

# Greater New Orleans Hurricane & Storm Damage Risk Reduction System

## Algiers Canal and Belle Chasse Tunnel Risk Reduction

Public Meeting  
July 27, 2010  
Bayou Barriere Golf Course



US Army Corps of Engineers  
**BUILDING STRONG**



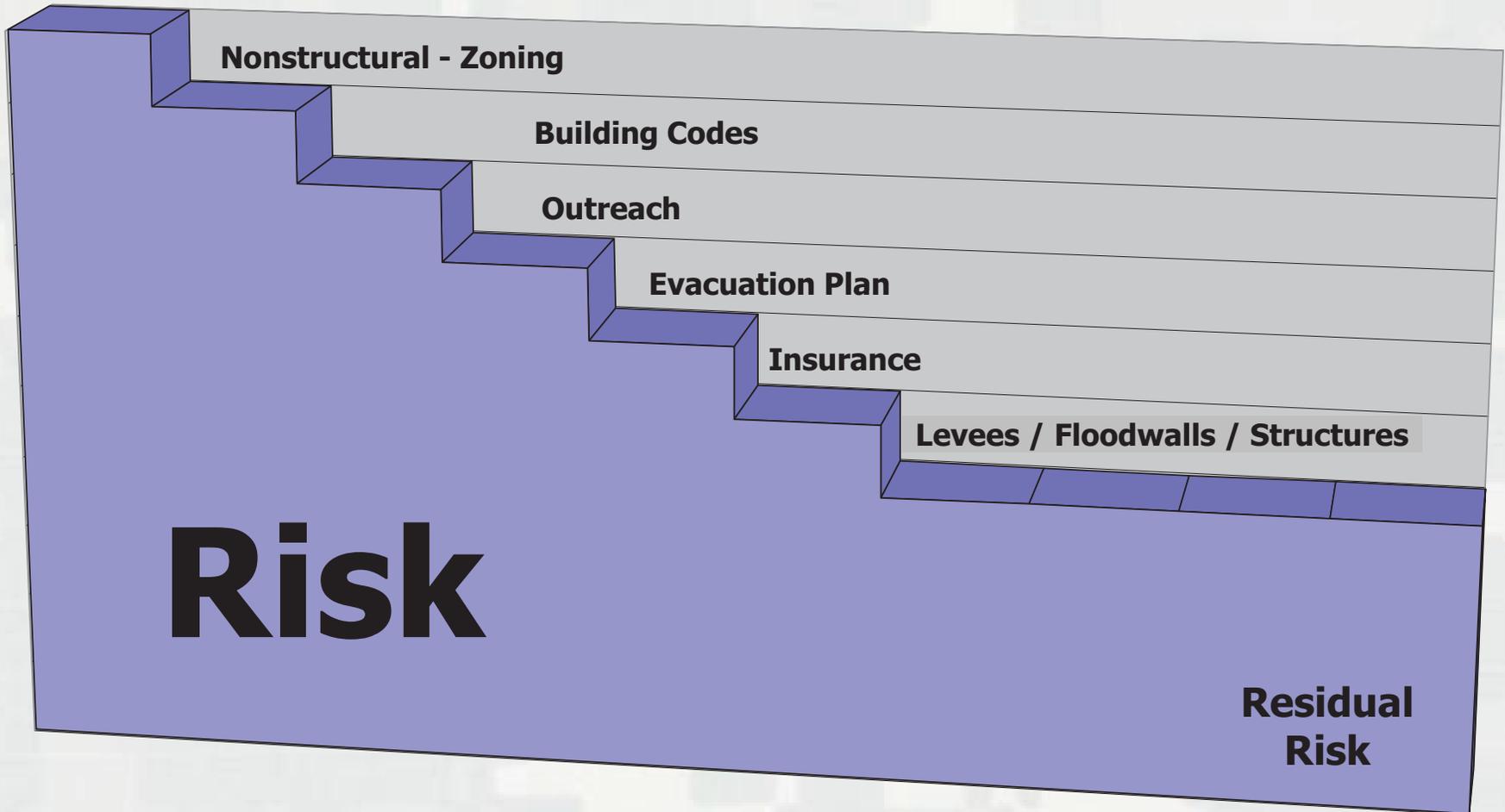
# Meeting Purpose

- **Provide an overview of the benefits and impacts construction of risk reduction features along the Algiers Canal may generate**
  - **Fronting Protection**
  - **Levee Lifts and Stability Berms**
  - **Floodgate Construction**
- **Discuss benefits and impacts construction of overhead roller gates at the entrance and exit of the Belle Chasse Tunnel may generate**
- **Describe the Corps' efforts to minimize construction impacts**



