Williams Ditch/Oso Bay Basin Flood Mitigation Project
LMI Flexibility Example

Project Area Detail- Scope

The Williams Ditch/Oso Bay Basin Flood Mitigation project will address a major flood prone area of Corpus Christi in the Oso Bay Stormwater Basin. The project entails upgrading Williams Ditch, a detention pond and other drainage improvements in the Tanglewood neighborhoods. The original drainage system was sized to convey a 5-year storm event. Additional storm sewer is required for a 25-year storm event starting upstream at Rodd Field Road and heading downstream to Oso Bay, running along a one-mile section of earthen ditch. In the first section from Rodd Field Rd. to Lexington Rd., the City will construct underground drainage structures as opposed to expanding the open channel system currently in place. This direction to go underground stems from a future planned extension of Williams Dr. roadway. In addition, it would be difficulty to acquire the additional right-of-way would need to expand the current open channel. Designed to be a multi-functional facility, a roadway will eventually be constructed over the underground drainage conveyance. Additional culverts would also be installed at the Lexington Rd. bridge. The remaining 60% of the project employs green infrastructure. The next section from Lexington to Ennis Joslin Rd. would expand the open channel and add culverts at the Ennis Joslin Rd. bridge. A detention basin will be sited upstream near Williams Drive and S. Staples Road. To further address this localized flooding of adjacent neighborhoods, an intervention will divert the off-site runoff from drainage areas into a new detention pond located at the neighborhood park to reduce the amount of water flowing into the adjacent residential backyards at Tanglewood Drive. The existing system will be improved by adding a curb inlet extension to the existing sag inlet and a new underground system extension along the westside to divert drainage flows into the new detention system. The anticipated project scope for the consultant engineer includes preliminary design for determining appropriate flood proofing improvements, detailed design, development of construction documents, and construction phase services.

LMI Benefit

This project will benefit a population of 13,383 and the total combined area is 55% low/moderate income. The project benefits a section within the Oso Bay Stormwater Basin in Corpus Christi and Nueces County, Texas. This project will increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters. This project will address top hazards impacting Texas: severe coastal and riverine flooding, storms and hurricanes/tropical storms and tropical depressions. The project also will implement resiliency objectives of critical FEMA Community Lifelines of Safety and Security, Transportation, Health and Medical, and Food, Water and Security, identified in the State Risks and Hazard Assessment. With the project's improvements, the Lexington St. and Ennis Joslin Road bridges which provide access to SPID, a hurricane evacuation route, will be able to better function during and after future flood events.

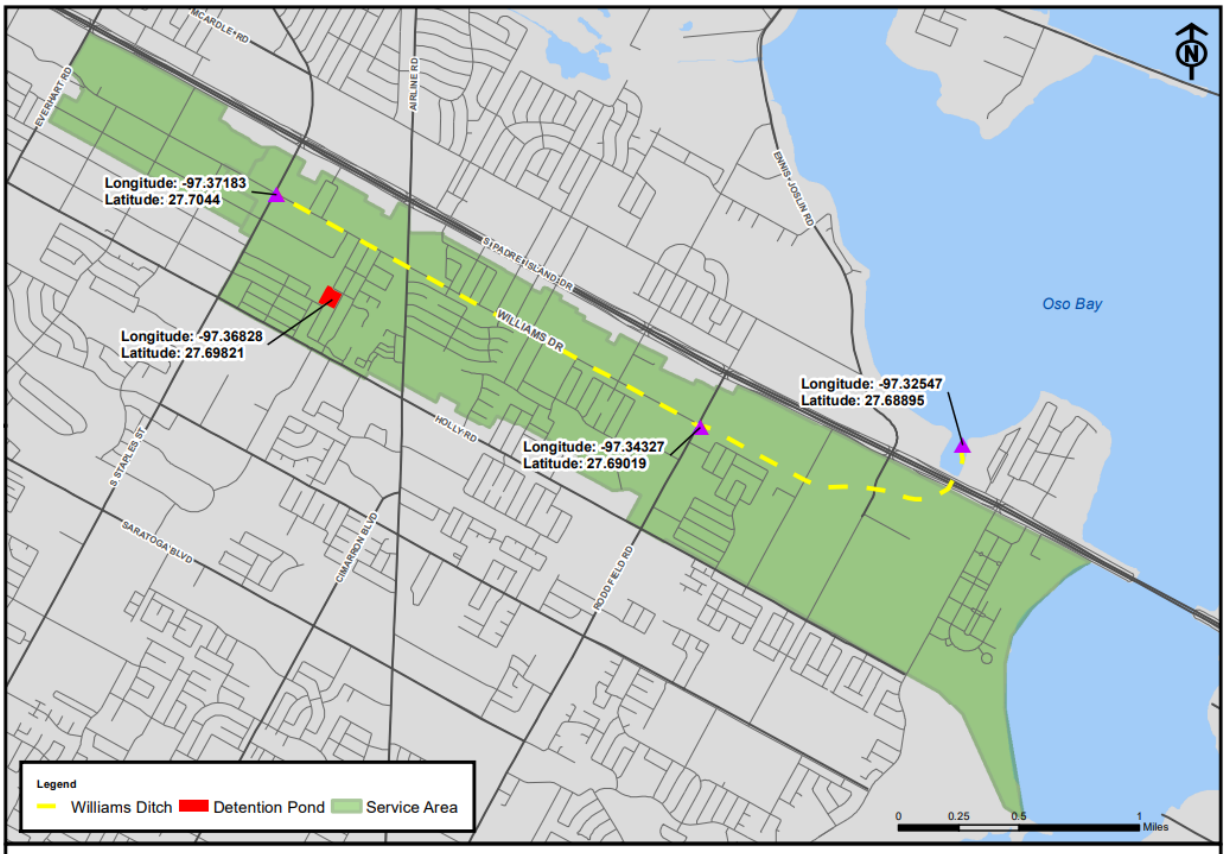
Storms will continue to fuel lowland flooding and flash flooding of the ditch, putting life and public safety at risk. The project will help safeguard critical infrastructure. This is the only open channel conveyance south of South Padre Island Drive (SPID), a U.S. highway. Flooding poses risks to significant infrastructure. Corpus Christi Medical Center Bay Area, located on Rodd Field Road at SPID is a full-service, acute care hospital with an adjacent three-story medical office building. Specialized services include a 24-hour Emergency Department with a Level II Trauma designation, Cardiovascular Services, and a Neonatal Intensive Care Unit. Two bridges, one at Lexington Rd., and one at Ennis Joslin, provide ingress/egress to the residential areas to the south, and access to SPID, which is a designated hurricane evacuation route.

