

South Platte River Floodplain Study for the Hayman Burn Area Near Deckers, Colorado

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Civil • Water Resources • Environmental

This project was completed for both the Colorado Water Conservation Board (CWCB) and the Douglas County Public Works Department under a contract with the State of Colorado. The purpose of this study was to define the 100-year floodplain and 1-foot rise floodway for the South Platte River over a 14-mile reach between the communities of Nighthawk and Wigwam, and for a 1-mile reach in the vicinity of the community of South Platte. Hydrology for this study was based on the Phase III post-wildfire study by the USGS for the Hayman burn area. 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) **hydrologic evaluation** to review the Phase III post-wildfire study by the USGS and define the 1-percent annual change discharge profile for the study reach;
- (c) development of a HEC-RAS **hydraulic model** through the use of HEC-GeoRAS in conjunction with a LIDAR-based TIN;
- (d) **floodplain mapping** of the 1-percent annual chance of occurrence floodplain, the 1-foot rise floodway, and the preparation of the digital floodplain work maps using HEC-GeoRAS and ACE's automated floodplain mapping methods;
- (e) development of the graphical flood profiles, tables, and text for incorporation into the Douglas County Flood Insurance Study (**FIS**);
- (f) preparation of floodplain and floodway information in **DFIRM** format for inclusion in the **Douglas County DFIRM**; and
- (g) the preparation of reports, information and **documentation** required for the Technical Support Data Notebook (TSDN) for all Hayman Burn analyses.

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].

Project Cost: \$50,000
Status: Completed in August 2005

Project Highlights:

- **Field reconnaissance**
- **Hydrologic and hydraulic modeling**
- **DFIRM and FIS production**
- **Documentation**



South Platte River at Deckers, Colorado



South Platte River at Wigwam