



US Army Corps
of Engineers
Mississippi Valley Division



Corps Hurricane Response

Task Force Hope Status Report Newsletter

August 16, 2010

What is *Fronting Protection* and why do we need it?



Typical Lakefront
Pump Station



Lakefront Pump Station
with *Fronting Protection*

By Susan Spaht
with Kristen Kendrick

Fronting Protection describes defensive measures placed in front of pump stations located on shore lines. Fronting Protection is constructed to reduce possible damaging effects of storm surge on the pump stations. These defensive measures can include floodwalls, closure gates and other features.

Four pump stations located along Lake Pontchartrain in Jefferson Parish provide roughly 95% of the drainage capacity for East Jefferson. These facilities pump water from adjacent drainage canals into Lake Pontchartrain.

Hurricane Katrina led to a revision of design standards for strength and functional reliability for these important facilities. Fronting protection construction will bring the lakefront pump stations into compliance with these new standards and prepare them to better resist hurricane-related storm surge. The first phase of a \$174 million construction contract to provide fronting protection at Duncan, Elmwood, Suburban and Bonabel pump stations is now underway. The contract was awarded to Odebrecht Construction Inc. which began work at the Elmwood and Suburban pump stations.

T-walls will be constructed in front of pump stations and will tie into the existing levees on either side. The pump discharge tubes will be ex-

tended through the floodwall, and valves or gates will also be constructed to prevent any water from backflowing through the pumps. Construction at Elmwood and Suburban pump stations will also include improvements to the existing breakwaters. By knocking down waves associated with storm surges, the breakwaters, working in tandem with the fronting protection, will provide a 100-year level of risk reduction when completed.

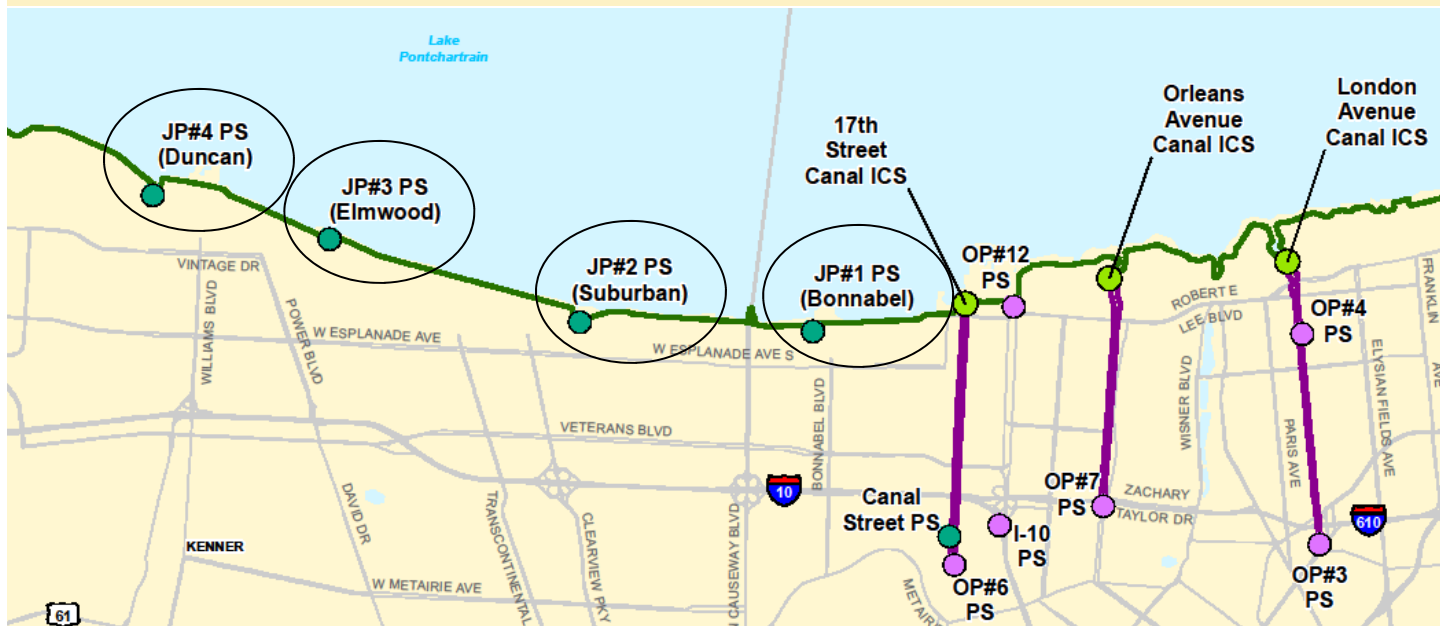
At Duncan and Bonabel pump stations, a separate contract was

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East Jefferson lakefront pump stations getting *fronting protection*



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awarded in 2009 to construct new breakwaters to provide 100-year level of risk reduction. This work is completed. (see photo)

Pumps will remain operational throughout the construction process at all the pump stations, and the existing protection will remain in place throughout the construction duration.

