

# Scope of Work to Develop Flood Hazard Inventory for the Fourmile Creek Watershed

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The Urban Drainage and Flood Control District (UDFCD) together with Water & Earth Technologies, Inc. (WET) have developed a GIS-based Flood Hazard Inventory Tool (FHIT) that was implemented and demonstrated for the Lena Gulch watershed in 2010. The FHIT utilizes ArcGIS 9.3 and an open geo-database. The FHIT serves to identify the flood hazards within a watershed. The FHIT is used as a decision support/planning tool to identify areas of high risk and to develop subsequent flood mitigation measures.

WET is proposing to implement the FHIT for the Fourmile Creek watershed down to its confluence with Boulder Creek. The outcome of the proposed project includes:

- An inventory of structures in the floodplain and an assessment of their associated flood risk
- An atlas of 10 maps to include the 10, 50, 100 and 500-year flood extents

WET will complete the following tasks.

## **Task 1 – Develop a FHIT/DSS for the Fourmile Creek Watershed**

WET will incorporate the flood hazard information available for Fourmile Creek through the existing Flood Study (CWCB 1981). WET will obtain existing information in electronic, GIS and hardcopy format from the CWCB or District. Current LIDAR mapping will be provided by the UDFCD. WET will conduct a field survey to collection additional flood hazard information including, watershed conditions, structure capacities, critical elevations and photographs for each structure contained in the inventory.

## **Task 2 – Develop an Atlas of Flood Extents**

WET will develop an atlas of maps to include the 10, 50, 100 and 500-year flood extents from the existing 1981 CWCB Flood Study. Additional extents will be developed based on the hydrologic analyses being completed by the CWCB/UDFCD in early 2011. The costs shown below include the development of up to 10 maps for the atlas. Existing cross sections and ratings will be used to interpolate and extrapolate flood elevations. Additional cross sections will be digitized from the CWCB 1981 Flood Study or from the existing Flood Insurance Study.

**Deliverables** – Development of a Flood Hazard Inventory Tool/Decision Support System populated with flood hazard information for Fourmile Creek. The FHIT will include an atlas of maps depicting the 10, 50, 100 and 500-year flood extents and will be used to identify structures with high flood risk and to plan mitigation efforts for future flooding events.

**Fee Estimate** - The following table summarizes the cost associated with the scope of work.

Description	Labor	Direct	Total Cost
Task 1 – Develop a FHIT/DSS for Fourmile Creek	\$10,700	\$2,000	\$12,700
Task 2 – Develop Atlas of Flood Extents for Fourmile Creek	\$7,800	\$500	\$8,300
<b>TOTAL</b>	<b>\$18,500</b>	<b>\$2,500</b>	<b>\$21,000</b>