Flood study

January 24,2023 city council meeting

4) RECESS REGULAR MEETING AND CALL A PUBLIC MEETING AT 5:36 P.M.---------- PUBLIC MEETING Hear Comments Regarding the Drainage Study Master Plan for The City of Gatesville City Manager Parry said that the City of Gatesville has had severe flooding issues for many years due to lack of a drainage criteria plan and also new construction occurring which allowed the drainage problem to become worse. The Texas Water Development Board opened up a funding opportunity under their Flood Infrastructure Fund two (2) years ago to assist cities with a Master Drainage Plan and the City of Gatesville was able to apply for and be approved for funding. This study will inform City Council's decision-making process for construction of sustainable drainage infrastructure, enhance community safety, and provide protection of personal and public property from flooding in the future due to heavy rainfall events**. As part of the $250,000 grant funding two (2) public meetings are required**. The first public meeting was held in June of 2022 which **essentially introduced the Drainage Master Plan and addressed problem areas of the community**. This public meeting will complete the full requirements of REGULAR CITY COUNCIL MEETING JANUARY 24, 2023 PAGE 2 the grant and highlight the results and findings of the drainage study. Curtis Beitel of Walker Partners Engineers presented a Power Point program of the drainage study findings which addressed specific areas of Gatesville. **This study will set up the framework in the Council's decision making process to be able to effectively address the various flooding issues that Gatesville has experienced over the years. Highlighted in the discussion was the historic Leon River flooding and how it passes through town and the severe bank erosion at Faunt Le Roy Park. To help prevent future drainage problems, the City adopted a Drainage Criteria Manual in 2018 which was a great first step.** Phase 1 of this study calculated the capacity of the streams and identified flood risk. Capital Improvement Projects for the City will be prioritized to mitigate flooding of homes or roadways. Phase 2 will evaluate localized flooding along with flooding in culverts and ditches. Public Meeting #1 presented the purpose of the meeting and included collected information on flooding experiences in Gatesville- which were then marked on City and County maps. Mr. Beitel discussed the tasks in the survey: - Task 1- Topographic Survey which studies terrain, contour lines, and natural features. - Task 2- Hydrology which determines rainfall run-off and how much will soak into the ground. - Task 3- Hydraulics which is a study of the way fluids move and how deep does it get. Hydraulics of the Leon River, Stillhouse Branch and tributaries, Dodd Branch and Stream CG-2 and tributary (located in the southeast part of

town) were highlighted. - Task 4- Proposed Improvements which would be potential flood mitigation projects in the 16 locations identified. These projects could include Regional Detention, Channel Improvement, Culvert/Bridge Improvements, Property Acquisition/Buyouts, and Protect Critical Infrastructure. City Manager Parry pointed out that a City must have a Drainage Master Plan before asking for flood mitigation grant funding. The Master Plan must have a list of identified projects included in the Plan to support the funding request and the City's Master Plan. The 16 Problem Areas Identified: 01 Kaylyn Siebert Trailers on US 84 02 Dodd Branch at FM 2412 03 Dodd Branch at Moccasin Bend Road 04 Leon River at East Leon Street 05 Leon River at Faunt Le Roy Park 06 Leon River at Leon Wastewater Treatment Plant 07 Raby Park 08 09 Shady Lane Channel Golf Course Road and Lovers Lane 10 Stream CG-2 at Straws Mill Road 11 Stream CG-2 at South Highway 36 and Arrowood Lane (County already has a project here) 12 Stream CG-2 at US 84 (located by the Grace Bible Church) 13 Stream CG-3 at Mears Drive and 28th Street 14 Stream CG-4 at FM 929 15 Leon River at Stillhouse Wastewater Treatment Plant 16 Stillhouse Branch at Sun Valley Neighborhood Capital Improvement Project solutions regarding several of the flood prone areas were discussed: - Leon River at East Leon Street- Levee system or property acquisitions & remove structures (by grants) - Leon Wastewater Treatment Plant- Construct a parapet wall to add 2 ft to the ring embankment (grant) - Straws Mill Road Low Water Crossing- Raise roadway by 5 feet and enlarge culverts (by grant) - Arrowood Lane by SH 36- Replace the bridge crossing & add 2 8'x8' culverts (coordinate with the County who is working on a grant for this location) - FM 929 Crossing- Replace and add culverts, widen downstream channel (coordinate with TxDOT) - Sun Valley Neighborhood- Construct an earthen levee (grant) The total proposed mitigation cost for the **recommended solutions list estimated at $6,723,757.** REGULAR CITY COUNCIL MEETING JANUARY 24, 2023 PAGE 3 Walker Partners will be finalizing the **draft report and submitting to the Texas Water Development Board in the next week. Texas Water Development Board will then have 45 days to review and submit comments- with the Master Plan projected to finalize in April. The report will be posted on the City website once finalized.** This Master Plan will also assist developers when a project is proposed as they will be able to see what impacts their proposed project will have with the updated drainage plan.