# Risk – Shared Responsibility

Initial Risk



**Risk**

Residual  
Risk

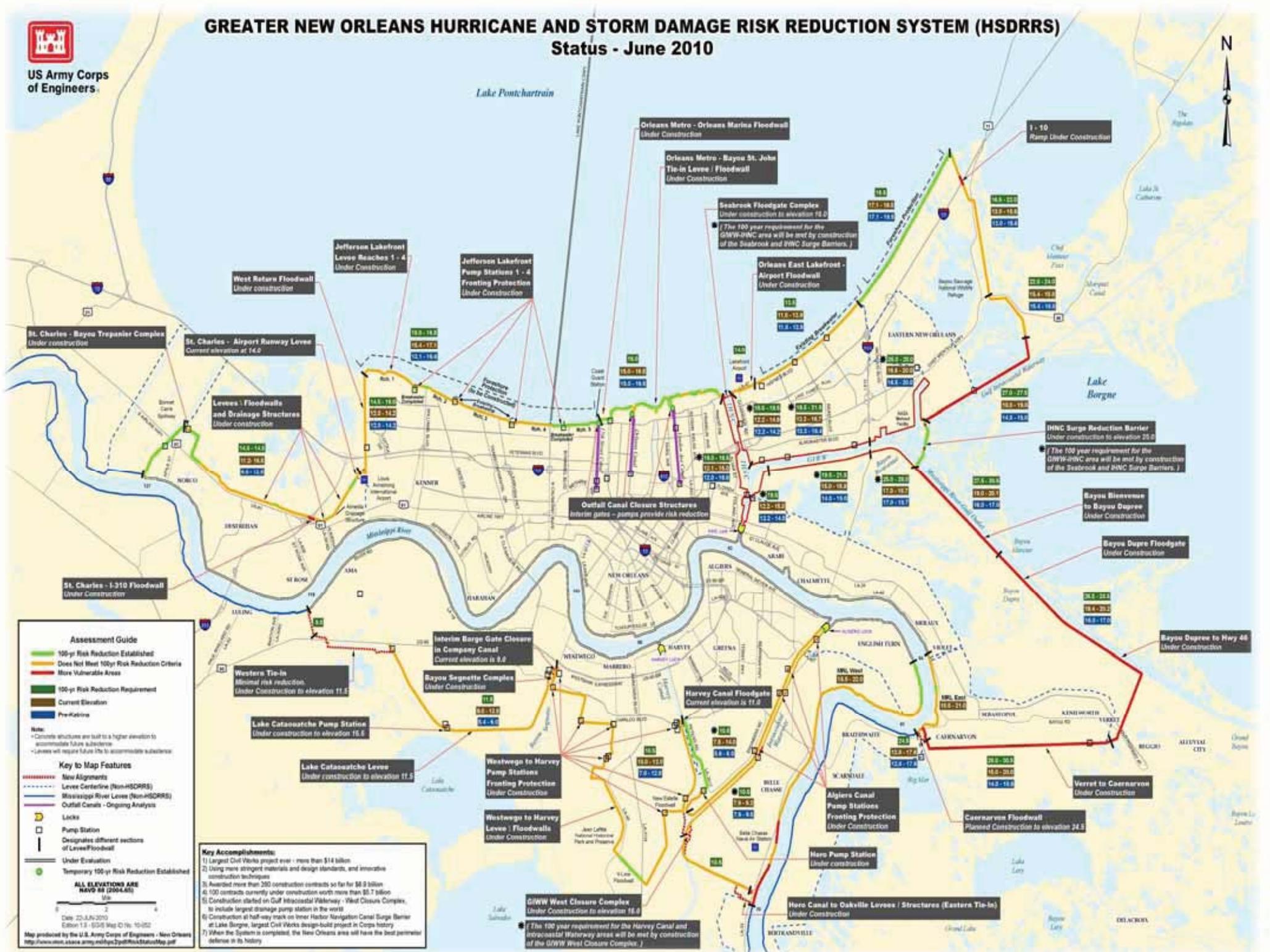




US Army Corps of Engineers

# GREATER NEW ORLEANS HURRICANE AND STORM DAMAGE RISK REDUCTION SYSTEM (HSDRRS)

## Status - June 2010



**Assessment Guide**

- 100-yr Risk Reduction Established
- Does Not Meet 100-yr Risk Reduction Criteria
- More Vulnerable Areas
- 100-yr Risk Reduction Requirement
- Current Elevation
- Projections

**Note:**

- Canals structures are built to a higher elevation to accommodate future subsidence
- Levees will require future lifts to accommodate subsidence

**Key to Map Features**

- New Alignments
- Levee Centerline (Non-HSDRRS)
- Mississippi River Levee (Non-HSDRRS)
- Outfall Canals - Ongoing Analysis
- Locks
- Pump Station
- Designates different sections of Levee/Floodwall
- Under Evaluation
- Temporary 100-yr Risk Reduction Established

**ALL ELEVATIONS ARE NAVD 88 (2004-65)**

Date: 23-JUN-2010  
Edition: 1.1 - (50) Map 10/10-1002  
Map produced by the U.S. Army Corps of Engineers - New Orleans  
<http://www.deltanews.com/arcswg/arcswg2010/hsdrss/hsdrss.pdf>

- Key Accomplishments:**
- 1) Largest Civil Works project ever - more than \$14 billion
  - 2) Using more stringent materials and design standards, and innovative construction techniques
  - 3) Awarded more than 260 construction contracts so far for \$9.9 billion
  - 4) 100 contracts currently under construction worth more than \$6.7 billion
  - 5) Construction started on Gulf Intracoastal Waterway - Vial Closure Complex, to include largest drainage pump station in the world
  - 6) Construction at half-way mark on Inner Harbor Navigation Canal Surge Barrier at Lake Borgne, largest Civil Works design-build project in Corps history
  - 7) When the System is completed, the New Orleans area will have the best perimeter defense in its history

**GWV West Closure Complex**  
Under Construction to elevation 16.0

[ The 100 year requirement for the Harvey Canal and Intracoastal Waterway areas will be met by construction of the GWV West Closure Complex. ]

**IHNC Surge Reduction Barrier**  
Under construction to elevation 20.0

[ The 100 year requirement for the GWV-IHNC area will be met by construction of the Seabrook and IHNC Surge Barriers. ]