Fronting Protection at East Jefferson Lakefront Pump Stations

- Breakwaters will reduce the effect of waves that add to the impact of elevated lake levels that press against the lakeside face of the stations.
- New floodwalls will be built on the lake side of each pump station and tie-in to the existing levees to provide a continuous line of defense.
- Discharge pipes and tubes for the pumps will extend through the new floodwalls fitted with closure features including gates and valves.



Bonnabel Pump Station Breakwater completed

Photo by Tom Durel

New Orleans East

The three New Orleans East pump stations on Lake Pontchartrain are located behind levees or floodwalls, not directly on the shoreline. These pump stations are further protected from storm surge by existing breakwaters which withstood Hurricane Katrina. The pump station at Lake Borgne is also behind a floodwall with no direct exposure to the lake's storm surge. The other pump stations in New Orleans East are located along the Gulf Intracoastal Waterway and are, therefore, protected by the IHNC Surge Barrier.

West Bank

The West Bank and Vicinity has \$340 million worth of fronting protection work awarded or about to be awarded. This work is spread across 16 fronting protection contracts and includes construction of fronting protection work or improvement of the tie-in to the existing pump stations. This work includes contracts both inside the detention basins of the Harvey and Algiers Canals and at Company Canal, and perimeter projects along the West Bank alignment.



Corps finishes last of 30 pump station repair projects

“Completion of the Elaine Pump Station repairs is another major step in the Corps’ efforts toward achieving storm-related risk reduction in the greater New Orleans area.”

- John Ashley, Branch Chief
Existing Pump Stations
Corps of Engineers

By Susan Spaht

There are 78 pump stations, Federal and non-Federal, in the four-parish area around New Orleans, most of which suffered damage from Hurricanes Katrina and Rita. Immediately following those hurricanes, the Corps of Engineers received congressional authorization and funding to undertake 30 projects over a four-parish area aimed at repairing or rebuilding those vital facilities.

Last month, the Corps achieved operational capability at the last of the repaired pump stations - Elaine Pump Station in New Orleans East.

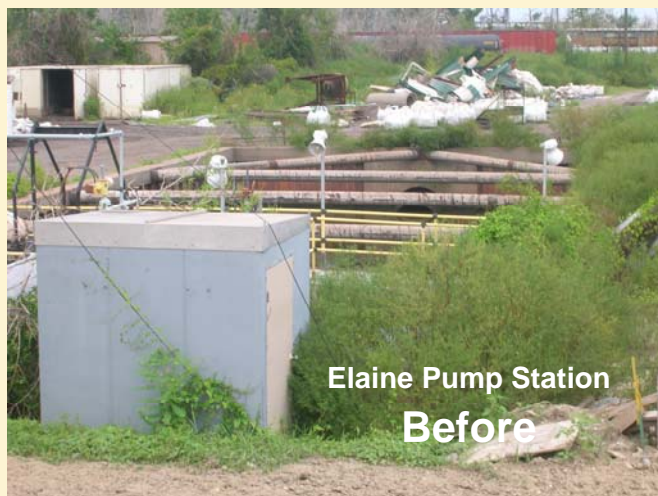
The pump station repair projects included:

Orleans Parish (\$32 million):
12 repair projects at 23 stations

St. Bernard Parish (\$23 million):
5 repair projects at 8 stations

Plaquemines Parish (\$19 million):
5 repair projects at 13 stations

Jefferson Parish (\$500,000):
8 repair projects at 17 stations



Elaine Pump Station
Before



Elaine Pump Station
After

USACE Photos



Elaine Pump Station
After

Change of Command in New Orleans by Maj. Gen. Michael J. Walsh

Col. Alvin B. Lee has served with distinction as the Commander of the New Orleans District for the past three years. As Commander of one of the largest Districts in the Corps, Col. Lee provided exceptional leadership as his District executed the \$14 billion Hurricane

and Storm Damage Risk Reduction System (HSDRRS) program for the Greater New Orleans Area, the Corps' number one domestic priority, in addition to its normal \$350 million civil works program, and nearly \$200 million in work as part of the American Relief and Recovery Act.

Under the most challenging conditions, Col. Lee rebuilt trust in the Corps with his understanding of program management and his team-building skills. He supported technical engineering and acquisition innovation to meet aggressive schedules to support delivery of the HSDRRS program by June 2011. Col. Lee led the District's highly successful responses to the sixth largest flood on record for the Mississippi River, a significant oil spill on the Mississippi River, to Hurricanes Gustav and Ike, and to the nation's worst oil spill disaster in the Gulf of Mexico.

