



US Army Corps  
of Engineers  
Mississippi Valley Division



# Corps Hurricane Response

Task Force Hope Status Report Newsletter

October 23, 2009

*IHNC Surge Barrier Project to work in tandem with*

## Seabrook Floodgate Structure



Lake Pontchartrain

Inner Harbor Navigation Canal

This conceptual illustration of the Seabrook Floodgate Structure shows the sector gate and the lift gates in the open position. This position allows normal navigation to continue. (USACE conceptual illustration)

by Susan Spaht

**Two** major projects make up the Inner Harbor Navigation Canal (IHNC) portion of the Hurricane and Storm Damage Risk Reduction System (HSDRRS) being designed and constructed by the Corps of Engineers: the IHNC Surge Barrier at Lake Borgne, and

the upcoming Seabrook Floodgate Structure at Lake Pontchartrain. When completed in 2011, these two structures will work in tandem to provide storm surge risk reduction for the Ninth Ward, Gentilly, New Orleans East, Orleans Metro, and St. Bernard Parish – some of the areas most vulnerable to flooding from hurricane storm surge.

The Surge Barrier at Lake Borgne,

currently in construction, will be the largest surge barrier of its kind in the world, measuring nearly two miles across the Gulf Intracoastal Water-

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This conceptual illustration of the Seabrook Floodgate Structure shows the sector gate and the lift gates in the closed position, as it would look during a storm event. (USACE conceptual illustration)

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way and the Mississippi River Gulf Outlet. The purpose of this structure is to reduce the risk of storm surge from the Gulf of Mexico and Lake Borgne.

The Seabrook Floodgate Structure, planned for the Industrial Canal (IHNC) south of the Senator Ted Hickey (Seabrook) Bridge, will reduce risk from storm surge generated from Lake Pontchartrain.

Currently, the proposed action for this project consists of a sector gate and two vertical lift gates to be located approximately 500 feet south of the Seabrook Bridge.

Individual Environmental Report



(IER) 11, Tier 2 Pontchartrain (Seabrook) investigates the alternative alignments and designs for Seabrook, and also addresses the impacts of these alignments, construction methods, and other design details. IER 11, Tier 2 Pontchartrain will

be out for a 30-day public comment period in November 2009. The first public meeting for IER 11 Tier 2 Pontchartrain will be held on Tuesday, Oct. 27. A second public meeting is scheduled for Dec. 3.

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*Under Construction: IHNC Surge Barrier at Lake Borgne*



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The Seabrook project will take advantage of the Early Contractor Involvement (ECI) method, in which the Corps, contractor and design team collaborate during the design phase. The ECI process has the

potential to reduce costs and shorten construction time.



*To learn more about the Seabrook Floodgate Structure and the IHNC Surge Barrier, go to this Web site:*

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

USACE Photos

# Spiral Welded Pipe Piles

*Readily available, higher holding capacity, more cost efficient*

by Susan Spaht

In its on-going effort to find innovative products, advanced technologies and cost efficient methods for building the Hurricane and Storm Damage Risk Reduction System (HSDRRS), the Corps of Engineers formed a special **Innovation Team** earlier this year to do all of those things.

One of the products the Innovation Team was assigned to evaluate was **Spiral Welded Pipe Piles** for use as struc-

tural supports. Spiral welded, or helical welded, pipe piles are structural pipes used to support flood control structures such as floodwalls, pumping stations, and fronting protection for other structures.

Spiral welded pipes are unique in that they are welded helically forming one continuous weld along the entire length of the pipe. *(Think of a can of*

*ready-made biscuits – those come in helical-formed paper packaging.)*

Led by Dr. John Jaeger, Chief of Engineering Division, Kansas City District, the team spent eight months testing and evaluating the ability of these piles to withstand large hydraulic forces. The welding process for these pipes was studied in detail to insure compliance with standard practices. Eight different tests were performed by the Civil Engineering Department of North Carolina State

University.

North Carolina State University's Construction Facilities Laboratory was selected to independently perform the Four Point Flexural Load Tests because of its proven expertise in evaluating concrete-filled piles for seismic loads. All of the tests have been completed now and the preliminary results are proving the

Spiral Welded Pipe Piles performed as well – or better – than traditional H-piles or straight seam pipe piles.

“We expected the spiral piles would perform well,” said Robert Fuqua, the Innovation Team Project Manager, “but the results were even better than we expected.”



Robert Fuqua

Spiral Welded Pipe Piles showed these advantages over traditional piles:

- Less expensive per square foot
- More readily available
- Higher holding capacity, from a geotechnical standpoint, than H-piles
- Can be produced in lengths up to 150 feet

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Photo: Trinity Products, Inc.



Photo: North Carolina State University

Spiral Welded Pipe Piles undergo a Four Point Flexural Load Test at North Carolina State University's Construction Facilities Laboratory.

## Spiral Welded Pipe Piles

*an innovation that is paying off*

*Continued from page 4*

The final report on Spiral Welded Pipe Piles will be completed in early December, at that time the product will be accepted and specified for use in Hurricane and Storm Damage Risk Reduction System construction projects. Brig. Gen. Michael Walsh, Commander of the Mississippi River Division, has already granted a waiver for the spiral piles to be used on the West Closure Complex project on the West Bank.

"The first order placed for Spiral Welded Pipe Piles shows an initial savings of approximately \$3 million," said Fuqua, "and we fully expect to experience additional savings on the West Closure Complex and other HSDRRS projects."



### *Where do the savings go?*

"Any savings realized from HSDRRS projects will be available for contingencies that might arise in the HSDRRS program," said Mike Park, Deputy Director of Task Force Hope. "The savings realized on the West Closure Complex project, for example, will help the Corps complete that project as well as other projects in the West Bank & Vicinity."



Mike Park

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The *Status Report Newsletter* supports the information program for Task Force Hope and its stakeholders.

It also serves as the primary tool for accurately transmitting the Corps' hurricane recovery work to stakeholders.

*This is an online publication that is open to public distribution.*

This issue and past issues can be found at:

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

Comments and questions may be sent to the

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U.S. Army Corps  
of Engineers

##### **Status Report Newsletter**

Task Force Hope

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# Upcoming Public Meetings



**Tuesday, Oct. 27, 2009**

*IER 11 Tier 2*

*Pontchartrain - Seabrook*

**St. Gabrielle the Archangel Church**

**5029 Louisa St.**

**New Orleans, LA 70126**

***Open House: 6:00 to 6:30 p.m.***

***Presentation: 6:30 p.m.***

**Thursday, Oct. 29, 2009**

*Industrial Canal Corridor*

**Holy Angels Church**

**Concut Hall**

**3500 St. Claude Ave.**

**New Orleans, LA**

***Open House: 6:00 to 6:30 p.m.***

***Presentation: 6:30 p.m.***



**Tuesday, Nov. 3, 2009**

*New Orleans to Venice scoping*

**St. Patrick's Catholic Church**

**28698 Hwy 23**

**Port Sulphur, LA 70083**

***Open House: 6:00 to 6:30 p.m.***

***Presentation: 6:30 p.m.***



**Thursday, Nov. 5, 2009**

*Eastern Tie In Addendum (IER 13)*

*and Plaquemines Parish*

*Non-Federal Levees*

**Belle Chasse High School**

**8346 Highway 23**

**Belle Chasse, LA 70037-2694**

***Open House: 6:00 to 6:30 p.m.***

***Presentation: 6:30 p.m.***