**Orleans Metro - Orleans Marina Floodwall**  
Under Construction

**Orleans Metro - Bayou St. John Tie-in Levee / Floodwall**  
Under Construction

**Seabrook Floodgate Complex**  
Under construction to elevation 16.0

[ The 100 year requirement for the GWV-IHNC area will be met by construction of the Seabrook and IHNC Surge Barriers. ]

**Orleans East Lakefront - Airport Floodwall**  
Under Construction

**West Return Floodwall**  
Under construction

**Jefferson Lakefront Levee Reaches 1 - 4**  
Under Construction

**Jefferson Lakefront Pump Stations 1 - 4**  
Fronting Protection Under Construction

**St. Charles - Bayou Trajanier Complex**  
Under construction

**St. Charles - Airport Runway Levee**  
Current elevation at 14.0

**Levees, Floodwalls and Drainage Structures**  
Under construction

**St. Charles - I-10 Floodwall**  
Under Construction

**Western Tie-in**  
Minimal risk reduction. Under Construction to elevation 11.5

**Interim Barge Gate Closures in Company Canal**  
Current elevation is 9.0

**Bayou Segnette Complex**  
Under Construction

**Lake Caibarien Pump Station**  
Under construction to elevation 15.5

**Westwego to Harvey Pump Stations**  
Fronting Protection Under Construction

**Westwego to Harvey Levee / Floodwalls**  
Under Construction

**Harvey Canal Floodgates**  
Current elevation is 11.0

**Alpiers Canal Pump Stations**  
Fronting Protection Under Construction

**Harco Pump Station**  
Under construction

**Caernarvon Floodwall**  
Planned Construction to elevation 24.5

**Verrit to Caernarvon**  
Under Construction

**Bayou Dupe to Bayou Dupe**  
Under Construction

**Bayou Dupe Floodgate**  
Under Construction

**Bayou Dupe to Hwy 48**  
Under Construction

**Harco Canal to Oakville Levees / Structures (Eastern Tie-in)**  
Under Construction



# Westbank and Vicinity System



# Algiers Canal

- Connects the Mississippi River to the Gulf Intracoastal Waterway
- 12 miles long
- Stormwater drainage basin for Orleans, Jefferson and Plaquemines parishes
- Will serve as a detention basin when the GIWW-West Closure Complex is complete
- Detention basin elevation is 8.2 ft



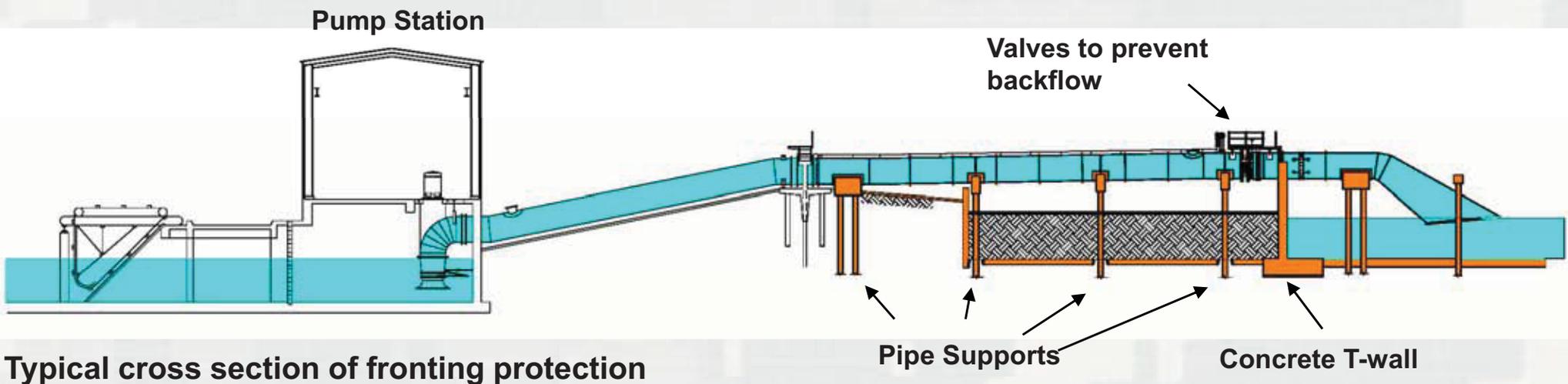
# Fronting Protection

- Construction of a continuous concrete T-wall in front of pump stations
- Valves or gates to prevent water from flowing back through pumps
- Provides a continual line of defense against storm surge
- Floodwalls will be built to elevation 9.5 ft, allowing for 1 ft of overbuild



# Purpose of Fronting Protection

- Risk Reduction
  - Construction of a continuous concrete T-wall in front of pump stations
  - Valves or gates to keep water from flowing back through pumps



# Sewerage and Water Board Pump Stations 11 and 13



- Construction is 11% complete
- Includes five pumps with a capacity of 1,670 cubic feet per second
- No pile driving operations between the hours of 10:00 p.m. and 7:00 a.m.



- Construction is 11% complete
- Includes seven pumps with a capacity of 4,650 cubic feet per second
- No pile driving operations between the hours of 10:00 p.m. and 7:00 a.m.



# Plaquemines Parish Pump Stations



Belle Chasse I

- Construction is 13% complete
- Includes 5 pumps with a maximum capacity of 3,550 cubic feet per second
- No pile driving limitations



Belle Chasse II

- Contract is being re-advertised for award
- Includes 3 pumps with a maximum capacity of 1,200 cubic feet per second
- No pile driving operations between 9:00 p.m. and 6:00 a.m.



