Sheep Draw Floodplain Study
City of Greeley, Weld County, Colorado

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This project was completed for the Weld County DFIRM Conversion Project under a contract with the COG. The purpose of this study was to develop the 100- and 500-year discharges, and map the 100- and 500-year floodplains and the 1-foot floodway in DFIRM format for a 7.3-mile reach of Sheep Draw between State Highway 257 and the Greeley No. 3 Ditch. This project includes the following tasks:

(a) **Field reconnaissance** efforts to identify potential surveying requirements, characterize channel and overbank conditions and roughness coefficients, and to visually evaluate bridges and other hydraulic structures;

(b) **Surveying** of all hydraulic structures along the study reach;

(c) Development of a **hydrologic model** using CUHP and EPA SWMM to define the 1- and 0.2-percent annual change discharge profile for the study reach;

(d) Development of a **hydraulic model** through the use of HEC-GeoRAS in conjunction with a DEM-based TIN; **hydraulic analysis** using HEC-RAS of the 7.3-mile study reach;

(e) **Floodplain mapping** of the 0.2- and 1-percent annual chance of occurrence floodplains and 1-foot floodway, and the preparation of digital floodplain work maps using HEC-GeoRAS, and manual methods;

(f) Development of graphical flood profiles commensurate with FEMA’s standard format for incorporation into the **Flood Insurance Study** (FIS); and

(g) Technical documentation and the uploading of the final data into the **MIP**.

All work completed for this project was conducted in accordance with the requirements identified in the Map Modernization Guidelines and Specifications for Flood Hazard Mapping Partners [FEMA, April 2003].