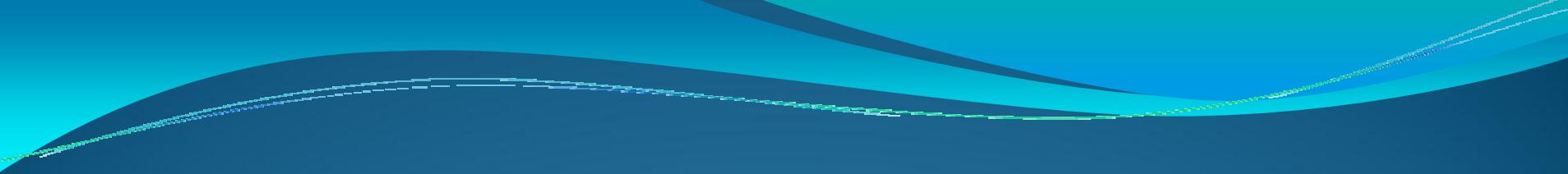




# 11<sup>th</sup> Annual Tulane Engineers' Forum

Giuseppe R. Miserendino  
Regional Director, SLFPA – W

April 15, 2011



# The Project

West Bank and Vicinity (WBV)  
Hurricane Protection Project

## Status of Construction

- 40 Completed Construction Contracts \$671M
- 42 Ongoing Construction Contracts \$2.6B
- 2 Remaining Construction Contracts to be Awarded \$10M



**Project Total:**  
**\$3.28B**



# West Bank and Vicinity Hurricane and Storm Damage Risk Reduction System



# West Closure Complex

## Project Features:

- 19,140 cfs Drainage Pumping Station  
(11 x 1740 cfs vertical “Flower Pot” pumps)
- 225-foot primary navigation gate
- Sluice gates (5 – 16’ x 16’)
- T-wall along edge of Bayou Aux Carpes CWA 404(c) wetlands  
(4200’ X 100’ construction corridor)
- Water Control Structure

## Facts:

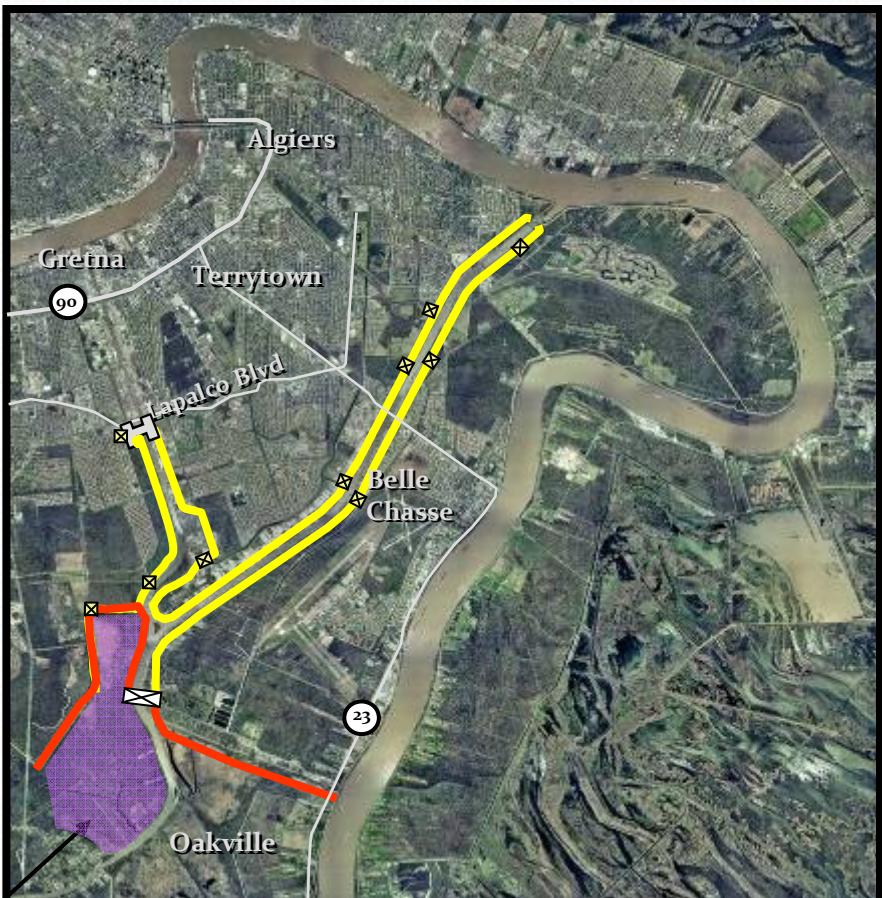
- Largest drainage pump station in the world
- Largest sector gate in the U.S.
- Over 18 million pounds of rebar
- Over 3 million man hours and counting

# GIWW - West Closure Complex

- **Storm Water Drainage:** Harvey and Algiers Canals function as the primary drainage conduits for the West Bank. 9 drainage pumping stations discharge into these canals.
- **Navigation:** The Harvey and Algiers Canals are part of the Gulf Intracoastal Waterway. 30 commercial barge tows per day pass the project site.
- **Environmental:** The project interacts with the Bayou Aux Carpes 404 (c) site. A wetland of national significance, only eleven of this type in the nation.
- **Timing:** Had to provide 100-yr level of protection by June 1, 2011.