Planters

- Construction is 17% complete
- Includes 9 pumps with a maximum capacity of 2,440 cubic feet per second
- No pile driving operations between 9:00 p.m. and 6:00 a.m.



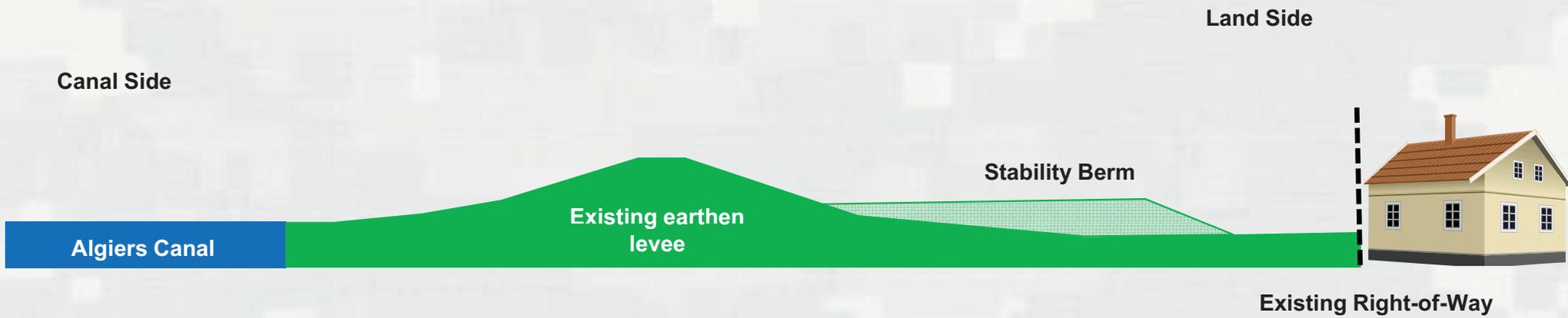
# Levee Lifts and Stability Berms

- Four reaches of levee lifts and stability berms are in design
- Protected-side berms enhance levee stability during high water levels
- Levees will be elevated to 8.2 ft within the existing Right-of-Way
- Construction slated for Fall 2010
- Lifts will be completed by hurricane season 2011



