

Urban Drainage and Flood Control District



E-19 Surveys



Four Mile Gage
ALERT ID: 4413
LID: FRMC2

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Introduction

HDR Engineering Inc. was contracted by the Urban Drainage and Flood Control District to survey various flood warning stage gages to provide information to these gages to be included as part of the National Weather Service's E-19 program. Oct. 12, 1999, five sites were surveyed by HDR personnel in the Boulder Creek vicinity. This report is a summary of the work done and information gathered for the Four Mile gage. Included in this report are elevations of critical points in the vicinity of the site, estimates of stages causing flood damage in vicinity of the gage, and where available past history of the sites including historic high water marks and other critical flood information.

Site

The stream gage is located on Four Mile Creek approximately 4.6 miles upstream of Orodell along Four Mile Canyon. The ALERT ID number for this Gage is 4413 while the National Weather Service LID is FRMC2 and is referred to as Fourmile. There are no structures in the vicinity of the gage. Potential flooding at this gage site itself would be minimal. The primary area of flooding potential is in the City of Boulder approximately seven miles downstream. Figure 1 shows a general location map of the site.

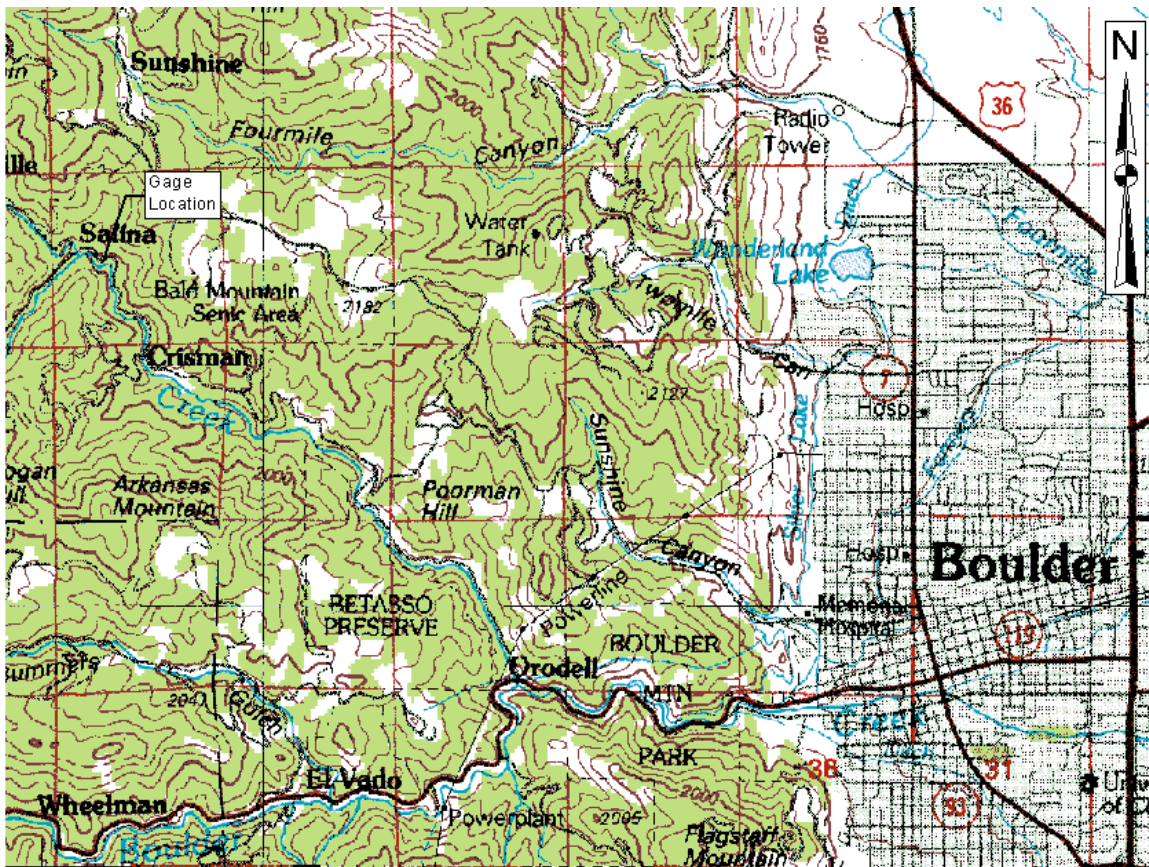


Figure – 1 Location Map

Surveyed locations

The ground elevations along both overbanks were surveyed in cross-section for a possible rating of the gage. In addition, water surface elevations of the stream downstream of the gages were surveyed to estimate the channel slope of this reach. Figure 2 shows locations of the surveyed points in the vicinity of the gage. The top of the transmitter housing was surveyed at elevation 21.93 for a temporary benchmark. Road over topping does not until approximately stage 20. Based on spot elevations of the water surface, the estimated channel energy slope is 5.4 percent.



