

Detention Pond Lessens Impact to Central Flood-Prone Community

SMITHVILLE, TX – Smithville has seen more than its fair share of disasters in recent years, from multiple floods to the largest fire disaster in state history. These disasters sparked the need to intensify hazard mitigation efforts.

One of those efforts involved creation of a detention pond – also known as a dry pond – designed to temporarily hold rain or storm-water runoff to avert flooding. Though currently unfinished, this mitigation measure helped keep floodwaters down after Hurricane Harvey initially made landfall Aug. 25, 2017.

Harvey dumped 25 inches of rain in two days and caused 70 homes in Smithville (Bastrop County) to flood with 2-4 feet of water. “They would have flooded sooner, and the severity would have been greater, had it not been for the detention pond,” said Smithville City Manager Robert Tamble

“Residents have suffered from severe repetitive losses for 30 years due to flooding in one subdivision,” said Tamble. “During the last five years, they’ve been flooded five times on one street because of the inability to drain water into the Colorado River. But I don’t care how much drainage you have, you are going to be challenged when you get 25 inches of rain.”

Pond construction began in June 2017 and was expected to take six months. The pond was designed to mitigate a 10-year storm event and to hold up to 13.5 million gallons of storm runoff – water that otherwise would flood homes.

When Harvey threatened, residents braced for more flooding. They attended meetings at city hall to receive status about the detention pond and waited to see how the pond would alleviate further flooding. During the two-day storm event, at least 35 employees worked nonstop to monitor water levels and pump excess water from three separate locations in the subdivision to the detention pond.



Half-finished detention pond filled to capacity after Hurricane Harvey made landfall. **Photo by Robert Tamble**



A 450-foot hose pumps water from the Smithville detention pond. **Photo by Robert Tamble**

By the second day the detention pond filled close to capacity, holding more than 8 million gallons of water. After the storm, runoff stored in the pond was discharged by pump into the existing drainage system.

Tamble hopes to complete the 3.4-acre detention pond within the next few months. The limited success of the detention pond proved the benefits of mitigation, and the city recently submitted a subsequent Flood Mitigation Assistance grant application to enlarge the pond.

The project was funded with a grant from the Federal Emergency Management Agency’s [Hazard Mitigation Grant Program](#) in January 2017.



The program pays 75 percent of the cost on approved projects that will prevent or reduce damage from storms and other natural disasters.

Circumstances changed during the excavation of the pond that required the city to request additional funds. Initial work on the pond led to the discovery that the water table had risen due to earlier drought conditions. The city requested to expand the acreage of the pond because the scoped depth had to be lowered and FEMA approved the request in November 2017.