# Stability Berms

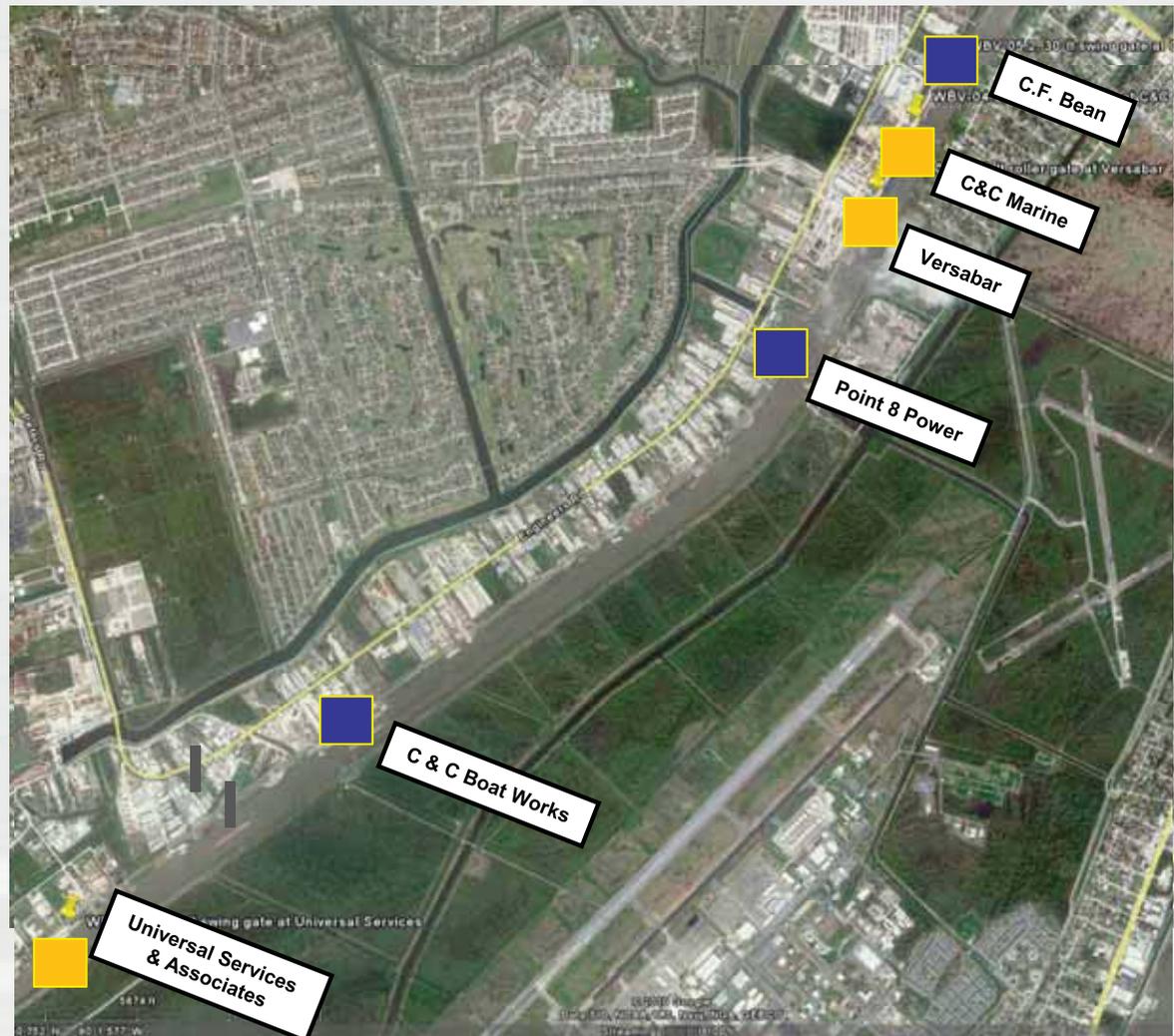
## Current Landscape



# Floodgates along Industrial Reach

Phase 1 Contract WBV-04.2/Phase 2 Contract WBV-05.2

- A total of six 4 ½ ft steel swing or roller gates would be installed along the length of the Algiers Canal
- Gates are required due to limited flood-side real estate
- Gates range in size from 30 to 85 feet in width
- Gate sill at elevation 4 ft contains water during tidal changes
- Gates will be constructed by hurricane season 2011



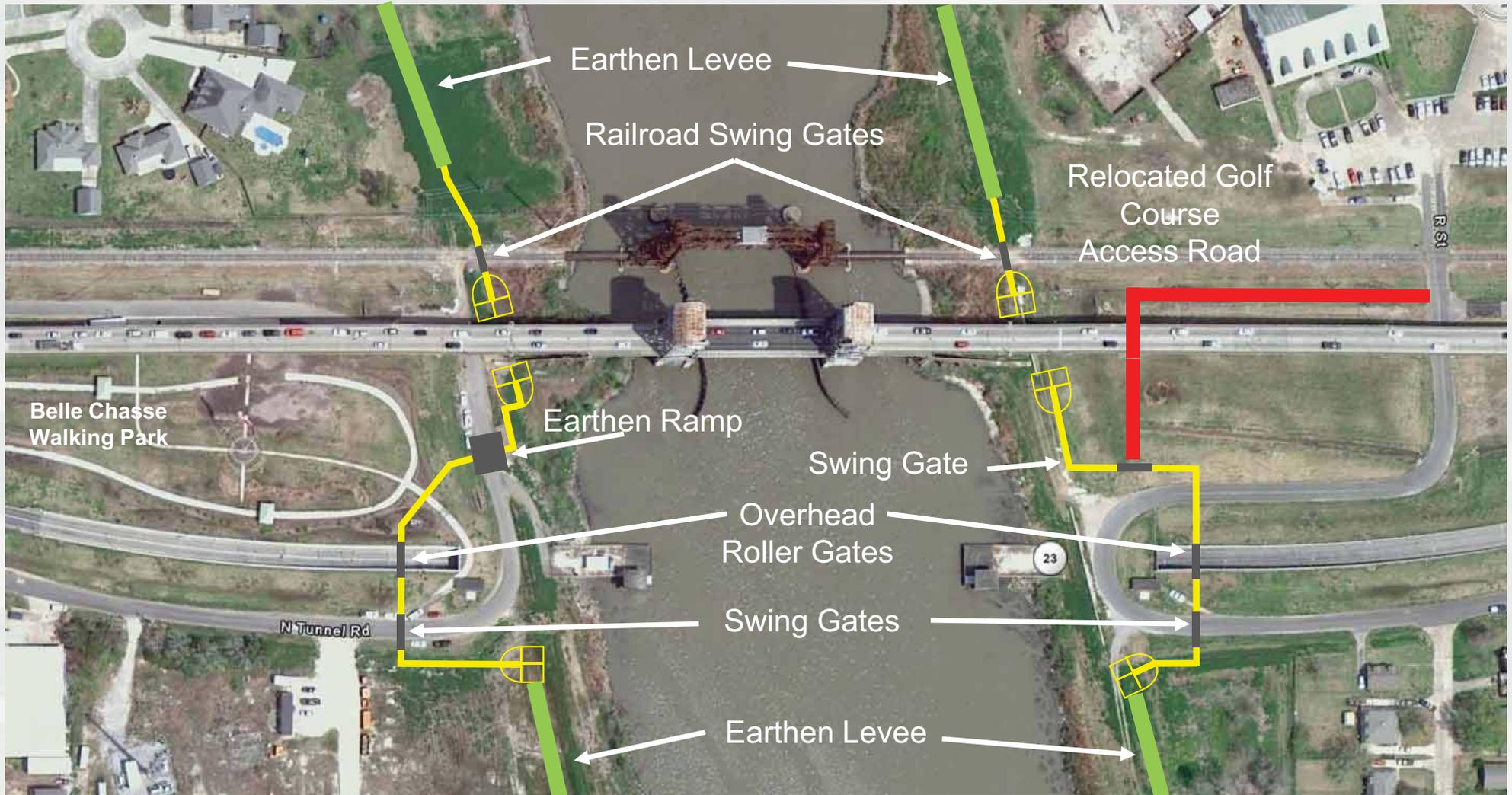
# Belle Chasse Tunnel Risk Reduction

- Risk reduction structures around the tunnel will close the system
- A series of gates connect to floodwalls, floodwalls connect to earthen levees
- Pile load tests and gate construction scheduled to begin in Nov. 2010
- Heavy tunnel construction scheduled to begin in Feb. 2011



# Belle Chasse Tunnel Risk Reduction

Contract WBV 6.2



**A floodwall, earthen ramp and 7 floodgates will be constructed around the Belle Chasse Tunnel.**



# Belle Chasse Tunnel Risk Reduction

## Overhead Roller Gates



The overhead roller gate at the Belle Chasse Tunnel would be contained within approach walls just before the tunnel entrance and just after the tunnel exit.