He also spearheaded the District's coastal and environmental restora-



July 23, 2010, during Change of Command ceremonies are, from left, Col. Edward Fleming, incoming Commander of the New Orleans District; MG Michael Walsh, Commander of the Mississippi Valley Division; and Col. Alvin Lee, outgoing Commander of the New Orleans District.

USACE Photo

tion efforts and the development of long range plans to support a sustainable coast and wetlands.

My sincere thanks to Col. Lee for your professionalism, dedication and unwavering loyalty to the people you have served and to the U.S. Army Corps of Engineers. My best wishes on your next challenge!



It is a pleasure to welcome our new Commander of the New Orleans District, Col. Edward R. Fleming. Col. Fleming comes to New Orleans with an already distinguished history of command and staff assignments marked by combat and peacekeeping deployments. A graduate of the United States Military Academy at West Point, Col. Fleming holds a Civil Engineering degree and a Master's degree in Environmental Engineering. He recently earned a master's degree in National Security and State-

gic Studies from the National War College.

He served in Iraq during Operations Desert Shield and Desert Storm where he was decorated for valor. After a peacekeeping mission

to Kosovo, he deployed again to Iraq to support Operation Iraqi Freedom.

Col. Fleming has served as Deputy District Engineer in Baltimore, District Commander in Charleston, and more recently as the Executive Officer for the Commanding General of the Corps of Engineers in Washington, D.C.

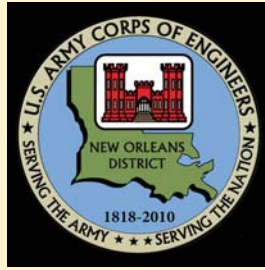
His many awards and honors include the Bronze Star with one oak leaf cluster, the Meritorious Service Medal with five oak leaf clusters, the Army Commendation Medal with V device and three oak leaf clusters, and the Army Achievement Medal with two oak leaf clusters. Col. Fleming has also been awarded the Bronze Order of the de Fleury medal and the Order of St. George.

Even before he was sworn in as the New Orleans Commander, Col. Fleming toured a majority of the

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The New Orleans District, Corps of Engineers

The New Orleans District's small size geographically---30,000 square miles--- has always belied its importance in the U.S. Army Corps of Engineers. This, ironically, is because of geography: The district embraces the Mississippi River's mouth and the river's junction with the Gulf Intra-coastal Waterway. They built and continue to operate the crown jewel of the Mississippi River and Tributaries Project,



the Old River Control Complex, to keep the mighty river on course.

Magnifying the district's responsibilities, they share a role with the Hurricane Protection Office and Task Force Hope in constructing the nearly \$15 billion Hurricane and Storm Damage Risk Reduction System (HSDRRS) to provide the Greater New Orleans area with 100-year, or one-percent, storm surge risk reduction by June 2011.

Important Facts about the New Orleans District:

- Five of the nation's top 15 ports are located within the New Orleans District's area of responsibility: Port of South Louisiana, Port of New Orleans, Port of Baton Rouge, Port of Plaquemines and Port of Lake Charles.
- The New Orleans District maintains the U.S. Army Corps of Engineers' largest dredging operation.
- The New Orleans District maintains 973 miles of Mississippi River and Atchafalaya Basin levees.
- The HSDRRS contains 350 miles of levees and floodwalls.
- The Mississippi River Gulf Outlet (MRGO) Ecosystem Restoration project encompasses 3.36 million acres of land and open water and will restore habitat in the Lake Borgne ecosystem and other areas affected by the MRGO navigation channel.
- Since 1974, the New Orleans District has created nearly 25,000 acres of land through the beneficial use of dredged material.
- In support of the American Recovery and Reinvestment Act (ARRA), the New Orleans District has awarded 137 contracts valued at nearly \$200 million.

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coastal parishes in his new District with Col. Lee – learning firsthand the important issues there, and meeting the citizens and local leaders.

We are pleased to have Col. Fleming assume Command of the New Or-

leans District and look forward to working with him on our many challenges ahead.

Michael J. Walsh

MG Michael J. Walsh, Commander
Mississippi Valley Division
U.S. Army Corps of Engineers

Contact Information

U.S. Army Corps of Engineers

Task Force Hope

(504) 862-1836

New Orleans District

(504) 862-2201

Hurricane Protection Office

(504) 862-1708

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 risk reduction efforts 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

Status Report Newsletter editor at: b2fwdpao@usace.army.mil

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Task Force Hope
Strategic Communications
7400 Leake Ave., Room #388
New Orleans, LA 70118
(504) 862-1949