



30 Day Engineering Models Notification

December 13, 2021

The Honorable Carbett "Trey" Duhon, III
Judge, Waller County
836 Austin Street, Suite 203, Hempstead, TX 77445

Dear Judge Duhon:

This letter is to notify you of the engineering data models being used in the Texas Water Development Board's (TWDB) upcoming flood risk project for Spring Creek in Montgomery, Waller, and Grimes County. The TWDB will use the gathered data from the Harris County Flood Control District study to create useful, credible data, and a fair process to help you make informed decisions to continue building a safer and stronger community.

These engineering data models will form the basis for the proposed Special Flood Hazard Areas (SFHAs) that will ultimately be presented on the Flood Insurance Rate Map for your community. A SFHA is an area that is subject to inundation by the 1-percent-annual-chance flood (also called the base flood). Over time, water flow and drainage patterns in your area may have changed dramatically due to surface erosion, land use, and natural forces. Given these factors, the likelihood of flooding in certain areas may have increased or decreased over time, changing the SFHA designation(s).

Upon receipt of this notification, your community will have 30 days to consult with the TWDB project staff (identified in the last paragraph of this letter) regarding the appropriateness of the models selected for the project. Your community will have additional opportunities to comment on and provide feedback about the models and other draft flood hazard information throughout the project. With the TWDB leading this effort, we plan to work closely with the counties to gain buy-in prior to project close-out. However, if there are uncertainties about the mapping data that have been collected and analyzed, a formal appeals process and period will be available to help resolve any remaining questions before the flood hazard information becomes effective.

The TWDB, as a mapping partner with the Federal Emergency Management Agency (FEMA), will develop draft flood hazard information for Harris, Montgomery, Waller, and Grimes County, Texas, based on the engineering models developed by the TWDB, shown on the attached Engineering Models Summary Table, which lists the flooding sources to be

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Leading the state's efforts in ensuring a secure water future for Texas and its citizens

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studied, along with details regarding the selected models, and the rationale for their use. As a continuation of the Harris County Flood Control District's commitment to floodplain management through the development of flood data, the TWDB intends to utilize the models developed by the Harris County Flood Control District and advance them toward FEMA products.

The TWDB and FEMA want to ensure that the most up-to-date and accurate technical data are used to develop the flood risk products. The TWDB and FEMA rely on your feedback, partnership, and knowledge during this important project to determine the extent of flood risk in your community and support your efforts to reduce those risks. We look forward to working with community officials and other stakeholders in Montgomery, Waller, and Grimes County, Texas, to increase flood risk awareness and reduce the risk to life and property from flooding. Your initial feedback will not affect your community's ability to provide feedback later, or to formally appeal the flood hazard information during a future appeal period.

Please provide your comments related to the types of models selected for this project by January 13, 2022. To provide your comments or get answers to any other questions about this project, please contact the TWDB Project Officer, Manuel Razo at manuel.razo@twdb.texas.gov or (512) 475-1850.

Respectfully,



Manuel J. Razo
Cooperating Technical Partners Coordinator

Enclosures: Engineering Models Summary Table
Project Area - Study Map

cc: Yancy Scott, Floodplain Administrator, Waller County
Larry Voice, FEMA Project Monitor, FEMA Region VI
Cindy Engelhardt, P.E., Project Manager, Halff Associates

ID	Flooding Source Name	Current Study Method (BLE, Approximate, Detailed)	Proposed Study Method (BLE, Approximate, Detailed)	Total Mileage	Hydrologic Model Proposed	Hydraulic Model Proposed
1	Three Mile Creek	Detailed with Floodway	Detailed with Floodway	15.8	Spring Creek MAAPnext HEC-HMS 4.8	Spring Creek MAAPnext HEC-RAS 6.1
2	Walnut Creek	Detailed with Floodway	Detailed with Floodway	19.9		
3	Bear Branch	Detailed with Floodway	Detailed with Floodway	3.8		
4	Panther Creek	Detailed with Floodway	Detailed with Floodway	9.2		
5	Mill Creek	Detailed with Floodway	Detailed with Floodway	30.6		
6	Brushy Creek	Detailed with Floodway	Detailed with Floodway	5.2		

Rationale for Model Selected	
Hydrologic Analysis	The TWDB will update the available hydrologic models to include necessary detail within the tributaries using HEC-HMS version 4.8. The precipitation data will remain Atlas14, the 2018 National Oceanic and Atmospheric Administration (NOAA) as recommended by the Harris County Flood Control District. The model parameters will be reviewed in comparison to the newly available LiDAR and recent aerial photography to conduct updates, as appropriate.
Hydraulic Analysis	The TWDB will update each tributary using HEC-RAS version 6.1 using both one dimensional and two dimensional calculations as needed. The models and stream crossings will be reviewed in comparison to the newly available LiDAR and conduct updates, as appropriate. Floodways will be calculated based on the depth times velocity calculation as developed for the Harris County Flood Control District.