**Bayou Aux Carpes 404 (c) site**



■ Pump Stations  
■ Detention basin  
■ 100-yr level of protection

# July 2009 - Pre-construction



# September 2009



# January 2010



# April 2010



# August 2010



# December 2010



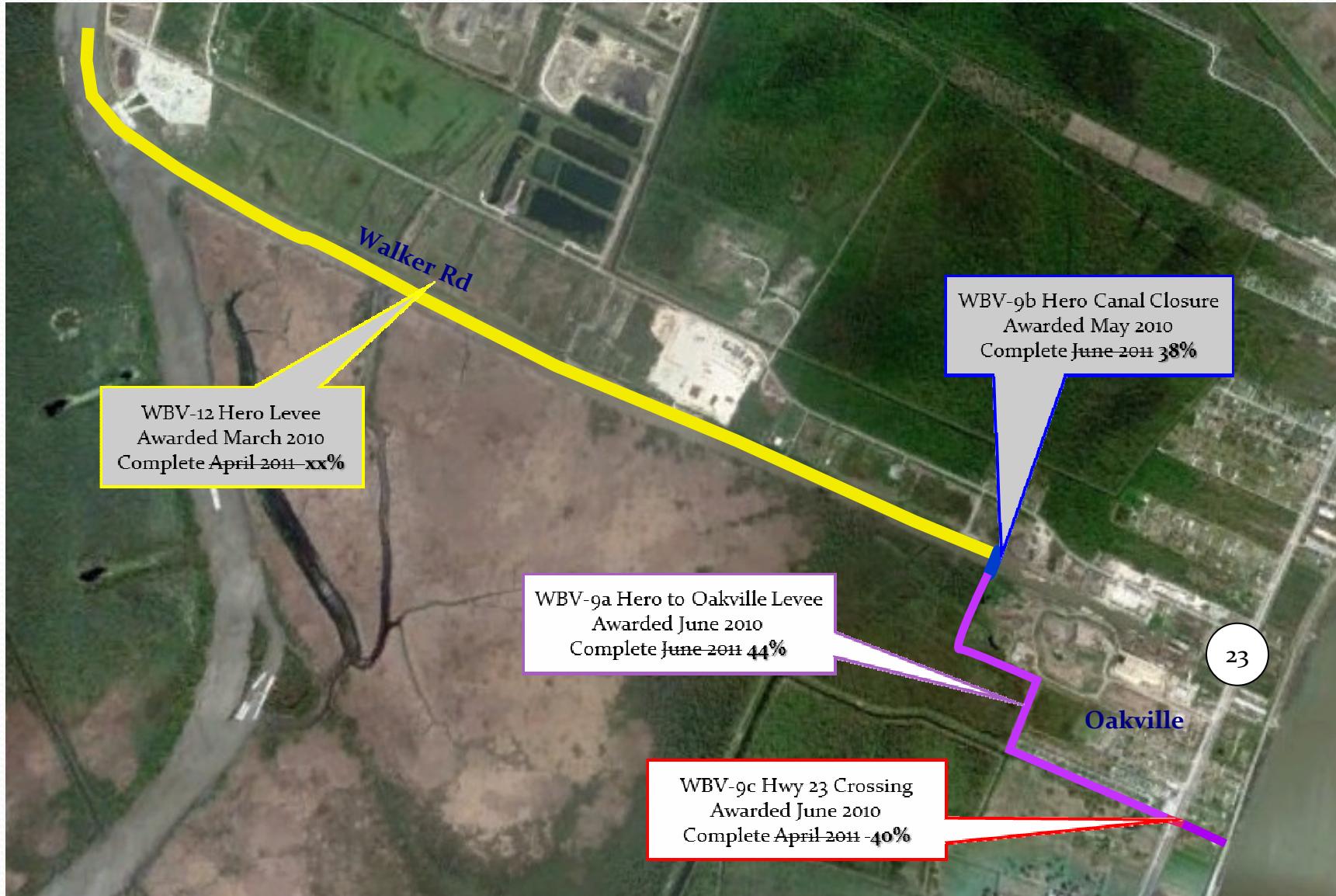
# January 2011



# April 2011



# Eastern Tie In



# Algiers Canal HSDRRS Detention Basin

Current level of risk reduction +7.5 ft. (elevation) \*  
HSDRRS detention basin design elevation +8.5 ft.

