US Army Corps of Engineers
Mississippi Valley Division
Corps Hurricane Response

Task Force Hope Status Report — *May 13, 2008*

Anatomy of a floodwall

Corps of Engineers building them bigger, stronger, better

Advanced scientific and engineering methods bring major improvements to floodwall design and construction

By Susan Spaht

The U.S. Army Corps of Engineers is continuing to work on the Hurricane and Storm Damage Risk Reduction System (HSDRRS) at a swift pace. The goal is to reach the 100-year level of protection for the greater New Orleans area for Hurricane Season 2011.

Among the Corps' top goals are keeping the public informed of its work and schedules, listening to the public's ideas and concerns, and building the public's confidence in their new system.

Since Hurricane Katrina, the Corps has conducted extensive research on the area's HSDRRS, including the Interagency Performance Evaluation Task Force (IPET) study. Composed of 150 experts from academia, private industry and governmental agencies, the IPET team performed sophisticated analyses using some of the most advanced scientific and engineering methods and tools available to understand the performance of the system and formulate ways to improve it.

A new floodwall under construction at the Harvey Canal on the West Bank. At 15-19 feet tall, a 5-foot base slab, and pilings as deep as a 12-story building, this is one of the tallest and strongest floodwalls in the system. (USACE Photo)

Using the IPET study and other valuable lessons learned, the Corps is building better, stronger and more resilient levees and floodwalls. The majority of the Corps' work involves building and improving the HSDRRS levees and floodwalls, the area's perimeter defense.

This is how the Corps of Engineers is building your new and improved floodwalls.

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1.

The proper location, height and depth for a floodwall structure is determined by hydraulics and site conditions. The first step is to construct the foundation for the floodwall which involves driving steel **sheet piles** and **steel beams/H-piles** to a predetermined depth.

2.

Then the concrete **stabilization slab** (dry bottom) is poured to form a solid and level work surface. The contractor welds **tension connectors** to the tops of the H-piles that may receive a tension load (force that tries to pull the piles out of the ground). These tension connectors connect the piles to the **concrete base slab**.

2 - 3.

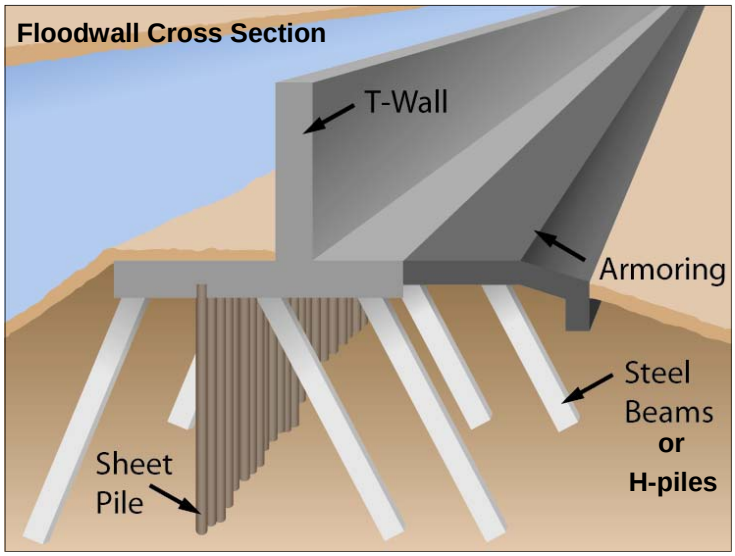
Next, the work crews place **reinforcing steel/rebar** to form-up the **base slab**. The wall stem rebar is tied to the base slab rebar. Temporary forms are placed around the base slab area. Concrete is poured into the temporary forms over the base slab rebar leaving the wall stem rebar protruding. The concrete is allowed to harden for 18+ hours, then the forms are removed and the base slab is constructed.

4.

Before the concrete is poured, rubber **waterstops** are set in place horizontally in the base slab and vertically in the center of the soon-to-be wall stem. The waterstop connects the monoliths (wall sections) and will prevent water from passing between the joints of the monoliths when construction is completed. (see illustra-

Continued on page 3

1.