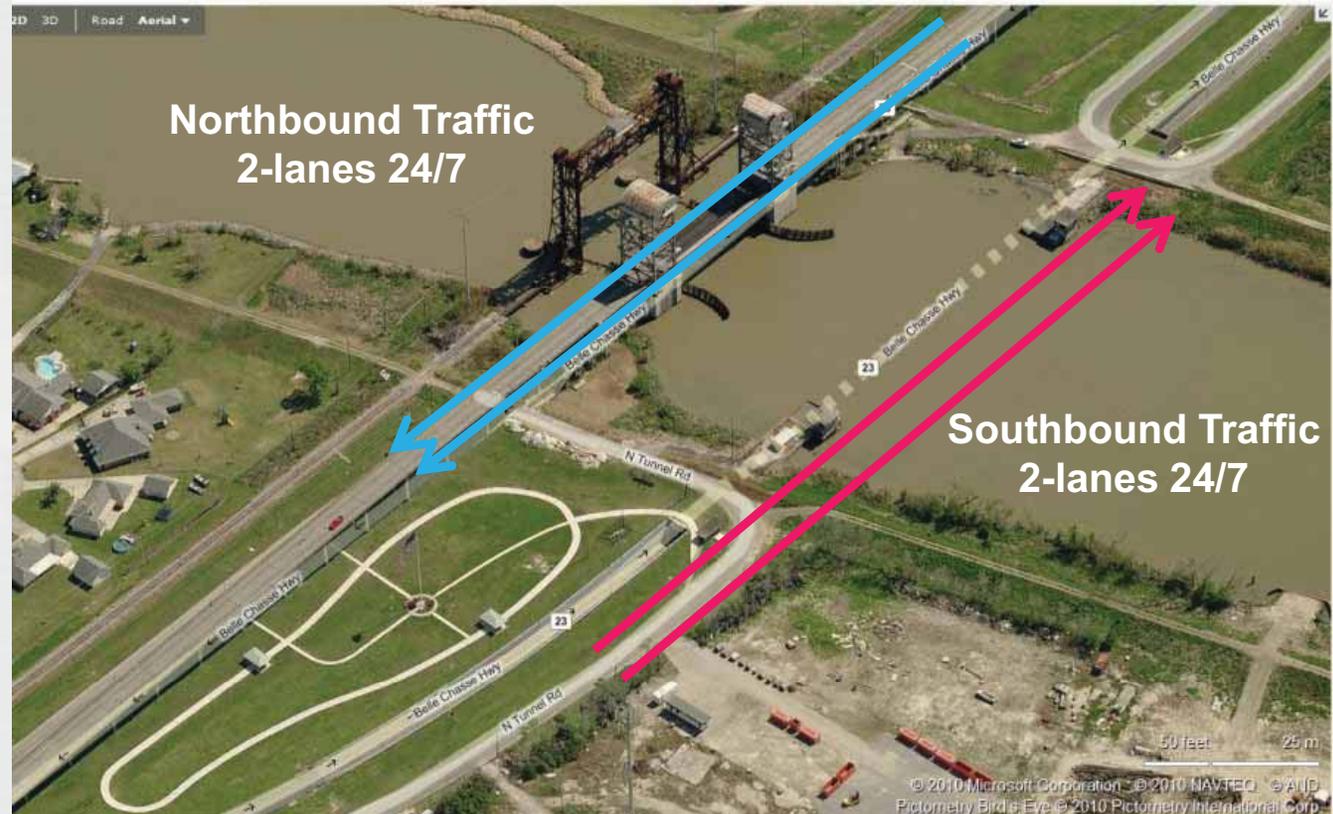
The overhead roller gate at the Belle Chasse Tunnel would be closed during storm events and during routine maintenance.