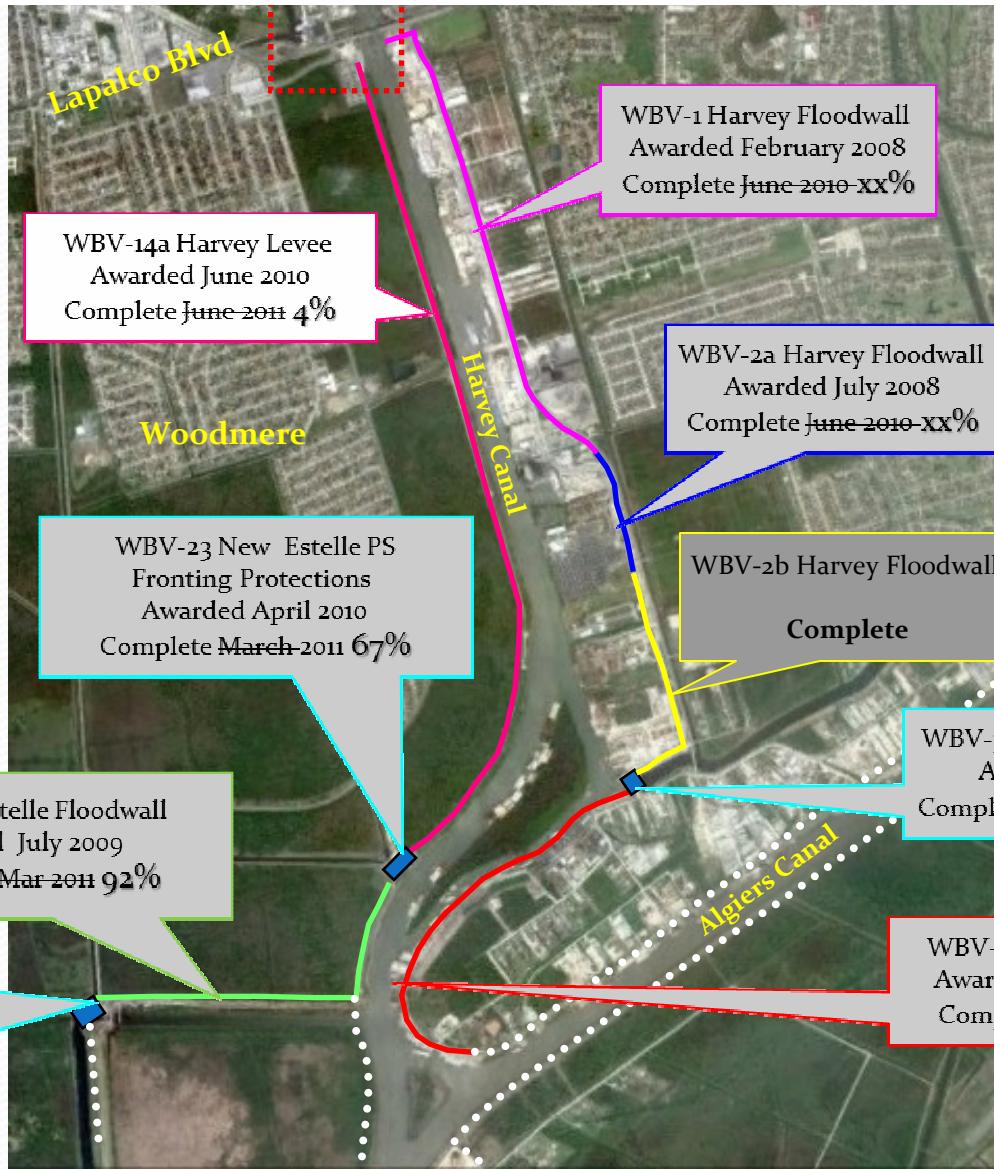
WBV- 13 NO S&WB PS #11  
Fronting Protection  
Awarded September 2009  
Complete March 2011 32%



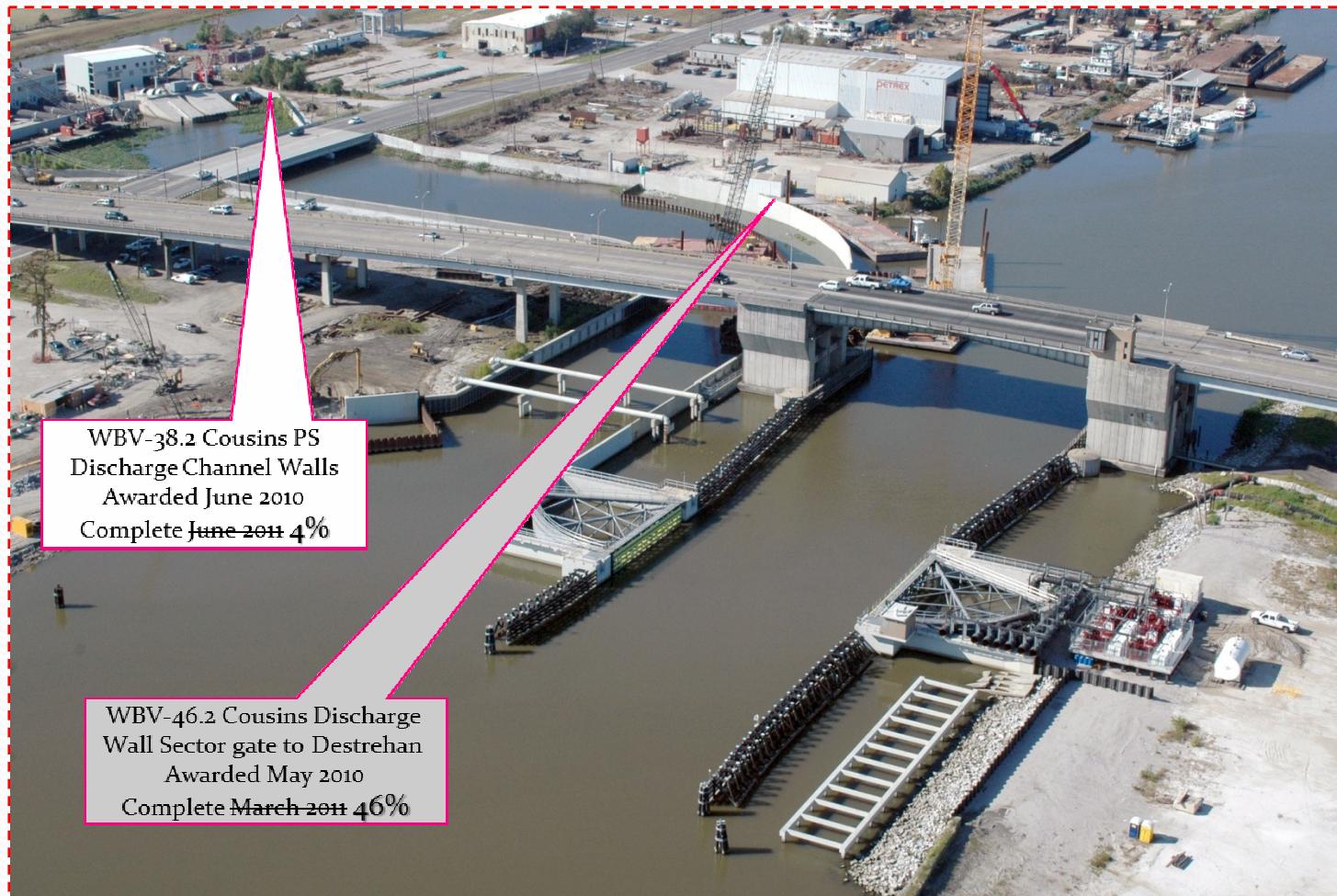
# Harvey Canal

## HSDRRS Detention Basin

Current level of risk reduction +8.0 ft. (elevation)  
HSDRRS detention basin design elevation +8.5 ft.