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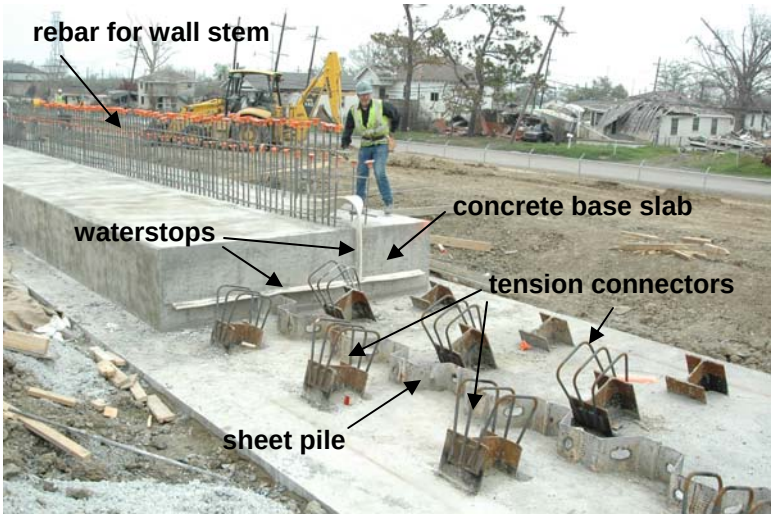

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tion on page 4).

5.

Temporary wall forms are set in place over the wall stem rebar into which concrete is poured to form the wall stem. When the concrete has hardened, the forms are removed and the wall stem is in place.

5. - 6.

At end of the new wall stem, two strips of **expansion joint material** are placed vertically on either side of the protruding waterstop (see explanation on page 4).

7.

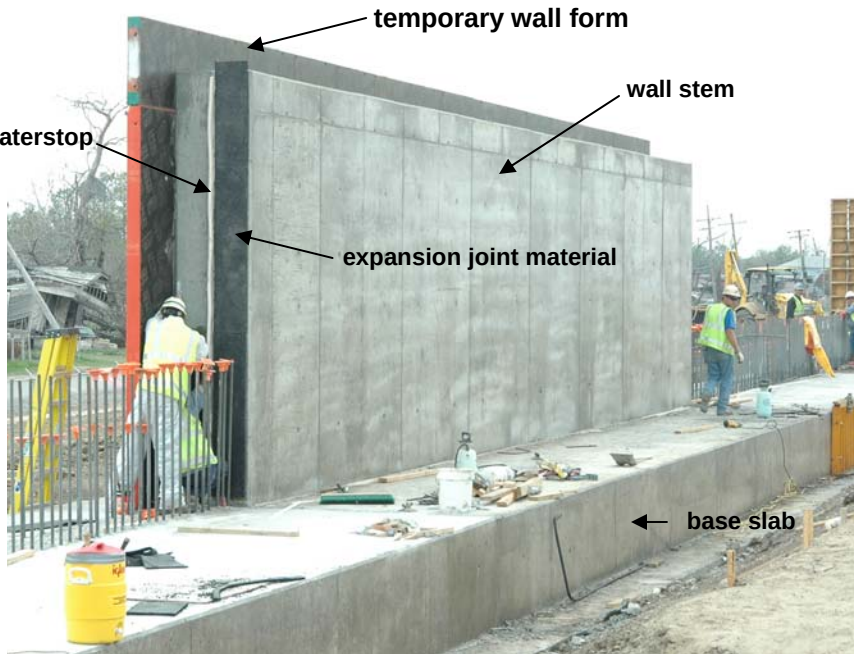
The monoliths are constructed in a **staggered arrangement**, e.g. first section, third section, fifth section, etc. Then the second, fourth, sixth, etc., monoliths are constructed. This staggered arrangement ensures that the floodwall joints will be properly adjoined and give the floodwalls maximum stability and performance.

The U.S. Army Corps of Engineers is constructing the most resilient and most scientifically advanced floodwalls possible for the purpose of reducing the risk of damage from hurricanes and storms.

"We will continue to use the lessons learned and the best professional expertise across the nation," said Karen Durham-Aguilera, Director of Task Force Hope, "as we work every day to reduce risk for the people of greater New Orleans."

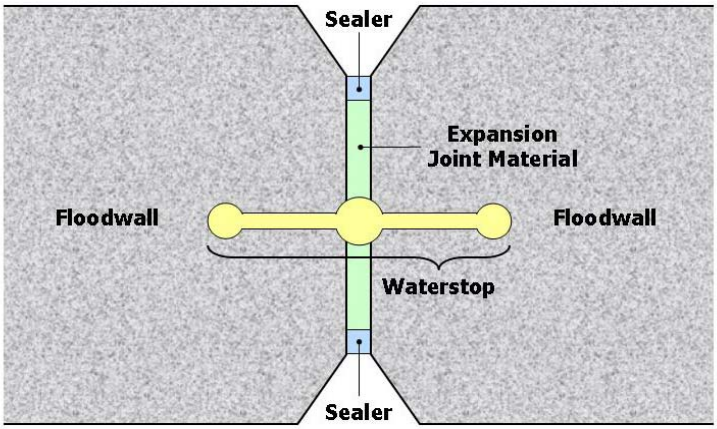
See page 4 for recent floodwall work under Paris Road bridge.