Study planned to help resolve flooding issues - The Gatesville Messenger

MAGNIS LORENZO

Posted Wednesday, March 16, 2022 8:23 am

By Jeff Osborne Senior writer & editor

The city of Gatesville has commissioned a drainage study to help determine ways to mitigate the impact of flooding in high-risk areas, and City Manager Bill Parry presented an update on the study to the Coryell County Commissioners Court on March 8.

"I arrived in 2015 and took over as city manager on June 1, and about that time, we experienced a heavy rain event with significant damage from flooding," Parry said. Although these types of events are usually projected to occur only about once per decade, Parry said, the city was hit hard by another flooding event in 2017, with the Leon River flooding and additional significant damage throughout the area, including Faunt Le Roy Park.

"When Gatesville was a lot of farm land, the land absorbed the water," Parry said. "With development, drainage problems got worse and worse."

The city was able to obtain money from the Texas Water Development Board to fund the drainage study. A $250,000 grant was awarded with the city being responsible for 10% of the cost, and Walker Partners, an engineering and surveying firm in Waco, will conduct the study.

"The engineer will start at the Leon River and go to other areas where water flows," Parry said, "It will help determine what infrastructure is needed to get stormwater back into the Leon River."

One goal the city has is to separate stormwater drainage from the sewer system, Parry said, adding that grant funding is also available to assist with that process as part of the city's capital master plan.

"Development is trying to alter the floodplain and hopefully we'll be able to get that resolved," Parry said.

The city is working with grant administrators on some of the projects, and with additional funding expected from the Texas General Land Office for some of the improvement work, "we'll likely hire a grant administrator for that. We'll keep you posted."

Coryell County to become center of $2.5 million flood mitigation study - The Gatesville Messenger

KAYLEE DUSANG

Posted Friday, June 28, 2024 2:07 pm

Kaylee Dusang

Coryell County has experienced significant flooding over the years, including recent damage in the spring that caused people to lose homes, livestock, and more. As a result, the county will receive a nearly $2.5 million drainage study to help prevent and plan for future flood events.

The Texas General Land Office (GLO) awarded the funds to Texas A&M AgriLife Blackland Research & Extension Center in Temple who will lead the study alongside the American Conservation Foundation (ACF). The project will focus on the Leon River and Cowhouse Creek Watersheds – areas prone to flash flooding that impacts the county and its surrounding communities.

The GLO announced the grant money at a Coryell County Commissioners Court meeting on Tuesday.

“The whole intent from our viewpoint is to model the two rivers – the Cowhouse Creek and the Leon – and then suggest ways to build structures that might help with flood mitigation. Not just flood control, but also water storage and water management,” said Jet Hayes, the Deputy Director of Integration at the Texas General Land Office.

The study is the beginning of several projects that will focus on developing solutions to flood problems within the county.

“Coryell County is uniquely situated near the center to the lower end of the Cowhouse Creek and Leon River Watersheds, but just above Lake Belton Dam, creating a situation that is prone to flooding,” said David Jones with Natural Resources Solutions (NRS), a consulting firm working with ACF on the project. “During the last 10 years, Coryell County has experienced several flood-related disasters, which has prompted state and local officials to review and address flood problems in Coryell County.”

The study will help the research groups plan an automatic flood warning system that will alert local officials and citizens of roadway flooding in real-time. Jones said Coryell County will monitor and receive notifications from the flood alert system once it is implemented.

“This will alert roadway users in real-time of life-threatening flood hazards, and it will alert officials of incoming flood events, including the locations, extent, and duration of

each event," Jones said. "Additionally, this data will be used by state agencies as part of a state-wide monitoring and information system."

The study will also help develop surface and groundwater models that will use local data on lakes, creeks, and underground water sources like aquifers to help predict current and future flood events. The models will also be used to build the flood warning system.

"Texas A&M and our group will work together over the next two years to build a flood model, and then we are going to build a flood warning system over that model – so that people don't get stuck like they did a few weeks ago, and school buses aren't driving through the water and that kind of thing," NRS President Steve Manning said.

Last week, NRS distributed a survey on behalf of Coryell County that asked residents about how flooding has affected their home and community. Jones said the data from the survey is an integral part of the information they are collecting for the overall flood project.

"We felt it was important to capture the public's flood event concerns as close as possible to an actual flood event, so we rolled the public survey out as soon as we could," Jones said.

The research groups will eventually use the findings to develop a comprehensive flood mitigation program for the two watersheds, which will allow the county to apply for funds to help protect citizens from future flooding, such as adding bridges to low water crossings.

Following recent population growth and severe drought conditions, shortages from local water sources, such as Belton Lake, are also a concern. June Wolfe, a research scientist with the Texas A&M Blackland Research Center, said the flood models will also help the county plan and search for alternate forms of water supply.

"The models have multiple applications, not just for flood mitigation, but also for planning for future water supply for local citizens," Wolfe said.

The flood study is a joint effort between several government agencies and regional organizations. The Leon River Watershed covers more than 1,300 miles across Central Texas, and the Cowhouse Creek Watershed mainly affects areas within Fort Cavazos.

"This truly is, and I hope everyone appreciates what a collective and team effort this has been," County Judge Roger Miller said. "This is not just a Coryell County thing. This is a regional impact. It goes beyond borders."