

**TENTH STREET WASH BASIN #1**  
**FCD GAGE ID# 11007**

**STATION DESCRIPTION**

**LOCATION** – Basin #1 on Tenth Street Wash is located about 1/4 mile south of Peoria Avenue at Cheryl Drive and is adjacent to Cave Creek Road. The gage equipment is located at the principal outlet of the basin. Latitude N33° 34' 47", Longitude W112° 03' 16". Located in the SW1/4 NW1/4 NE1/4 S28 T3N R3E in the Sunnyslope 7.5-minute quadrangle.

**ESTABLISHMENT** – The gage was installed on November 26, 1996.

**DRAINAGE AREA** – 0.55 mi<sup>2</sup>

**GAGE** – The recording gage is a pressure transducer type gage. It is located at the outlet works of the basin in the southwest corner. The elevation of the gage is 0.33 feet gage height.

There is no staff gage at this location.

There is no crest gage at this location.

**ZERO GAGE HEIGHT** - Zero is the invert of the inlet for the discharge culvert. Zero gage height is equivalent to 1,308.776 feet NAVD88.

**HISTORY** – No previous gaging at this location. Gaging was established on November 26, 1996. Bench mark brass cap installed in early 2016.

**REFERENCE MARKS** –

BM-4818 is an FCDMC brass cap located near the south wall of the basin. Elevation is 12.669 feet gage height and 1,321.445 feet NAVD88, levels of March 2, 2016.

RP-1 is the inlet invert of the outlet culvert. Elevation 0.00 feet gage height and 1,308.776 feet NAVD88, levels of March 2, 2016.

RP-2 is the top of the headwall at the principal outlet. It is at elevation 3.750 feet gage height and 1,312.526 feet NAVD88, levels of March 2, 2016.

**CHANNEL AND CONTROL** – The principal outlet from the basin is a 30-inch RCP, 120 foot long culvert. The emergency spillway for the basin is the west wall of the basin. The RCP is the control for flows below 11.55 feet gage height. Above 11.55 feet gage height, the

spillway begins to flow. Approximately 340 cfs is allowed to flow past the basin down the wash without entering the basin. Of the 340 cfs bypassing the basin, 22 cfs are from the east tributary and 319 cfs are from the west tributary. The confluence of the two bypass flows occurs immediately upstream of the basin just downstream of a dip crossing for the apartment complex north of the basin.

**PRINCIPAL OUTLET / EMERGENCY SPILLWAY** –

The principal outlet is a 30-inch RCP located at the southwest corner of the basin. It is 120 feet in length and discharges to the wash to the west. The culvert invert elevation is 0.00 feet gage height. The culvert invert elevation at the outlet is not determined.

The basin emergency spillway has a crest elevation of 11.55 feet gage height, or 1,320.33 feet NAVD88. The spillway was analyzed as a sharp crested weir with crest length of 256 feet.

Top of basin is at about 13.2 feet and 1,322.00 feet NAVD88.

**RATING** – The current rating is Rating #1. The culvert flows portion of the rating came from the design. The spillway flow rating came from a weir equation analysis for a sharp crested weir, ( $Q = 3.33LH^{1.5}$ ).

**DISCHARGE MEASUREMENTS** – Measurements could be made downstream from the basin in 10th Street wash.

**POINT OF ZERO FLOW** – Flow begins through the primary outlet at 0.00 feet gage height. Flow begins over the spillway at approximately 11.55 feet gage height.

**FLOODS / SIGNIFICANT IMPOUNDMENTS** – The highest impoundment recorded was 4.46 feet gage height, 5.3 acre-feet, and 24.9 percent full. The previous high impoundment occurred on September 8, 2014 with a peak stage of 3.53 feet gage height, 3.7 acre-feet, and 17.1 percent full.

**REGULATION** – The basin regulates natural flows in Tenth Street Wash, and the east tributary that is controlled by Phoenix Dam #3.

**DIVERSIONS** – None known

**ACCURACY** – Good

**JUSTIFICATION** – Monitor levels in Basin #1

**UPDATE** – December 27, 2023  
D E Gardner