# Belle Chasse Tunnel Risk Reduction

## Current Traffic Patterns

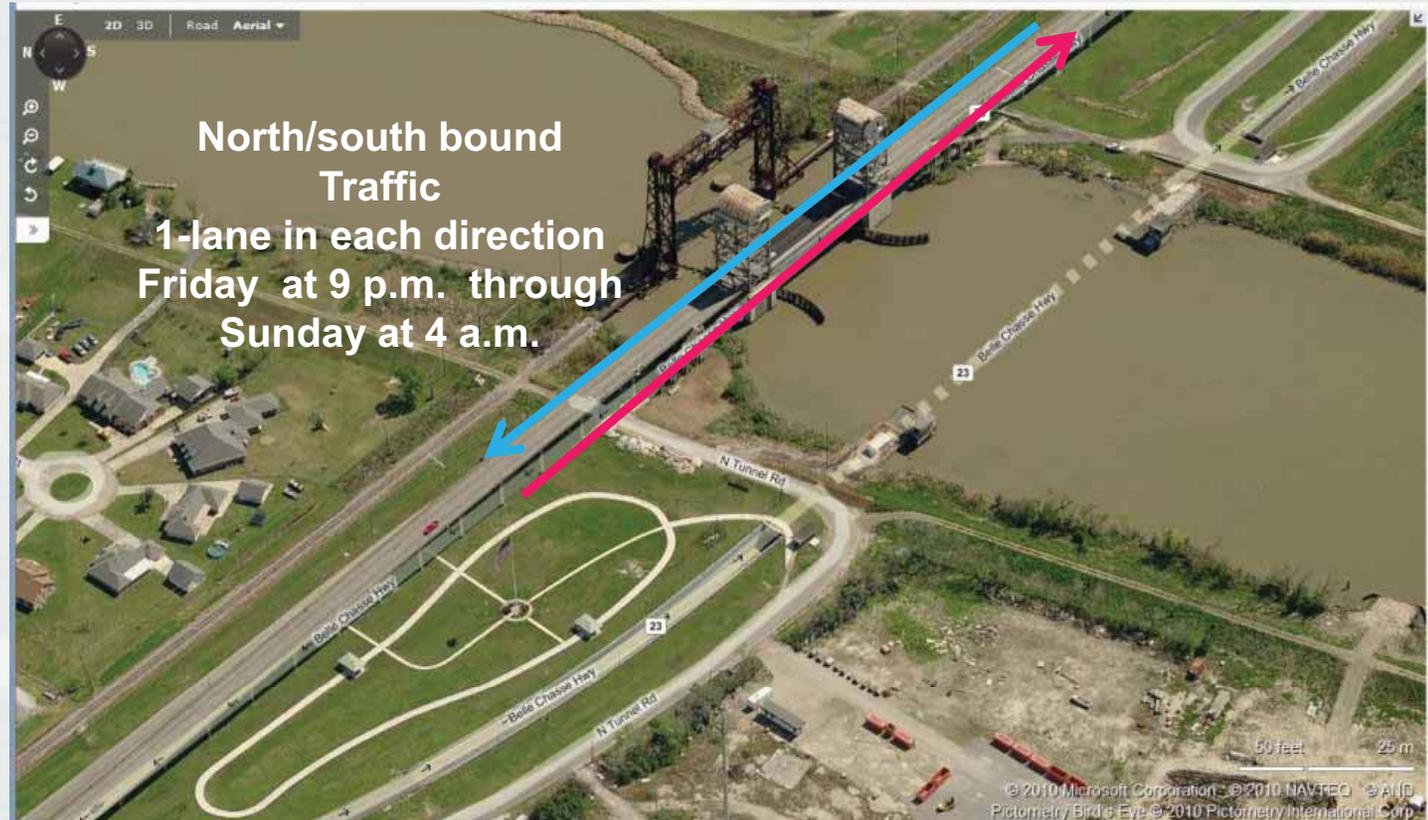
- Coordinated closely with:
  - Louisiana Department of Transportation and Development
  - Plaquemines Parish
- Current north-south access
- Southbound Tunnel
- Northbound Belle Chasse Bridge



# Belle Chasse Tunnel Risk Reduction

## Traffic Patterns During Construction Weekends 1 - 9, 12 - 15

- Approx 15 weekends from Feb. 2011 through Jun. 2011
- Tunnel closed during construction
- 24-hour operations
- No pile driving between 9 p.m. and 7 a.m.



Traffic impacts generated by construction of overhead roller gates at the Belle Chasse Tunnel will generate some traffic delays and detours similar to the monthly maintenance done by the Department of Transportation and Development.

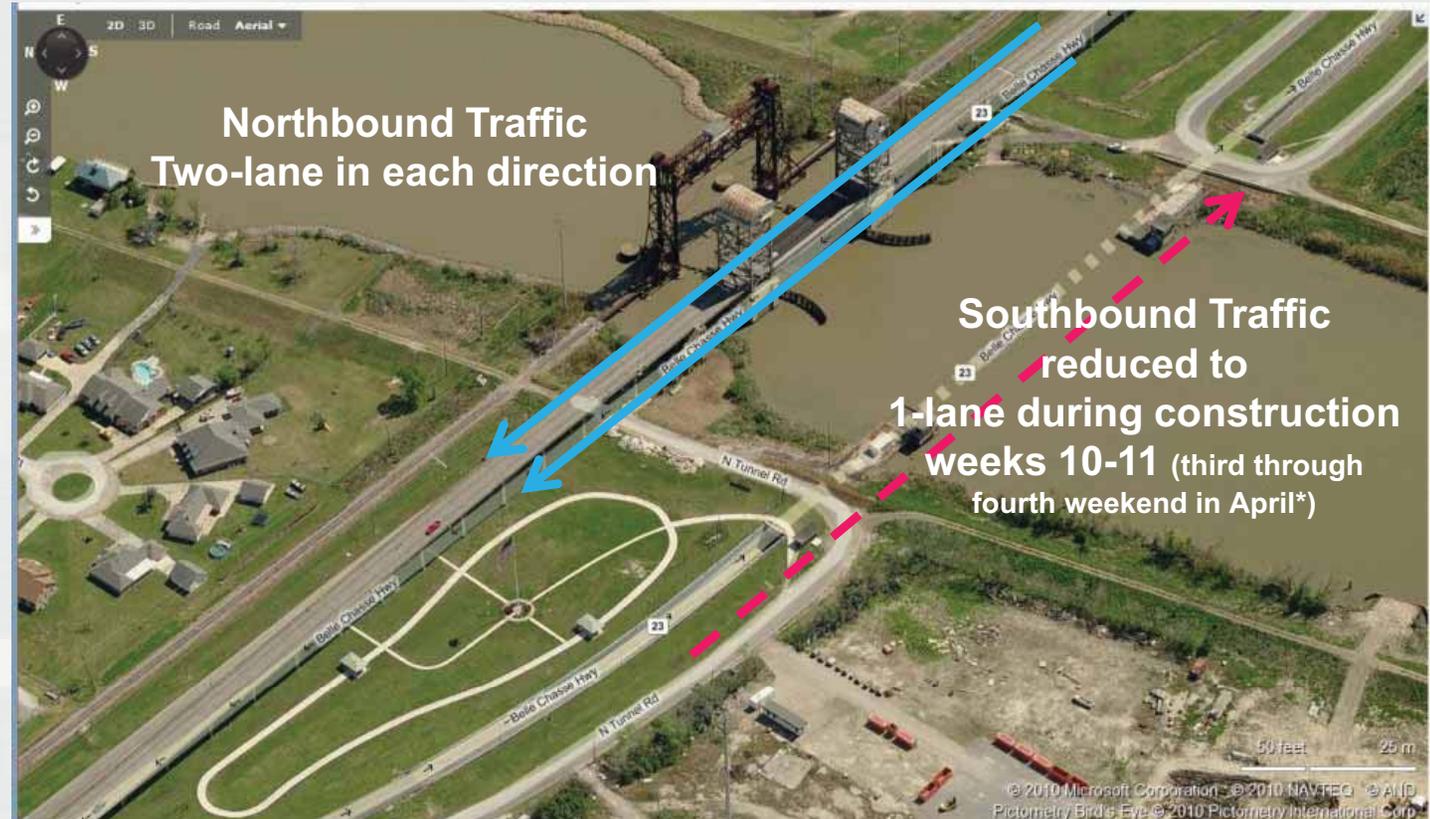
\* Schedules are approximate and are subject to change