The project will also provide a community development benefit to reduce the long-term risk of upstream flooding and damage to structures insured under the National Flood Insurance Program that have had one or more claim payments for flood damages. There will be a reduction in risk of loss of life, injury, and property damage due to flash flooding resulting in localized flooding in the adjoining neighborhoods; and the project will accelerate recovery following a disaster by protecting the bridge infrastructure to allow ingress/egress of first responders, emergency and recovery services and supplies to adjoining neighborhoods. Critical medical infrastructure will be protected from localized flooding. The Williams Ditch/Oso Bay Flood Mitigation project is in a HUD-MID County. Williams Ditch drains the area generally bound by Everhart Road and Oso Bay, from South Padre Island Drive (State Hwy 358) to Holly Road. The tropical storm rain event on the weekend of September 17-19, 2010, inundated Corpus Christi with some of the largest flooding in recorded history, and subsequent storms due to tropical storm and hurricanes continue to stress the current drainage system.

The Williams Ditch/Oso Bay Basin Flood Mitigation project will advance long-term resilience by enhancing the capacity of stormwater system in one of the most flood prone areas of the city. It will align with other planned capital improvements including the city-wide storm water infrastructure rehabilitation and channel ditch improvements funded through the capital improvement program. It promotes community level and regional planning for current and future disaster recovery efforts and additional mitigation investments by protecting an arterial road connection to designated major hurricane evacuation routes and critical infrastructure. It will also provide environmental benefit, as a portion of the project will be designed as green infrastructure, using best management practices listed in the Texas Non-point Source

In the table below you can see that the Williams Ditch crosses a diverse set of census tracts when measuring LMI. This is another great example that shows the importance of evaluating the entire benefit area when calculating LMI for a proposed project.

CENSUS TRACT	**BLOCK GROUP**	**LOW-MOD**	**LOW-MOD UNIVERSE**	**LOW-MOD PERCENTAGE**	**POPULATION**
32.02	2	180	385	46.75	534
32.02	3	290	1,030	28.16	1,237
32.03	1	550	1,400	39.29	1,855
32.03	2	690	1,855	37.20	1,591
32.03	3	1,815	2,755	65.88	2,639
33.03	1	370	755	49.01	611
33.03	2	460	725	63.45	644
33.05	1	1,490	3,110	47.91	2,892
33.05	2	1,860	2,085	89.21	1,835
	Total	7,705	14,100	0.55	**13,838**



WILLIAMS DITCH / OSO BAY BASIN FLOOD MITIGATION

Project Area

10/8/2020