

Weirs “Spillovers” on the Willow Waterhole Bayou

One of the biggest conversations in Houston these days is flooding. Every rain storm brings more worries. While Westbury saw no home flooding in 2018, we did have several storms that flooded neighborhood streets and stalled cars. These storms also brought the Willow Waterhole Bayou at Landsdowne to levels that make us very wary.

After 5 floods since 2013, residents who live near the Willow Waterhole Bayou in Westbury at Landsdowne know how the bayou operates when it starts to rain. The WCC monitors the gage levels online and also know how this bayou has historically acted. This all changed in 2018. The July 4th rain event alarmed area residents as the gage seemed to stop reporting the level accurately, it stayed stationary even though it was still pouring outside. Based on past events, homes would have flooded on Cartagena and Ludington. However, this was not the case in July. The WCC received pictures from residents that show the bayou was still within its banks; the gage was correct. The top of bank at Landsdowne is 54.20 ft. The gage showed 53.49 ft. for over an hour, despite an additional 1/2 inch rain in 45 mins.

Harris County Flood Control (HCFCD) attended the July WCC Board meeting to explain the changes to the bayou and the resulting effect on the gage. The WCC’s understanding is that the weirs “become active” when the water reaches approximately 52.5 ft at the weir. Upstream, at Landsdowne, where the gage is located, the elevation is one foot higher. This means that the bayou will reach almost the top of bank at Landsdowne before water will overtop the weirs downstream at the detention basins. This is how it is designed to work. This is when we expect to see the Landsdowne gage to stabilize and hold at a certain level between 53.24 ft. and 53.5 ft. (top of bank is 54.20 ft.)

The “Spillover” weirs along the bayou are now complete and seem to be operating as they were intended. During the July 4th rain, only one of the weirs was completed, but by the Halloween rain event, both weirs were operational. The rain on Halloween saw the bayou also plateau for 45 mins, this time it was 53.24 ft. Each of these rain events saw rapid rainfall in a very short period time that is hard for our old infrastructure to handle. Halloween saw 0.40 inches fall in 5 minutes! Nothing is designed to hold that rate of rain. This is why our neighborhood streets flooded so quickly and even in areas “that never flood.”

These 4 photos show some of the new features at the Willow Waterhole Bayou and detention basins. Photo 1 shows the new large culverts that are bringing the Bankside/Hummingbird bayou water from the Chimney Rock intersection to the Willow Waterhole Bayou. This photo also shows one of the weirs into the detention basin as well as the emergency/ secondary spillover that will allow water to overflow and re-enter the channel on other side of the “control structure” that is seen circled in red in photo 2. The control structure restricts the flow of water in the bayou. As water level rises in the channel, water will flow over the weirs and into the detention basins. Photo 3 shows the 2nd weir which is located along the Willow Waterhole Bayou directly behind the homes on Gaymoor in Westbury. This weir is located before the other one to the West. The basins are now all connected. One of the new connections is seen in Photo 4.

The WCC would like to get aerial pictures of this area, please contact the WCC Office if you have a drone and are willing to take some pictures for us!

