

Expansive Flood Control Project Safeguards Austin Texas Neighborhood

AUSTIN, TX – While much of Texas was overwhelmed by torrential rains over the Memorial Day weekend of 2015, residents of an Austin subdivision were spared thanks to a flood mitigation project completed in 2004.

Before the project, more than 175 homes in the Crystal Brook subdivision were subjected to direct flooding from Walnut Creek. Much of the area was within a flood plain in which water depths potentially could reach seven feet in some homes.

Additionally, the storm drain system in the neighborhood was inadequate, frequently resulting in serious localized flooding that occurred during smaller storm events.

“This critical situation triggered a major challenge for the city that required action,” said Kevin Shunk, Manager of the Austin Watershed Protection Department.

The solution consisted of a two-phase project. Phase I focused on improving the drain system, while phase II involved the installation of a levee/floodwall system to protect the neighborhood from creek overflows. The levee/floodwall system incorporated Loyola Lane to create a flood barrier on the southern boundary of the neighborhood. Prior to the improvements, Loyola Lane was five feet below the base flood elevation and could not be reconstructed without the integration of a flood control project.

A concrete floodwall system, eight feet high and 5,700-feet-long, was built to surround the parts of the neighborhood adjacent to Walnut Creek. A large box culvert system was installed south of Loyola Lane stretching for three-quarters of a mile. These improvements created a storm drain system with adequate capacity to reduce localized flooding during frequent smaller events.

After nearly two years of construction, the project was completed in October 2004.

“I had the privilege of managing this project from conception to successful completion,” said Shunk. “The Crystal Project had almost every engineering element you can incorporate in a flood mitigation project.”

The project encompassed a bypass channel, inlets, storm drains, levees, floodwalls, bypass box culvert, and bank stabilization.

“During my 30 years in engineering this project is the first [that went] from beginning of the feasibility stage to securing funding in two months,” he added.

The first phase of the project cost \$9.5 million and the second phase totaled \$5 million. Funding for \$10 million was approved by a bond election. The city council approved \$3.8 million in certificates of obligation, and an appropriation of \$700,000 was financed by a transfer from the city’s Drainage Utility Fund.

By increasing storm drain systems capacity, the completed project provides protection to the one percent annual chance level, thereby reducing the effects of localized flooding of the entire neighborhood.

“Without this project in place,” said Shunk, “this neighborhood would have flooded in several recent storm events, including the Memorial Day Flood of 2015.”

For additional information on the Crystal Brook Flood Control Project visit, <http://rchaninc.com/projects/floodcontrolhh.html>.



Crystal Brook Neighborhood located behind the completed mitigation project.