave berm
- Staged Lifts with and without wick drains
- Deep Soil Mixing with landside shift
Chalmette Loop Levee
T-Wall Alternatives

**Advantages**
- No ROW required
- Reduced environmental impacts
- No additional interim measures required
- Small future lifts for wave berm

**Disadvantages**
- Permanent structure
- Major reconstruction if altered
- Public perception of existing performance
- Routine inspections
Chalmette Loop Levee Levee Alternatives

**Advantages**
- Can easily modify
- Public perception
- No additional interim measures required
- Greater vehicular access
- Aesthetically pleasing
- Natural materials

**Disadvantages**
- Additional ROW required
- Greater environmental impacts due to footprint
- Removal of scour protection for future lifts
- Quantity of Borrow required
- Relocation of canals in LPV 148.02
LPV 146 Alternatives
Right of Way Limits

Earthen Levee
Protected side Shift
with Narrow ROW
(Estimated ROW)

Existing ROW

Earthen Levee
(Estimated ROW)

Earthen Levee Narrow ROW
and
T-Wall Floodwall / Cap
within existing ROW
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LPV 148 Alternatives
Right of Way Limits

Earthen Levee (Estimated ROW)

Existing ROW

Earthen Levee Narrow ROW and T-Wall Floodwall / Cap within existing ROW
Chalmette Loop Levee
T-Wall Alternative

Top of T-Wall
Elevation of 32 feet

EXISTING GROUND
COMPACTED FILL
PILE STEEL
WITH TIP EL. -105.0
IMPERVIOUS SHEET
PILE TIP EL. -74.48

Not to scale.
Chalmette Loop Levee

Highway 46 Crossing
- 4 Lane Divided Highway
- Asphalt with gravel shoulders
- Crosses over Hurricane Protection

Bayou Road Floodgate
- Appx 400 feet from Hwy 46
- Existing steel swing gate with tie-in T-walls & uncapped I-walls
- Fire Station & residences located on protected side
- Heavily vegetated marsh on flood side
LPV 147
Alternatives

• Earthen Ramp Option
  • Raise levee up to 100-year level of protection
  • Add Pavement Section to top of levee
  • Close Bayou Road Floodgate
  • Provide access to Hwy 46 and Bayou Road

• Bridge Option
  • Provide bridge over T-wall protection up to 100-year level of protection
  • Close Bayou Road Floodgate
  • Provide access to Hwy 46 and Bayou Road
Earthen Ramp Option

- LPV 148
- LPV 147
- LPV 146
- Bayou Rd
- Hwy 46
Investigated Borrow-Site – System Wide
Improving Hurricane Protection on the Inner Harbor Navigation Canal
IER #11
Project Purpose

Provide 100-year level of protection to the Inner Harbor Navigation Canal (IHNC) from hurricane-induced storm surges by June 2011.

Advance measures could be in place by the beginning of hurricane season 2009.
Where we’ve been

- IER #11 Tier 1 Decision Record signed March 14th

- Investigated alternatives for providing improved protection for the IHNC
Where we’ve been

• Selected “Storm Surge Protection Structures” alternative to protect from Lake Borgne surge and Lake Pontchartrain surge

• Selected “Pontchartrain 2” and “Borgne 1” location ranges
IER #11 Tier 2: Where we’re going

Two Tier 2 IERs

• IER #11 Tier 2 Borgne:
  Alignment and design alternatives within “Borgne 1”

• IER #11 Tier 2 Pontchartrain:
  Alignment and design alternatives within “Pontchartrain 2”
  (alternatives to be developed this summer)
IER #11 Tier 2 Borgne
Alternative Alignments Overview

Alternative Alignments
Gate
Designated Natural and Scenic River
(portion of Bayou Bienvenue)
IER #11 Tier 2 Borgne
Alternative Alignments

Alignment 1

Alignment 2

Levees & Floodwalls to be Raised
Alternative Alignments
Gate

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IER #11 Tier 2 Borgne
Alternative Alignments

