REATA PASS WASH
FCD GAGE ID# 60007

STATION DESCRIPTION

LOCATION – The gage location is approximately 1.6 miles east of Pima Road on Pinnacle Peak Road. The gaging equipment is located on the southwest corner of the bridge over the wash. Latitude N 33° 41' 53.2", Longitude W 111° 51' 50.4". Located in NW1/4 NW1/4 NE1/4 S17 T4N R5E, in the McDowell Peak 7.5-minute quadrangle.

ESTABLISHMENT – Gaging was established by the District on May 15, 2001.

DRAINAGE AREA – 8.0 mi^2

GAGE – The gage is a pressure transducer type instrument. It is located on the east side of the third pier from the left bank. The PT is at gage height 0.30 feet, levels of February 1, 2018.

There are no staff gages at this location.

There is one crest gage located just upstream of the pressure transducer. It is at elevation 0.72 feet gage height, levels of February 1, 2018.

ZERO GAGE HEIGHT – Zero gage height is defined as the concrete bottom of the channel under the bridge at the PT location, or ground at PT. Elevation = 2,172.777 feet NAVD88, levels of February 1, 2018, updated from survey of August 6, 2019.

HISTORY – No previous gaging at this location. The USGS performed an indirect measurement in a reach beginning 150 feet downstream from the bridge. The flood event occurred on August 29, 1996, and the indirect measurement survey occurred over three days on September 7, 10 and 11, 1996. The crest gage was moved sometime in the summer of 2017 to the pier at the transducer gage.

REFERENCE MARKS –

BM-4588 is an FCD brass cap set near the northwest corner of the bridge. It is at elevation 11.942 feet gage height and 2,184.719 feet NAVD88, levels of August 6, 2019.

RM-1 is a rebar set on the top of the right bank downstream of the Pinnacle Peak Road bridge. It is at elevation 5.854 feet gage height and 2,178.631 feet NAVD88, levels of February 1, 2018.

RM-2 is a chiseled 'X' on the upstream right bank side wall. It is at elevation 5.859 feet gage height and 2,178.636 feet NAVD88, levels of February 1, 2018.

RP-1 is a 3/4" rebar protruding from the right bank downstream wingwall. This reference was the main reference point used in the USGS 1996 survey. It is at elevation is 2.740 feet gage height and 2,175.517 feet NAVD88, levels of February 1, 2018.

RP-2 is a chiseled 'X' on the ground at the transducer gage. It is at elevation -0.004 feet gage height and 2,272.773 feet NAVD88, levels of February 1, 2018.

RP-3 is a chiseled 'X' on the ground at the crest-stage gage. It is at elevation 0.117 feet gage height and 2,172.894 feet NAVD88, levels of February 1, 2018.

There are five monumented cross sections downstream from the bridge. All cross sections are suitable for indirect measurements.

Cross Section Five is located about 150 feet downstream from the bridge. XS5LB is a chisel mark on the concrete planter wall with elevation 73.57 feet. XS5RB is rebar with elevation 77.71 feet.

Cross Section Six is located about 75 feet downstream from XS5. XS6LB is rebar at elevation 76.57 feet. XS6RB is rebar at elevation 75.29 feet.

Cross Section Seven is located about 150 feet downstream from XS6. XS7LB is rebar with elevation 69.28 feet. XS7RB is rebar with elevation 69.79 feet.

Cross Section Eight is located about 175 feet downstream from XS7. XS8LB is rebar at elevation 67.60 feet. XS8RB is rebar at elevation 64.22 feet.

Cross Section Nine is located about 110 feet downstream from XS8. This cross section is somewhat wider than cross section eight. Therefore, it may not be desirable to use this cross section in indirect measurement analyses. XS9LB is rebar with elevation 62.28 feet. XS9RB is rebar with elevation 61.48 feet.

CHANNEL & CONTROL – The channel is natural with developed banks for approximately 300 feet upstream and downstream from the bridge. Beyond that downstream, the banks are more natural. The channel is contained entirely for about 600 feet downstream from the bridge. After this, it becomes much wider and braided. Just upstream of the first upstream cross section, there is a significant drop in channel elevation. No channel survey was done at or above this grade change. Channel slope downstream from the bridge is 0.033 ft/ft.

The channel is the control for flows above about one foot gage height.

RATING – The current rating is Rating #3. The rating was developed from survey data collected on July 10, 2024 and used in an updated HEC-RAS model. Rating was implemented for WY2024.

DISCHARGE MEASUREMENTS – Direct measurements are possible at low flows at the gage cross section. The bottom is mostly granitic soils, with few cobbles noted. Indirect measurements are possible in the five cross section reach downstream from the bridge.

POINT OF ZERO FLOW – The PZF is at about 0.0 feet gage height, visual photos of October 31, 2022.

FLOODS – The USGS computed a flow of 1,780 cfs at a downstream cross section from a flood of August 29, 1996. The peak flow of record is 1,197 cfs at a stage of 2.08 feet gage height on September 8, 2014.

REGULATION – Reata Pass Dam regulates flows of about one square mile of the northernmost upper watershed.

DIVERSIONS – No known diversions

ACCURACY – Fair

JUSTIFICATION – Monitor flows in Reata Pass Wash for City of Scottsdale flood warning program.

UPDATE - July 15, 2024
E Thomas