# Belle Chasse Tunnel Risk Reduction

## Traffic Patterns During Construction Weeks 10-11

- Single-lane of traffic through the tunnel
- Bridge in normal operation, two northbound lanes
- Single-lane access for approximately 11 days, from approximately third weekend of April through the fourth weekend of April



For 11 days, at approximately the end of April, access to the Belle Chasse Tunnel will be limited to a single-lane of traffic.

\* Schedules are approximate and are subject to change



# Belle Chasse Tunnel Risk Reduction

## Staging Area

- Belle Chasse Walking Park will be closed throughout construction to ensure public safety
- A walking trail is available at Medal of Honor Park located on Barriere Rd



The Belle Chasse Walking Park will be closed through the duration of construction which is slated for approximately Nov. 2010 through July 2011.

\* Schedules are approximate and are subject to change



# What To Expect During Construction

- **Construction impacts**

- Elevated noise levels from motors, pumps, generators, pile driving, etc.
- Increased truck traffic
- Traffic delays during partial closure of Belle Chasse Tunnel
- Detours during full closure of Belle Chasse Tunnel

- **Corps' efforts to minimize impacts**

- Contractor has ability to both use canal and road access
- Wet unpaved roads (to minimize dust)



Construction of T-walls in front of Pump Stations will require pile driving.



# Onsite Inspection

## Quality Control/Quality Assurance

- Onsite Corps employee oversight
- Monitors the construction contractor
- Ensures sites are safe and signage is clear
- Confirms traffic control measures are maintained and meet safety standards
- Knowledgeable of site activities



# Upcoming Public Meetings

## **Wednesday, Aug. 4, 2010**

St. Bernard Construction update public meeting

St. Bernard Parish Council Chambers  
8201 W. Judge Perez Dr.  
Chalmette, LA 70043

Open house is from 6 to 6:30

Presentation begins at 6:30 p.m.

## **Tuesday, Aug. 10, 2010**

Jefferson Parish Fronting Protection construction update

Congregation Gates of Prayer  
4000 West Esplanade Ave  
Metairie, Louisiana 70002

Open House 6 to 6:30 p.m.

Presentation 6:30 p.m.



# Resources

[www.nolaenvironmental.gov](http://www.nolaenvironmental.gov)

<http://www.mvn.usace.army.mil>



# Opportunities for Public Input

- Regular public meetings throughout the Hurricane and Storm Damage Risk Reduction System (HSDRRS) Area
- Make sure to sign in tonight to get on our meeting notification mailing list
- Construction Impact Hotline: **1- 877- 427- 0345**
- Comments can be submitted at any time at  
[www.nolaenvironmental.gov](http://www.nolaenvironmental.gov)

Questions and comments may be submitted to  
Telephone: 504-862-2201

[E-mail: AskTheCorps@usace.army.mil](mailto:AskTheCorps@usace.army.mil)





US Army Corps  
of Engineers  
New Orleans District

# Social Web Networking Communities

*and what they mean to you*

## twitter



is an online messaging and social networking system that allows people to share their daily life experiences minute-by-minute, hour-by-hour, and/or day-by-day via their computer or mobile phone. Team New Orleans is joining in and taking on the opportunity to tweet with the public and offer reports on developments, additions, changes, and upcoming public meetings and events that will affect local communities. Check it out by going to [twitter.com/teamneworleans](http://twitter.com/teamneworleans).

Flickr is an online community platform for global photo management and sharing applications via the web. Team New Orleans has become a part of the movement and is using Flickr to visually explain our projects.

Check out our photos at [www.flickr.com/photos/37671998@N05](http://www.flickr.com/photos/37671998@N05).

## flickr



## facebook

is a global social networking Web site that links people from across the world and is currently ranked as the most popular of its kind. Team New Orleans is following in the trend and is using Facebook to update the

public about projects, events, activities and public meetings.

Become friends with Team New Orleans by visiting [www.facebook.com](http://www.facebook.com), search New Orleans District.



# Visit the following links to follow us on Facebook, Twitter and Flickr:

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<http://twitter.com/teamneworleans>

<http://www.flickr.com/photos/37671998@N05>



# Thank you