Alignment 3

Alignment 4 & 5

Levees & Floodwalls to be Raised
Alternative Alignments
Gate

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Project Feature Alternatives

Gate

(GIWW gate on all alternative alignments; Bayou Bienvenue gate on alternative alignments 4 & 5)

A. Vertical lift gate
B. Sector gate
C. Concrete barge gate

MRGO Closure structure pending de-authorization
(applicable to alternative alignments 3, 4 & 5)

A. Earthen closure
B. Sheet pile cells
C. Structural walls
Project Feature Alternatives

Barrier
(applicable to alternative alignments 3, 4 & 5)

A-1. Traditional levee
A-2. Traditional levee with flow structures
B-1. Geotextile levee
B-2. Geotextile levee with flow structures
C-1. Structural wall
C-2. Structural wall with flow structures
Opportunities for Public Input

- Monthly Public Meetings throughout New Orleans Metro Area
  - Make sure to sign in tonight to get on our meeting notification mailing list
- Comments can be submitted at any time at [www.nolaenvironmental.gov](http://www.nolaenvironmental.gov)
- Individual Environmental Reports (IER) 30-day Public Review

Questions and comments regarding Hurricane Protection Projects should be addressed to:

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Welcome to NOLA Environmental! This site has been set up to share with the public the efforts being made by the U.S. Army Corps of Engineers and other Federal and state agencies in south Louisiana regarding the environmental compliance for proposed Federal and state Hurricane Protection Projects. Additional information pertaining to other Federal and state agencies' hurricane recovery efforts in southeast Louisiana will also be posted on the site as it becomes available. Learn more...

**Announcements**

- IFR 22 Draft Public Comment Period: 4/01 - 4/30
- IFR 23 Draft Public Comment Period: 3/24 - 4/23
- The Decision Record for IFR 11 has been signed by the District Commander. [Final IFR 11 News Release](#)
- IFR 14 (Map) and IFR 15 (Map) Seawall (wetland impacts) Public Comment Period: 3/10 - 4/14
- The Decision Records for IFR 18 and IFR 19 have been signed by the District Commander

**Upcoming**

- 04/09/2008 - Public Meeting (IFRs 1, 2, 3 & Borrow)
- 04/10/2008 - Neighborhood Focused Public Meeting (IFRs 4, 5 & 11)

**Newly Available**

- 26 February 08 Public Meeting Summary IFRs 4, 5, and Borrow
- 26 February 08 Public Meeting Summary IFRs 1, 2, 3, and Borrow

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Hurricane Paths Considered in the Risk Analysis

3 HPS Geometries
- Pre-Katrina
- Current (1 June 07)
- 100-year LOP (~2011)

152 storm hydrographs

350+ features
- Floodwalls
- Levees
- Pumps Stations

62,928 Hurricane Hydrographs
Sub Basins and Representative Project Groups
IHNC Surge Protection
cost $500 Million to $1 Billion
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Current Flood Risk

On June 1, 2007, you had a 1% chance every year of flooding this deep from Hurricanes.
100-year Protection Flood Risk

With the 100-year level of protection, you will have a 1% chance every year of flooding this deep from Hurricanes.
On June 1, 2007, you had a 1% chance every year of flooding this deep from Hurricanes.

Notes:
- The depth map tool is a relative indicator of progress, over time, demonstrating risk reduction as a function of construction progress.
- The water surface elevations are mean values.
- The scale sensitivity of the legend is +/- 2 feet.
- The info does not depict interior drainage modeling results.
- The storm surge is characterized as the result of a probabilistic analysis of 5 to 6 storm parameters of a suite of 152 storms and not a particular event.

Assumes 50% Pumping Capacity.
With the 100-year level of protection, you have a 1% chance every year of flooding this deep from Hurricanes

Notes:
- The depth map tool is a relative indicator of progress, over time, demonstrating risk reduction as a function of construction progress.
- The water surface elevations are mean values.
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