

**SKUNK CREEK AT I-17
FCD GAGE ID 65807**

STATION DESCRIPTION

LOCATION – Gage is located approximately 300 feet upstream of the eastbound I-17 bridge, approximately 1.25 miles north of Happy Valley Road. Access is by heading north on the east frontage road. Latitude N 33° 43' 45", Longitude W 112° 07' 10". Located in the NW1/4 SE1/4 SE1/4 S35 T5N R2E in the Union Hills 7.5-minute quadrangle.

ESTABLISHMENT – The Flood Control District established gaging on October 26, 1989.

DRAINAGE AREA – 65.0 mi²

GAGE – The recording gage is a non-submersible type pressure transducer. The transducer is coupled with an orifice line. The elevation of the orifice line is 1.23 feet gage height, levels of January 9, 2018.

There are two staff gages at this location, and read to a maximum height of 8.800 feet gage height.

The USGS maintains four crest gages at this location. Two are on each bank.

CSG#1 is the upper crest gage on the right bank. Pin elevation = 6.35 feet gage height.
CSG#2 is the lower crest gage on the right bank. Pin elevation = 1.75 feet gage height.
CSG#3 is the lower crest gage on the left bank. Pin elevation = 2.35 feet gage height.
CSG#4 is the upper crest gage on the left bank. Pin elevation = 6.83 feet gage height. All levels of October 5, 2009 by USGS.

ZERO GAGE HEIGHT - Zero is based upon the staff gages in the channel located in line with the orifice. Zero gage height is equivalent to 1,473.965 feet NAVD88.

HISTORY – The USGS operated crest gages approximately 400 feet downstream from the present location from May 1961 to November 16, 1967 at a datum 6.66 feet lower. An old stilling well gage was operated from November 16, 1967 to December 28, 1984 at a site 285 feet downstream and 12.65 feet lower datum. Current manometer type gage in operation since December 28, 1984. The District began gaging on October 26, 1989. In 2007 – 2009, ADOT rebuilt and added bridges for widening I-17 and for a new interchange at Jomax Road.

REFERENCE MARKS –

RM-SKNKI17 is an FCDMC brass cap on top of the dike north of the station house. Elevation is 23.275 feet gage height and 1,497.240 feet NAVD88, levels of January 9, 2017.

RM-1 is a chiseled square with cross on concrete apron located near the right bank wall, about 100 feet downstream of gage. It is at elevation 1.000 feet gage height and 1,474.965 feet NAVD88, levels of January 9, 2018.

RM-2 is a chiseled square with cross on concrete apron located near the left bank wall near the edge of the concrete on the opposite side of RM-1. It is at elevation 0.977 feet gage height and 1,474.942 feet NAVD88 levels of January 9, 2018.

RM-3 is a bolt located on the right bank wall near RM-1. It is at elevation 2.875 feet gage height and 1,476.840 feet NAVD88, levels of January 9, 2018.

RM-4 is a bolt located on the left bank wall near RM-2. It is at elevation 2.743 feet gage height and 1,476.708 feet NAVD88, levels of January 9, 2018.

RM-5 is a chiseled 'X' near RM-1. It is at elevation 0.963 feet gage height and 1,474.928 feet NAVD88, levels of January 9, 2018.

RM-6 is a chiseled 'X' near the center at the edge of the concrete apron downstream of the gage cross section. It is at elevation 1.043 feet gage height and 1,475.008 feet NAVD88, levels of January 9, 2018.

RM-7 is a new rebar located near the orifice line. It is at elevation 2.269 feet gage height and 1,476.234 feet NAVD88, levels of January 9, 2018.

CHANNEL AND CONTROL – The watercourse of the creek has been channelized above and below the gage. Above, and for 100 feet below the gage, the banks are lined with cobble and boulder size clasts. The channel bottom is rock and earth fill. Beginning 85 feet below the gage is a concrete apron, with vertical concrete walls. The reinforced channel extends downstream 240 feet to join the concrete box culverts that run beneath four bridges spanning the channel. The interior culvert walls of all bridges are joined together. There is a significant drop in elevation from apron lip to the culverts and flow is distributed about equally through these sluiceway type structures.

The low flow control is the upstream lip of the upstream concrete apron, with a low point elevation of 1.00 feet gage height. The medium and height flow control is the channel. The channel is straight for 200 feet upstream and several hundred feet downstream. At present, vegetation growth in the flood control channel is minimal.

RATING – The current rating is Rating #3, developed from survey data collected in a one-half mile reach up and downstream of the gage. An HEC-RAS model was developed from the geometric data collected. Discharge up to 66,000 cfs were modeled, which is the standard project flood inflow into Adobe Dam.

DISCHARGE MEASUREMENTS – Made by wading upstream at the CSG cross section from concrete apron.

POINT OF ZERO FLOW – Estimated to be about 0.0 feet gage height levels of October 2019.

FLOODS – Flood of August 1, 1964 had a discharge of 11,500 cfs and a stage of 10.48 feet in present datum.

REGULATION – None

DIVERSIONS – None

ACCURACY – Fair

JUSTIFICATION – Monitor flows into Adobe Dam about 4.5 miles downstream.

UPDATE – January 17, 2024
D E Gardner