# Harvey Canal HSDRRS Detention Basin



Harvey Floodgate (USACE)  
Cousins Pump Station (Jefferson Parish)

# Westwego to Harvey Canal

Current level of risk reduction +9.0 ft. (elevation)

100-yr level of risk reduction design elevation +10.5 ft. (+14.0 ft. 2057)

WBV- 14c.2 New Westwego PS  
To Orleans Village Levee  
Awarded June 2010  
Complete June 2011 58%

WBV- 37 Ames/Mt Kennedy PSs  
Fronting Protection  
Awarded June 2011  
Complete June 2011 24%

WBV- 14b.2 Orleans Village  
to Hwy 45 Levee  
Awarded September 2009  
Complete Mar Oct 2010 95%

WBV- 14f Hwy 45 Levee  
Awarded September 2009  
Complete August 2010 99%

WBV- 14d V Line Floodwall  
Awarded July 2009  
Complete May 2011 97%

WBV-14g.2 Estelle Floodwall  
Awarded July 2009  
Complete March 2011 91%

WBV- 33 Old Estelle PS  
Fronting Protection  
Awarded September 2009  
Complete April 2011 76%

WBV- 14e.2 V Line Levee  
Awarded 26 Mar 2010  
Complete Jun 2011 1%

WBV- 14i Hwy 3134 Crossing  
Awarded March 2010  
Complete June 2011 32%

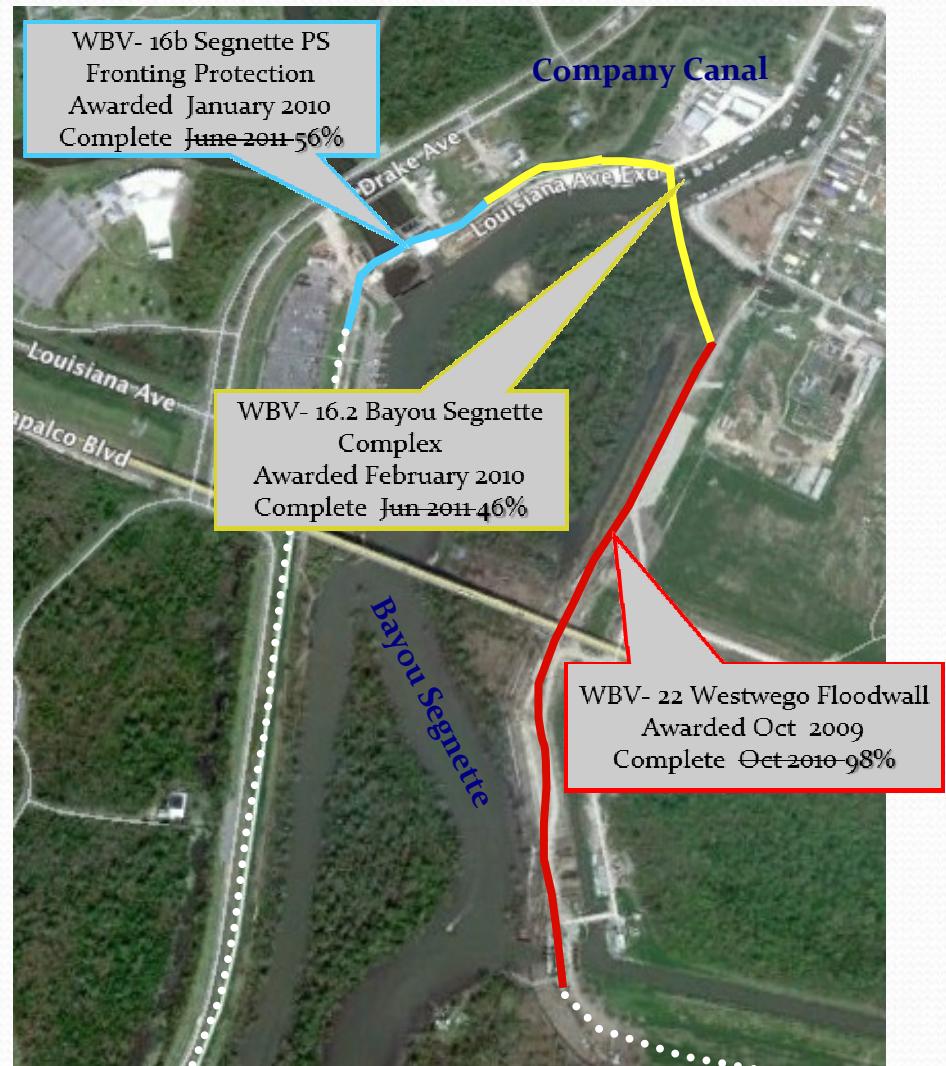


# Bayou Segnette/Company Canal

Current level of risk reduction +9.0 ft (elevation)

