

**INDIAN BEND WASH AT SWEETWATER AVENUE
FCD GAGE ID# 58307 (4643)**

STATION DESCRIPTION

LOCATION – This gage is located on the downstream side of the 36th Street Bridge over the Indian Bend Wash in Phoenix, AZ. Latitude N 33° 36' 12.9", Longitude W 112° 00' 16.1". Located in the NW1/4 NW1/4 SE1/4 S13 T3N R3E in the Sunnyslope 7.5-minute quadrangle.

ESTABLISHMENT – Gaging was initially established on December 27, 1990.

DRAINAGE AREA – 11.7 mi² via USGS Streamstats

GAGE - A pressure transducer mounted inside the second culvert barrel near the downstream side of the 36th Street bridge. The PT diaphragm is at elevation 0.00 feet gage height, levels of March 2, 2016.

There is no staff gage at this location. Previous staff gage was destroyed by vandals.

There is one crest stage gage at the site. It is located on the downstream side outside of the pier between the second and third culverts. Its pin elevation is 1.02 feet gage height, or 1,388.485 feet NAVD 1988.

ZERO GAGE HEIGHT – Zero gage height is defined as the low point in the culverts where the PT is located. The ground at the pressure transducer is 0.000 feet gage height. Zero elevation is 1,387.633 feet NAVD88.

HISTORY – A float gage (#4639) was established on December 27, 1990. The gage was installed on the Sweetwater Avenue bridge in a stilling well on the downstream side of the bridge. The float gage was changed to a pressure transducer on August 25, 1994 and the gage ID changed to #4643. From August 25, 1994 to October 1, 1997, the gage datum was taken as the invert of the south culvert under 36th Street which was defined as 0.00 feet gage height. Effective October 1, 1996, the gage datum was redefined to match the staff gage near the stilling well (i.e. staff 0 ft = 0.0 ft gage height.)

The gage was removed for construction on April 25, 1997. It was reinstalled on March 18, 1999 on the downstream side of the 36th Street bridge. This placement allowed both the Indian Bend Wash and a new drain from SR51 to be measured. A crest gage was installed in late 1999.

REFERENCE MARKS —

BM-IBWSWTR is an FCD brass cap located on the southeast corner of the IBW channel and 36th Street. The RM was established in November 2000. Elevation 7.220 feet gage height or

1,394.853 feet NAVD88, levels of March 2, 2016.

BM-4643 is a 2-inch FCDMC brass cap located on the northeast corner of the wash crossing of 36th Street. Elevation is 9.107 feet gage height, or 1,396.740 feet NAVD88, levels of March 2, 2016.

RP-1 is a nail on northeast side of 36th Street bridge. It was once marked 1395.03 feet MSL in 2004. It was found at elevation 9.761 feet gage height, or 1,397.394 feet NAVD 1988, levels of March 2, 2016.

RP-2 was originally established as a chisel mark on the northeast corner of the 36th Street Bridge. The particular chisel mark was not found during the survey of March 2, 2016. A new chiseled 'X' was placed on top of the headwall, and its elevation is 13.072 feet gage height, or 1,400.705 feet NAVD88, levels of March 2, 2016.

RP-3 was established as a reference during the March 2016 survey. It is defined as the top of the sign rail that has the PT line secured to it. It is at elevation 8.779 feet gage height, or 1,396.412 feet NAVD88, levels of March 2, 2016.

CHANNEL AND CONTROL — At low flows the channel downstream of the gage is the control. Above about 1 foot gage height, the culverts begin to be the control. For flows above 6.5 feet, water begins to go around the bridge on the north side near the intersection of 36th Street and Sweetwater Avenue.

RATING — The current rating # 5 was developed from survey data of multiple cross sections up and downstream of the 36th Street bridge, including the culvert geometry at 36th Street. An HEC-RAS model was developed and run for multiple discharges to about the top of culvert level. It is effective for water year 2018 and forward.

DISCHARGE MEASUREMENTS — Low flow measurements could be made by wading downstream of the bridge. Higher flows would be difficult using a bridge crane because the sidewalk is relatively narrow and the angle of flow is significant. Indirect methods can be used in the channel reach downstream of the gage to estimate flows.

POINT OF ZERO FLOW — The PZF is at -0.08 feet gage height, near the right bank culvert. The PZF at the gage location is 0.00 feet gage height.

FLOODS — A flood of 2,093 cfs and 4.90 feet gage height occurred August 2, 2005. A flood of 1,902 cfs and 4.75 feet gage height occurred on July 24, 2002. A flood of 1,362 cfs and 4.25 feet gage height occurred on August 24, 2006.

REGULATION — None known

DIVERSIONS — None known

ACCURACY -- Fair to poor. Actual or indirect discharge verifications will be needed to further refine the rating.

JUSTIFICATION -- Monitor flows that affect the recreational activities and traffic in the wash downstream. Monitor flows for Scottsdale flood warning.

UPDATE - January 23, 2024
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