5.



Typical Floodwall Expansion Joint

6.



7.

Typical Floodwall Expansion Joint

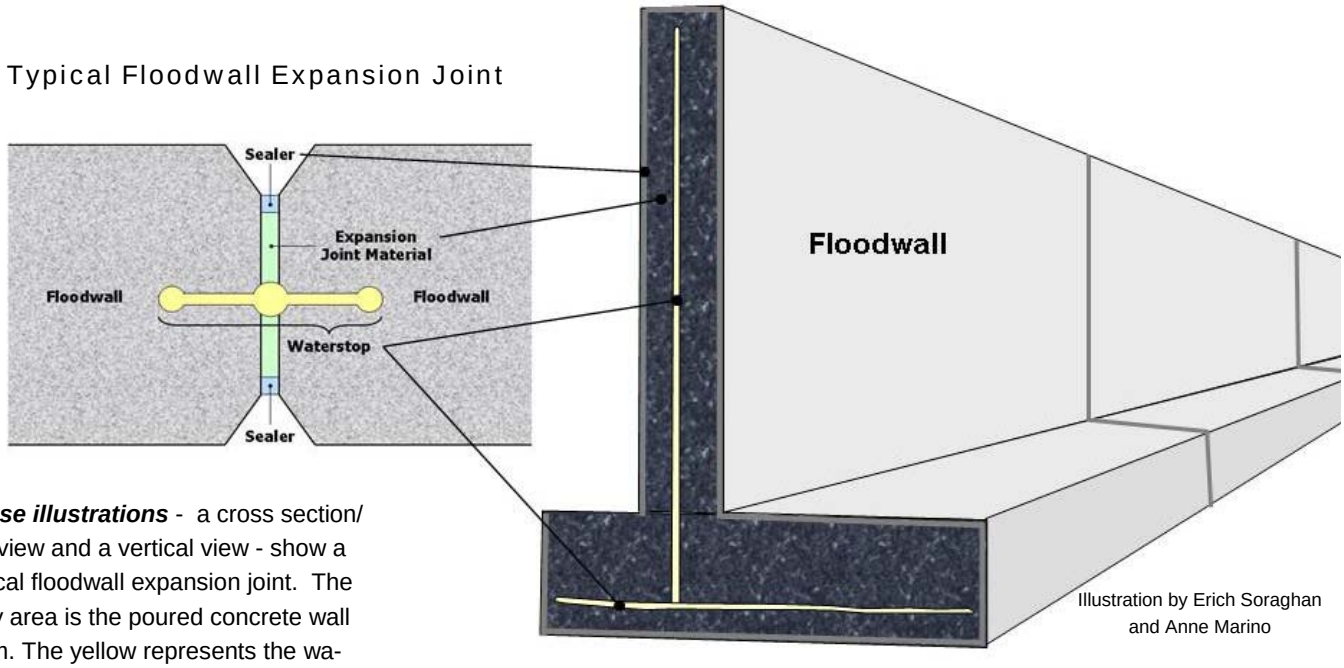


Illustration by Erich Soraghan and Anne Marino

These illustrations - a cross section/ top view and a vertical view - show a typical floodwall expansion joint. The grey area is the poured concrete wall stem. The yellow represents the waterstop, a strip of hardened rubber that runs the vertical length of the floodwall and connects with the adjoining floodwall. The waterstop does just what its name implies: it stops water from seeping between the joined floodwalls. The green is the expansion joint material that allows the floodwalls to contract and expand with changing temperatures while preventing spalling or other damage to the floodwalls. The blue is the sealer. The sealer keeps foreign material (debris) from infiltrating the expansion joint.

PARIS ROAD BRIDGE FLOODWALL JOINT REPAIRS COMPLETED

Paris Road bridge floodwall

At left, construction workers remove expansion joint material from floodwall joint. Top, after placing Corps-approved material in floodwall joint, workers replace sealer.

Recent media attention has been given to floodwall expansion joints located south of the Paris Road bridge on the Gulf Intracoastal Waterway. During construction work done immediately after Hurricane Katrina, three expansion joints there were filled with material that did not meet Corps standards. On May 5, the Corps of Engineers construction crews replaced the material with expansion joint material that meets Corps standards, then resealed the joints.

"We replaced the old expansion joint material with backing that meets our standards, and resealed the three expansion joints," said Karen Durham-Aguilera, Director of Task Force Hope. "We also verified the integrity of the waterstops.

"There was never any effect on safety or the structural integrity of the floodwalls, but the Corps has standards, and we are responsible to meet our standards."

