Largest of levee projects to finish soon

Corps: Work to start at 3 other Jeff sites
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The largest of several projects to temporarily ramp up the safety of East Jefferson's hurricane protection system until permanent fixes can be made should be complete by month's end, and work at three other sites should begin within a few weeks, said Army Corps of Engineers supervisors overseeing the improvements.

On the current schedule, at least one of those projects -- new walls to better connect Pump Station No. 2 to the levee on both sides of the plant at the Suburban Canal -- isn't likely to be finished before the historically most active part of the storm season, considered to be mid-August through late September.

But a corps project manager said that enough progress will have been made at that Metairie pump station, as well on new tie-in walls at the Elmwood Pump Station, to ensure that both sites will have better surge protection than last year.

"It's important to remember that the walls out there now held during Katrina, and Pump Station 2 was pretty well tested with water almost to the top," said Mervin Morehiser, corps project manager for the Lake Pontchartrain vicinity hurricane protection project.

Morehiser said separate contracts will be awarded for each project so that the work can be done simultaneously. He said it is hoped that both contracts can be awarded and negotiated by the end of June or early July.

"We're moving as quickly as we can on the priorities," Morehiser said, identifying those in East Jefferson as the Vintage wall, a low section of sheet-pile wall near the airport runway and the pump station tie-ins.

The Suburban Pump Station job, which must be done in 60 calendar days, includes closing a 160-foot gap east of the station that is traditionally sandbagged by the East Jefferson Levee District during tropical events.

Work at the Elmwood Station, which also includes new sheet pile walls providing 18 feet of protection, must be finished in 40 calendar days.

In addition to building new walls two feet higher to offset future subsidence, the corps also is substantially strengthening the transition points where the steel walls meet earthen levee. In many other areas of the region, transitions were a main point of failure during Katrina.

New, heavy-duty sheet piling also was the key to a major construction job now finishing up on either side of the Vintage Avenue gate in the West Return Canal floodwall, which separates heavily populated East Jefferson from Lake Pontchartrain and the LaBranche Wetlands in St. Charles Parish.

Along 1,500 feet of misshapen wall on either side of the gate, contractors have added five feet to the existing berm and built a second, back-up wall of heavy-duty steel sheeting that was driven 54 feet deep -- more than four times the depth of the existing sheet piling.

Up against the wall

Although most of the floodwall was designed and built as T-wall, a sturdier method of construction that includes horizontal bracing, this section of the structure was built as a less expensive and potentially less stable I-wall.

Corps officials have said they now expect to replace the entire wall, a project that could run upward of $200 million. There is no schedule yet on that project.
But for this season, the agency is bolstering the obvious weak links, including replacing more than 500 feet of old, flimsy sheet piling at the south end of the West Return Canal floodwall near the airport's east-west runway.

That section of wall part of an old nonfederal legacy levee built strictly of sheet piling that in some spots is only 14 feet deep and six feet tall. The corps plans to replace it with 60-foot-long sheets of steel piling driven 40 to 45 feet deep, but there's still no contract on that work.

"We're being as aggressive as we can be, but we have to work through obstacles to get contracts awarded on all these jobs, and I don't want to detail each obstacle because they constantly change," Morehiser said.

"But we recognize that we're getting closer to the peak of hurricane season and, one way or the other, we'll make that situation better within the next two weeks," he said.

Berm getting higher

If need be, he said, work crews will heighten the berm on the landside of the floodwall to add more strength and stability until the new sheet piling can be driven.

Corps officials also this week added an additional interim job in East Jefferson, saying that a recent assessment of the system indicated that a dirt berm near the Pontchartrain Center needs to be raised by 1 or 2 feet.

The berm is a grassy area on the land side of the levee, and its weight helps give the levee extra stability.

Calling it an easy job that should be quickly completed, Morehiser said an extra 1 to 2 feet of dirt will be added to about 1,000 feet of berm immediately west of Williams Boulevard.

The grassy berm has been used by the Pontchartrain Center for overflow parking.

The corps also is expected to add dirt behind a section of I-wall in the West Canal floodwall beneath Interstate 10, where there is too little room to drive sheet piling.

Morehiser said several features make corps engineers believe that that I-wall is stable enough to withstand high water, including the fact that massive I-10 bridge pilings provide additional stability and that both sides of the wall beneath the bridge are paved. The paving apparently was done to reduce maintenance under the bridge, he said, but as everyone has learned since Katrina, such "armoring" helps prevent erosion and structural failure during overtopping.

Giant sand baskets

Weeks ago, levee district personnel installed giant sand baskets along the crest of the levee between the St. Charles Parish line and the Duncan Canal, an area of the East Jefferson levee system known as Reach 1.

Each five-compartment basket holds 15,000 pounds of sand and the baskets are linked together to provide almost 3 additional feet of height against storm surge along this reach of levee. The area is 1 to 2 feet low in spots -- thanks mostly to the ravages of subsidence, rising sea level, and the corps' use of old elevation data.

A major construction project to raise Reach 1 to 17 feet should be awarded late this month or in early July. Because it generally takes a year or so to lift a reach of levee -- and all East Jefferson reaches are lifted on a rotating basis -- some of the work to continuously elevate the earthen levees must be done during hurricane seasons.
But at the levee district's insistence, the contractor is not allowed to take down more than 1,000 feet of giant sand baskets at a time during construction. And if tropical weather threatens, baskets will be replaced to provide a continuous line of protection.

In fact, huge sand baskets were in place during Hurricane Katrina and helped stop the overtopping of Reach 4 between Causeway Boulevard and the Suburban Canal, which was midway into a lift when the storm struck.

At the request of Jefferson Parish officials, the corps has also stockpiled on site materials that could be used in the event another breach threatens at the 17th Street Canal, where the east wall broke during Katrina and sent catastrophic floodwaters into much of New Orleans and a small portion of East Jefferson.

But corps engineers don't expect the materials to be needed.

Although individual teams investigating systemwide Katrina failures don't agree the stability of the canal's western wall -- which didn't fail -- they all agree that gating off the canal from future storm surges and keeping its water level low will protect against future breaks in the floodwalls.