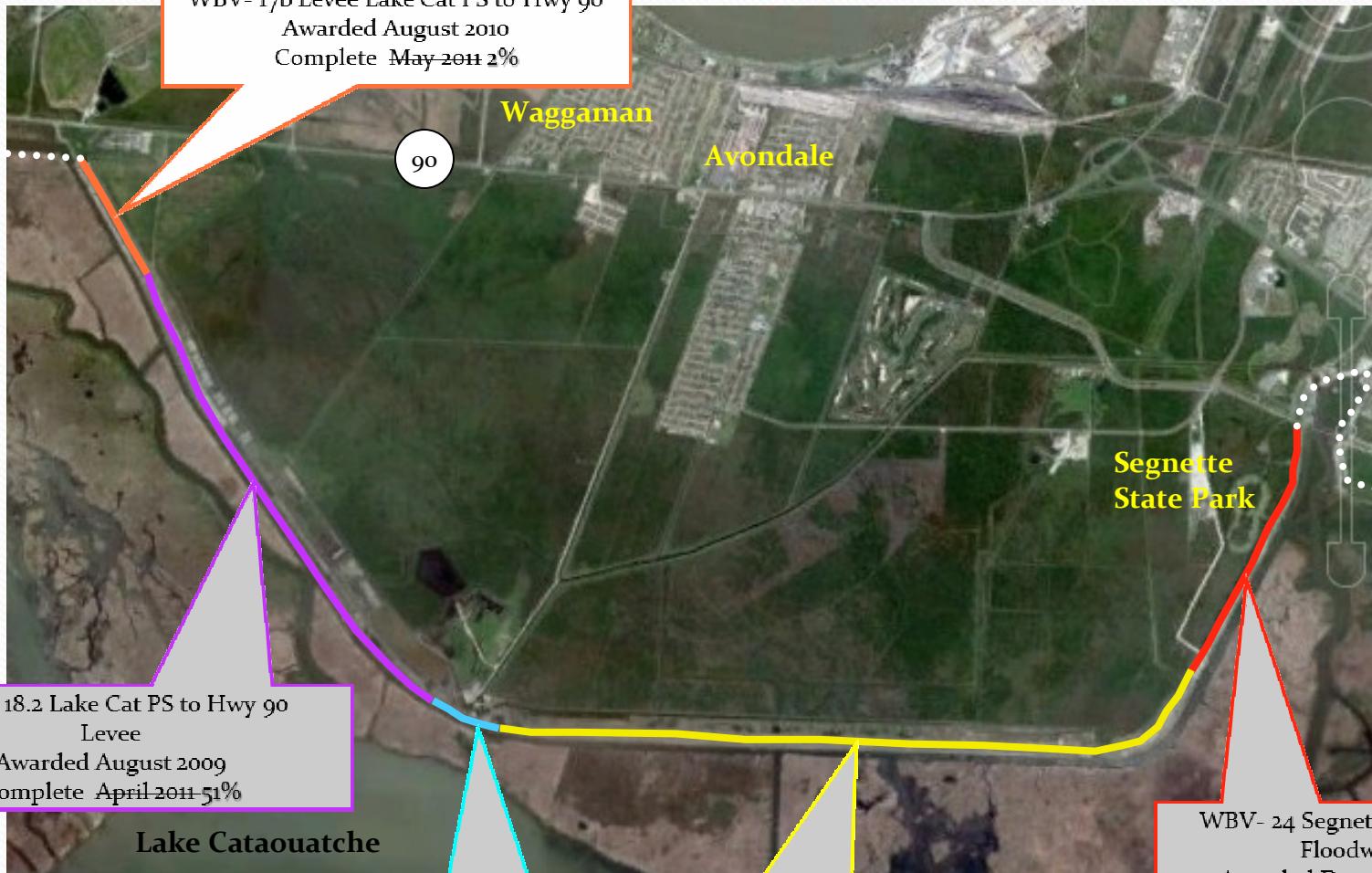
100 Yr level of risk reduction design elevation +10.5 ft (+14.0 ft 2057)

- Interim Barge Gate fully Operational
- Current level of risk reduction +9.0 ft (Elevation)
- Barge Gate closes when water south of the gate (floodside) is +2.0 ft and rising
- Interim Gate to be replaced with permanent 56-ft floodgate (sector gate) w/pump station



# Lake Cataouatche

Current level of risk reduction +8.5 ft. (elevation)  
100-yr level of risk reduction design elevation +11.5 ft. (+15.0 ft. 2057)