(USACE Photos by Scott Riecke)

New Orleans District receives two SBA awards

By Amanda Jones

Ned Foley, left, New Orleans District, Office of Small Business Programs; and Col. Alvin Lee, Commander of the New Orleans District Corps of Engineers; accepted the Frances Perkins Vanguard Award and the Gold Star Award which were presented to the New Orleans District by the national SBA on April 23 in Washington, D.C. (USACE Photo)

The Small Business Administration (SBA) has selected the New Orleans District of the U.S. Army Corps of Engineers for two national awards recognizing the use of women-owned small businesses and the pursuit of small businesses.

The Frances Perkins Vanguard Award and the Gold Star Award were presented to Col. Alvin Lee, district commander, and Ned Foley of the district's Small Business Office, on behalf of the New Orleans District, during a ceremony Wednesday, April 23, in Washington D.C.

"The Corps is committed to working with small businesses," said Foley. "We do our best to give opportunities to local small businesses."

The Frances Perkins Vanguard Award is presented for federal buying activity excellence in use of women-owned small businesses as prime contractors and subcontractors. From Oct. 1, 2006, to Sept. 20, 2007, post-Katrina, the district's strategy involved developing contracting tools that could facilitate the mission as well as provide small businesses with substantial participation in the recovery efforts ongoing in New Orleans.

Examples of the contracts awarded to small businesses via set-asides for work in 2007 include seven indefinite-deliver, indefinite-quantity (IDIQ) contracts ranging in dollar value from $40,000,000 to $150,000,000, including award of one $150,000,000 IDIQ to a women-owned joint venture.

The New Orleans District also awarded multiple award task order contracts (MATOC) with $100,000,000 pools. One pool was for 8(a) firms with eight awardees, three of which were women-owned small businesses. The second MATOC was for HUBZone small business firms, also with eight awardees, two of which were women-owned small businesses. Set asides of this magnitude are unprecedented for most federal agencies. Women-owned companies received at least seven of the 23 the contracts rendered from this innovative approach.

The strategies and innovations used by the district's Small Business Office significantly increased the use of women-owned small businesses. In fiscal year 2007, the district substantially exceeded the U.S. Army Corps of Engineer's goal of 5.4 percent. Perhaps even more impressive was the 451 percent increase in percentage of contracts awarded in FY 2007 over the previous year. Certainly the

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dollar value of $90,280,557, when compared to the 2005 dollar value of $5,766,027, is impressive.

In addition to working with women-owned small businesses, the district was presented the Gold Star Award, which is given to recognize federal agencies that exhibit exemplary performance in pursuit of aggressive goals and strategic initiatives that help ensure increased small business participation in the federal marketplace.

The Army depends heavily on the Corps to contribute to the Army's small business goals. For example, the Army's statutory goal for small business use was 23 percent during 2007. However, the goal for the Corps was 44.8 percent. The New Orleans District met or exceeded the Corps' substantial goals in all areas except Small Disadvantaged Business. Even in that category the district more than doubled its percentage compared to 2005 and 2006.

Following the awards ceremony, Lee and Foley joined the other winners in the White House East Room to hear President George W. Bush's remarks recognizing small business owners and National Small Business Week, April 21 – 25.

"Government has a role to play, and that is to create an environment in which the entrepreneurial spirit flourishes," said Bush. "Government has got to be mindful of the contribution of the entrepreneur and make sure that the environment is such that people feel comfortable dreaming and owning and expanding."

The district's Small Business Office has been actively participating in outreach efforts to disseminate information on contracting opportunities with the New Orleans District. The office meets personally with small businesses to help identify the capabilities and requirements needed to support the district mission, particularly in hurricane and storm damage risk reduction.

"Our efforts are totally a team effort," said Foley.

The New Orleans District is also a three time winner of the Crystal Award from the Small Business Administration for leading all federal agencies in Louisiana in the number of dollars awarded to small businesses. This demonstrates the Corps' commitment to small businesses in its program execution.

The New Orleans District so far this year (as of April 1, 2008) has awarded $157,262,968.00 to small businesses, which is 46.01 percent of all contract dollars.

Upcoming Public Meetings

May 13 IER 4, 11 and Borrow
Dillard University
Stern Amphitheater
2601 Gentilly Blvd., New Orleans

May 15 IER 15, 16 17 and Borrow
Cytec, Tom Call Pavilion
10800 River Rd., Waggaman

Open House.....6:00. p.m.
Presentation.....7:00 p.m.

www.nolaenvironmental.gov

Contact Information

U.S. Army Corps of Engineers
New Orleans District
(504) 862-2201

Task Force Hope
(504) 862-1836

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 hurricane recovery work to stakeholders.

This is an online publication and 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
Public Affairs Office
7400 Leake Ave., Room #388
New Orleans, LA 70118
(504) 862-1949