Figure – 2 Surveyed Points

Site photographs

Several digital photographs were taken of the site and several panorama views were created based on the site photographs. Figure 3 shows Four Mile Creek at the gage location looking downstream. Figure 4 shows Four Mile Creek at the gage location looking upstream. Figure 5 shows the left overbank where the ground elevations were surveyed.



Figure – 3 Looking Downstream



Figure – 4 Looking Upstream



Figure – 5 Left Overbank

Historic records

There is limited information available for this gage. The location has been recently converted to a pressure transducer with an ALERT transmitter.

Flood warning template

The graphics template was created based on the surveyed information, historic records, another information supplied by the Urban Drainage and Flood Control District and the National Weather Service. The graphics template is compatible with the flood warning system and has been created and installed on the District's WebServer. This template is named 4413web.tpt and is located in the appropriate directory in the District's WebServer. Figure 6 shows the graphics template online from the WebServer.

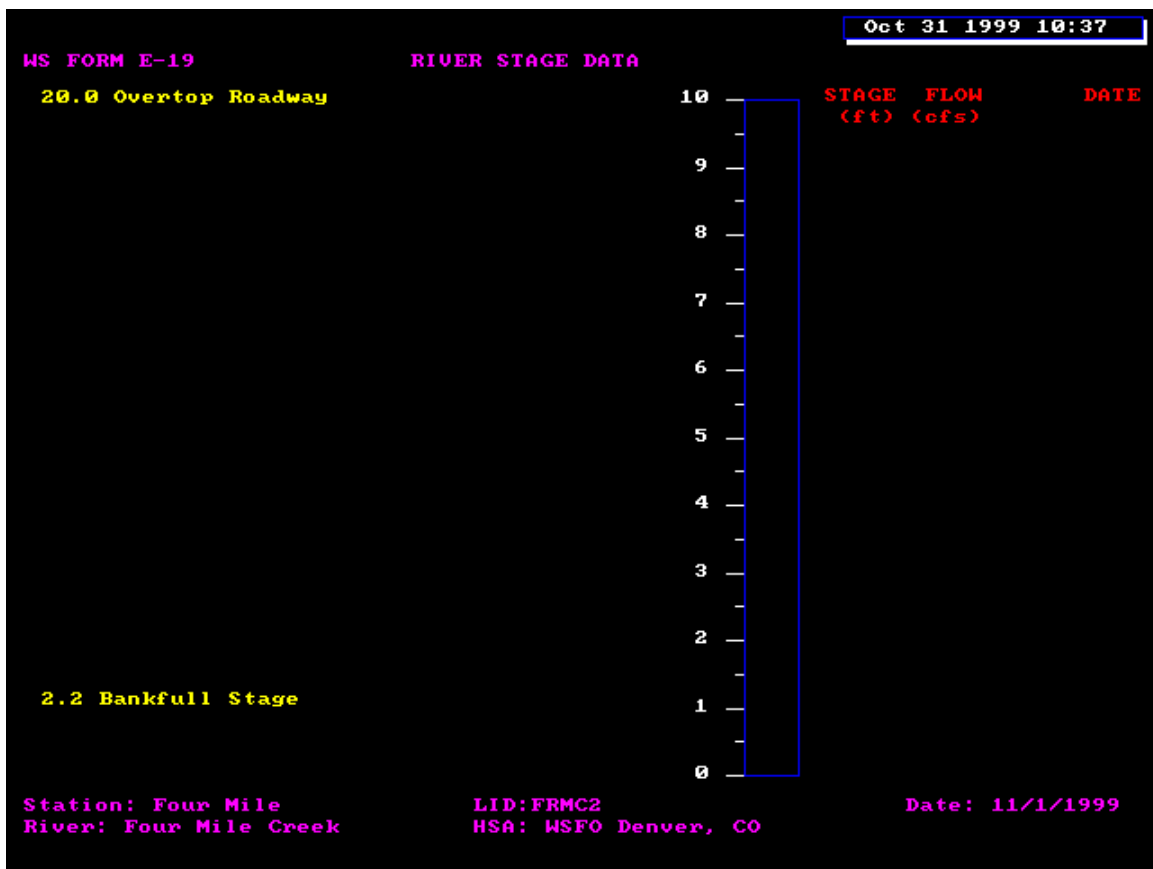


Figure – 6 Graphic Templet