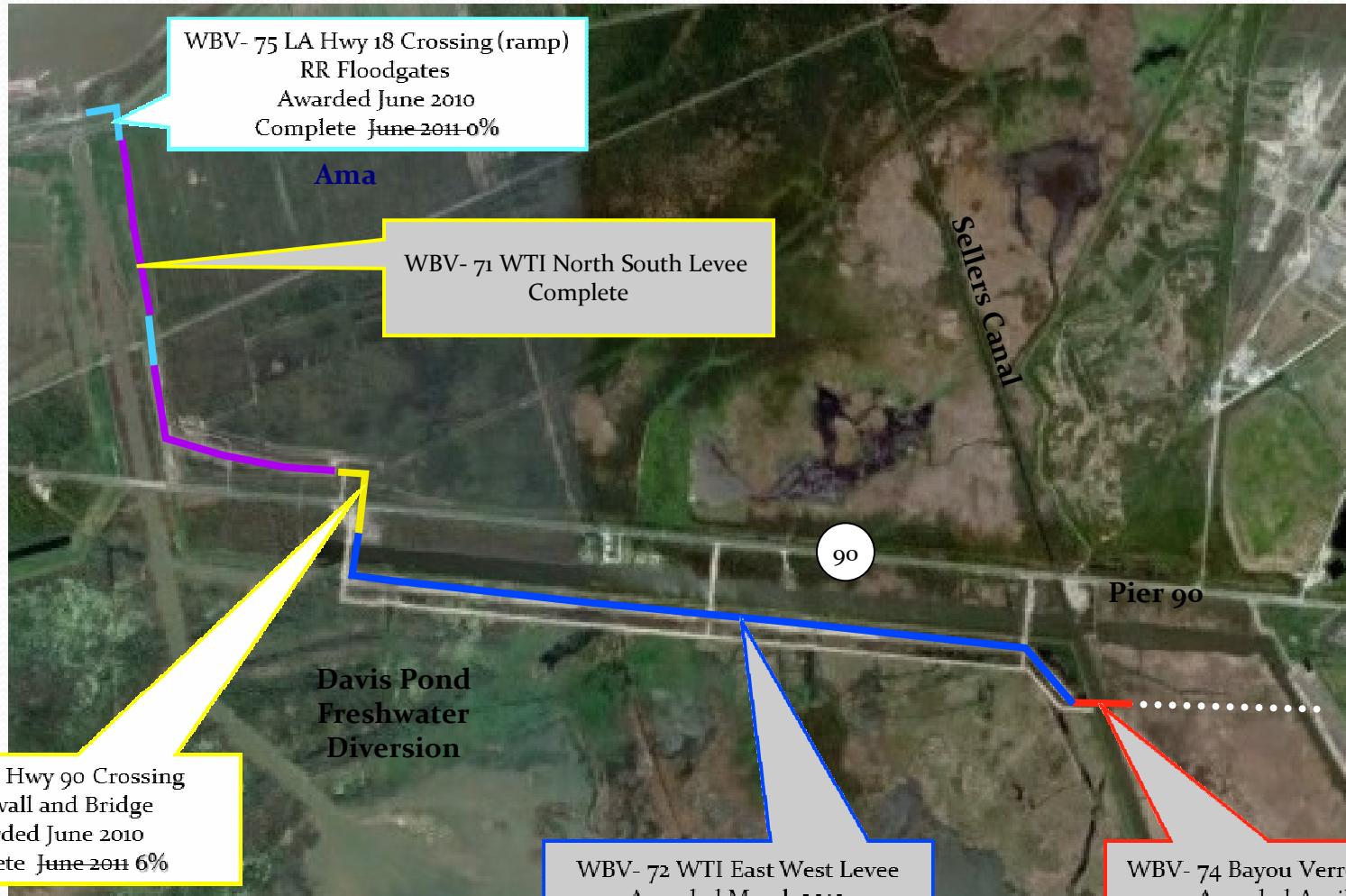
WBV- 15b.2 Lake Cat PS  
Fronting Protection  
Awarded April 2009  
Complete October 2010 83%

WBV- 15a.2 Levee Segnette to  
Lake Cat PS  
Awarded February 2010  
Complete June 2011 46%

WBV- 24 Segnette State Park  
Floodwall  
Awarded December 2009  
Complete June 2011 58%

# Western Tie In

100-yr level of risk reduction design elevation +11.5 ft. (+15.0 ft. 2057)



# What Is Working?

Project Coordination TEAM  
Developed the (PCT) Collaboration Plan

Example: WBV 90 GIWW WCC

# (PCT) Collaboration Plan

- Planning and Design
- Real Estate
- Construction
- Site Visit Plan
- Turnover to Non-Federal Sponsors

# (PCT) Collaboration Plan

- **Planning and Design**
  - ✓ Review Plans and Specifications
  - ✓ On site Plan in Hand Review
  - ✓ Operability and Maintenance Requirement Review
- **Real Estate**
  - ✓ Rights of Way Acquisition
  - ✓ Coordination of required permits (LA DOTD, Railroad, etc.)
- **Construction**
  - ✓ Pre-Construction Meeting
  - ✓ Monthly Progress Meeting
  - ✓ Weekly Inspection Report by SLFPA-W
  - ✓ Monthly Site Visit by USACE (Project Management, Engineering, and Construction) and Non-Federal Sponsors (SLFPA-W, OCPR, St. Charles and Plaquemines Parish)

# (PCT) Collaboration Plan cont'

- **Site Visit Execution Plan**
  - ✓ Project Management
  - ✓ Construction
  - ✓ Engineering
  - ✓ Non-Federal Sponsor
  - ✓ Contractor
  - ✓ QC Representative
- **Turnover to Non-Federal Sponsors (OCPR/SLFPA-W) for O & M**
  - ✓ “Red Zone” Planning
  - ✓ Inspection
  - ✓ Training
  - ✓ O & M Manual
  - ✓ As built drawings



