SOLS WASH AT SR 71 FCD GAGE ID# 47707

STATION DESCRIPTION

LOCATION – The gage is located approximately 1/2 mile west of the junction of SR71 and US93 on SR71. The gaging equipment is located on the south side of the SR71 bridge. Latitude N 34° 07' 7.1", Longitude W 112° 57' 45.1". Located in the NW1/4 SW1/4 S14 T9N R7W in the Congress SW 7.5-minute quadrangle.

ESTABLISHMENT – Gaging was established on September 10, 2001.

DRAINAGE AREA – The drainage area is about 0.9 mi².

<u>GAGE</u> – The gage is a pressure transducer type instrument. Gage elevation is 0.10 feet gage height, levels of June 17, 2020.

There is one crest gage at this location. It has pin elevation of 0.34 feet gage height, levels of June 17, 2020.

There is one staff gage at this location. The displayed numbers are 0.14 feet low. Thus, when the water surface is at 1.00 feet on the staff gage, the true elevation is 1.14 feet gage height, levels of February 14, 2019.

ZERO GAGE HEIGHT – Will be defined as the upstream bottom of the concrete culverts. It is equivalent to 2,737.604 feet NAVD88, levels of June 17, 2020.

<u>HISTORY</u> – No previous gaging history at this location. A precipitation gage existed about 1/2 mile east of this site for many years. Station installed September 10, 2001. A staff gage was added following the original installation but the date is unknown. A crest gage was added on October 10, 2018. The transducer gage and crest gage were moved to the upstream side of the SR-71 bridge on June 2, 2020.

REFERENCE MARKS -

BM-SOLS71 is an FCD brass cap located just southeast of the bridge, in a clearing on the outside of the fence. Elevation 4.151 feet gage height and 2,741.755, levels of June 17, 2020.

RM-1 is the top of a sign channel on top of the left bank near the downstream headwall. It is at elevation 6.553 feet gage height and 2,744.157 feet NAVD88, levels of June 17, 2020. RM-2 is the top of a sign channel on top of the right bank near the downstream headwall. It is at elevation 6.828 feet gage height and 2,744.432 feet NAVD88, levels of June 17, 2020.

RM-3 is a chiseled 'X' on top of the downstream headwall above the transducer gage. It is at elevation 7.018 feet gage height and 2,744.622 feet NAVD88, levels of February 14, 2019.

RM-4 is an ADOT brass cap located on the center upstream headwall. It is at elevation 7.001 feet gage height, and 2,744.605 feet NAVD88, levels of June 17, 2020. It is stamped '2740.63', presumably in feet M.S.L.

RP-1 is a chiseled 'X' located just in front of the first pier near the PT. It is at elevation - 0.011 feet gage, levels of June 17, 2020.

RP-2 is destroyed with the removal of the previous crest gage.

RP-3 is the left, lower crest gage clamp bolt. It is at elevation 1.773 feet gage height, levels of June 17, 2020.

There are six monumented cross sections at and downstream of the gage cross section. Only the stakes at the gage cross section have been tied to gage height.

<u>CHANNEL AND CONTROL</u> – The gaged location is the upstream side of a 3-box 5-foot high by 12-foot wide culvert crossing that is 34 feet in length. The road overtops at about 6.8 feet gage height. The channel up and downstream is natural.

<u>RATING</u> – The current rating is Rating #2, applied since the transducer was moved on June 2, 2020. The rating is based on survey data of the upstream, downstream channel and the culvert dimensions. The data were used in an HEC-RAS analysis.

DISCHARGE MEASUREMENTS – Indirect discharge measurements could be made in the five cross sections (2 - 6) downstream of the gage. Direct measurements could be made by wading the channel at low flows. There is no room available to measure the flow from the SR 71 bridge.

POINT OF ZERO FLOW – The PZF is the bottom of the upstream concrete culvert apron, at 0.00 feet gage height, at all locations across the bottom of the apron.

<u>FLOODS</u> – The peak flood of record is 608 cfs at 2.59 feet gage height that occurred on June 16, 2018.

<u>REGULATION</u> – None known, but there may be some stock tanks upstream

DIVERSIONS – None known

ACCURACY - Fair

UPDATEJanuary 10, 2024D E Gardner