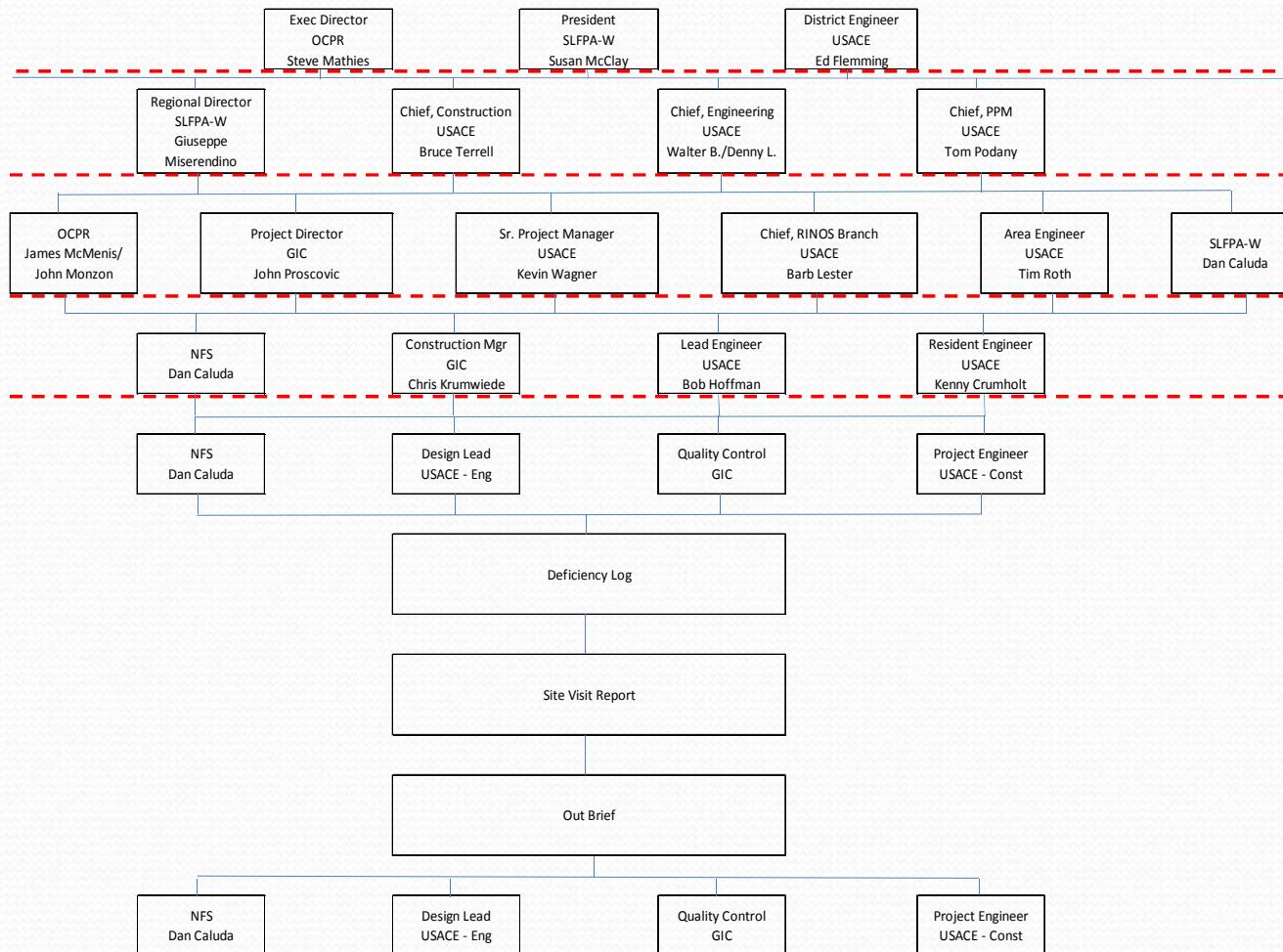
# Site Visit Execution Plan

- PURPOSE:

To ensure that all partners in the Project are fully aware of the progress and quality of construction, to promptly resolve design, construction and potential O & M issues.

Open and frequent communications in an environment of mutual trust and earnest teamwork are a **must** to ensure the project is constructed in accordance with the contract requirements and meets the expectations of the customer.

# Site Visit Flow Chart



# What Is Not Working?

Incomplete execution of PCT Plan  
on the majority of other WBV Projects

# (PCT) Collaboration Plan

✓ **Planning and Design**

✓ **Real Estate**

✓ **Construction**

✗ **Site Visit Execution Plan**

✗ **Turnover to Non-Federal Sponsors for O & M**

**What is the outcome?**

# WBV-1 Sector Gate to Boomtown Casino

- Anchor plate bolts at swing gate
- bolt threads should be a minimum of flush with top of nut.



# WBV-1 Sector Gate to Boomtown Casino

- Holes in paint surface
- Rusting



# WBV-2b Boomtown Casino to Hero PS Floodwalls Hinge Failure



## WBV-14c.2 NEW WESTWEGO P.S. TO ORLEANS VILLAGE – PHASE 2



- Debris in fill being dumped
- Non-performance of specifications

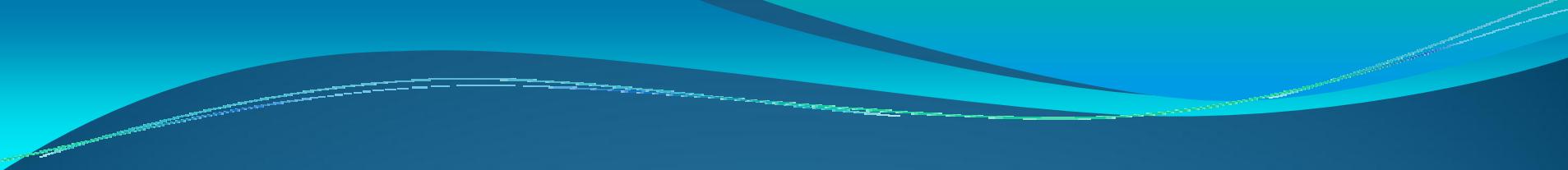


## WBV-14c.2 NEW WESTWEGO P.S. TO ORLEANS VILLAGE – PHASE 2



Debris





What will June 1, 2011  
look like?

## Projects we are closely monitoring:

- WBV-72
- WBV-73
- WBV-74
- WBV-75
- WBV-77
- WBV-9a
- WBV-9b
- WBV-9c
- WBV-14c.2
- WBV-MRL 1.1
- WBV-MRL 3.1
- WBV-MRL 4.1
- WBV-MRL 6.1
- WBV-MRL 7.1

WBV-72 Lake Cataouatche Western Tie-In, East-West Levee

# Project is 54% complete



The work consists of construction of approximately 14,000 LF of new levees at elevation 13.5, removal of existing levee, permanent bridges, removal of existing temporary bridges and roadways.

WBV-73 Western Tie-In Highway Crossing, St. Charles Parish, LA

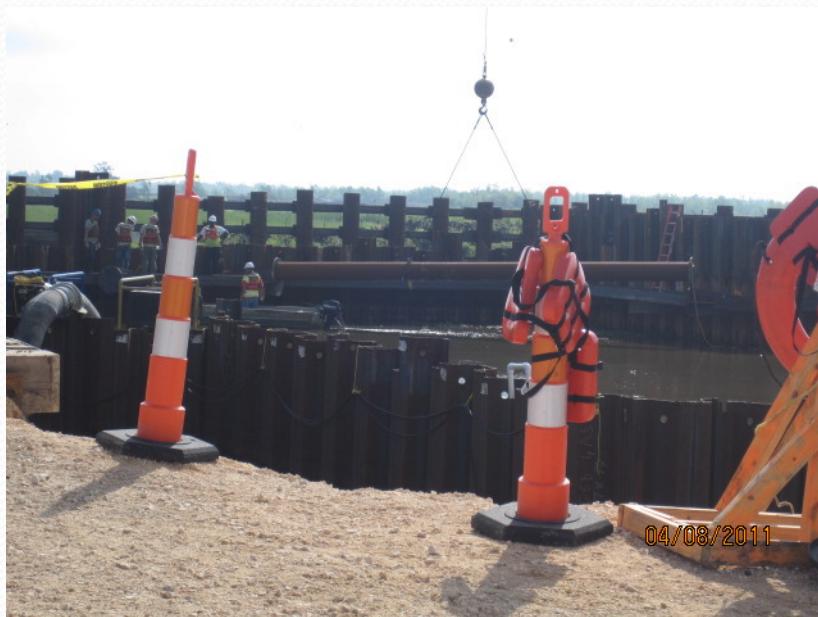
# Project is 6% complete



Work consists of detour roads; approximately 1,168 LF of concrete T-wall; sheet pile I-wall levee tie-in; drainage box culverts, inlets and piping; pre-stressed concrete girder span bridge; approach slabs; asphalt pavement construction and embankment.

WBV-74 Western Tie-In Closure Structure across Bayou Verrett

# Project is 33% complete



Work consists of construction of swing-type sector gates, approximately 364 LF of concrete T-wall, earthen levee, sluice gates, Rip-Rap and other work incidental thereto. To date: All H-piles and cut off sheet piles have been driven for sector gate foundation. Contractor currently driving H-piles to set template for south wall of TRS. Contractor currently welding and driving pipe pile for north end work trestle.

WBV-75 Western Tie-In, BNSF Railroad Crossing

# Contract not awarded

Work consists of construction of earthen levee, concrete reinforced T-walls and steel swing gate monoliths across the Burlington Northern Santa Fe (BNSF) Railroads.



04/08/2011

WBV-77 Western Tie-In, LA Hwy 18 Crossing and UP Railroad Gate

## Contract not awarded

Work consists of construction of an earthen ramp, detour roadway, drainage improvements, relocation of 8" waterline, steel swing gate monoliths across the Union Pacific (UPRR), concrete reinforced T-walls.



WBV-9a, Hero to Oakville, Phase II First Lift Levee Enlargement, Plaquemines Parish, LA

# Project is 44% complete

P1000399.JPG



4/8/2011 11:05:44 AM Lat=N29 53.494' Lon=W090 09.393'

P1030662.JPG



3/10/2011 1:37:45 PM Lat=N29 47' 02.29" Lon=W090 01' 58.17"

Project consists of removing and relocating utilities, the construction of approximately 4,560 LF of levees (3 sections constructed to elevation 14.5 to 15), an emergency access road, a pump station, approximately 307 LF of T-wall (9) monoliths, and tie ins to adjacent projects.

WBV-9b Hero Canal to Oakville Structures, Plaquemines Parish, LA

# Project is 38% complete

P1000407.JPG



4/8/2011 11:24:14 AM Lat=N29 47.448' Lon=W090 02.095'

P1000404.JPG



4/8/2011 11:20:20 AM Lat=N29 47.448' Lon=W090 02.095'

Work consists of construction of approximately 482 LF of levees (elevation 14.5 to 15); approximately 412 LF of T-Wall (9) monoliths (total with option 1 & 2), a reinforced concrete 56 ft. bulkhead closure gate; pedestal crane and crane platform; pump station; a temporary bypass channel and stone armoring.

WBV-9c Hero Canal to Oakville Hwy 23 Crossing, Plaquemines Parish, LA

# Project is 40% complete



Work consists of construction of approximately 510 LF of reinforced concrete T-walls; placing embankment, asphaltic paving, drainage, installation of swing gates, and other incidental work.

WBV-14c.2 - New Westwego Pump Station to Orleans Village

# Project is 58% complete



Work consists of construction of approximately 510 LF of reinforced concrete T-walls; placing embankment, asphaltic paving, drainage, installation of swing gates, and other incidental work.

# These projects are 0% complete:

- WBV-MRL 1.1 Engineered Alternative Measures, Oak Point to Oakville
- WBV-MRL 3.1 Engineered Alternative Measures, Belle Chasse to Oak Point
- WBV-MRL 4.1 Engineered Alternative Measures, English Turn Bend to Belle Chasse
- WBV-MRL 6.1 Engineered Alternative Measures, Parish Line to English Turn Bend, Plaquemines Parish
- WBV-MRL 7.1 Engineered Alternative Measures, West Crossover Pt. to Parish Line, Orleans Parish,