SUNRIDGE CANYON DAM
FCD GAGE ID# 77507

STATION DESCRIPTION

LOCATION – The dam and gage are located in the town of Fountain Hills. Access to the gage is from Palisades Boulevard approximately 1/2 mile west of Golden Eagle Boulevard. Latitude N 33° 36' 24". Longitude W 111° 45' 06". Located in the NE1/4 NW1/4 S16 T3N R6E, in the Sawik Mountain 7.5-minute USGS quadrangle.

ESTABLISHMENT – The gage was installed on February 4, 1997.

DRAINAGE AREA – 1.58 mi^2

GAGE – The gage is a pressure transducer type instrument. The transducer diaphragm is at 1.20 feet gage height, levels of January 18, 2018.

ZERO GAGE HEIGHT – Zero gage height is defined as the invert of the inlet of the principal outlet. It is at elevation 1,886.903 feet NAVD88, levels of January 18, 2018.

HISTORY – Gage installed February 4, 1997. No other history at this location.

REFERENCE MARKS –

BM-5973 is an FCDMC brass cap located near the station tube on the downstream side of the dam. It is at elevation 4.035 feet gage height and 1,890.938 feet NAVD88, levels of January 18, 2018.

RM-1 – was established November 19, 1996 as a mark on the top of the inlet headwall and was marked with green paint. It is at elevation 5.971 feet gage height and 1,892.874 feet NAVD88, levels of January 18, 2018.

RM-2 is a chiseled 'X' on top of the dam on the curbing for the golf cart path on the upstream side of the dam. It is located at the estimated center line of the principal outlet. It is at elevation 47.892 feet gage height and 1,934.795 feet NAVD88, levels of January 18, 2018.

RM-3 is a chiseled 'X' on the golf cart path curbing near the spillway. It is at elevation 38.511 feet gage height and 1,925.414 feet NAVD88, levels of January 18, 2018.

RM-4 is a chiseled 'X' on the downstream headwall of the principal outlet. It is at elevation 3.717 feet gage height and 1,890.620 feet NAVD88, levels of January 18, 2018.

RM-5 is a chiseled 'X' at the invert of the outlet. It is at elevation -2.330 feet gage height and 1,884.573 feet NAVD88, levels of January 18, 2018.

RM-6 is a chiseled 'X' at the ground near the transducer gage at the inlet to the principal outlet. It is at elevation 0.129 feet gage height and 1,887.032 feet NAVD88, levels of January 18, 2018.

RP-1 is the inlet invert elevation. Its elevation is 0.000 feet gage height, or 1,886.903 feet NAVD88, levels of January 18, 2018.

CHANNEL AND CONTROL – The principal outlet for the dam is a 48-inch RCP, 210 feet in length. The emergency spillway for the dam is located on the left side of the dam.

PRINCIPAL OUTLET / EMERGENCY SPILLWAY –

The principal outlet is a 48-inch diameter reinforced concrete pipe. The inlet invert is at elevation 0.00 feet gage height, or 1,886.90 feet NAVD88. The outlet invert is at elevation –2.33 feet gage height, or 1,884.57 feet NAVD88. Culver length is 210 feet.

The emergency spillway is an earthen lined spillway on the left side of the dam. It is approximately 220 feet in length. The actual crest was not apparent in the survey of January 18, 2018. From the design, the spillway crest elevation is 40.100 feet gage height, or 1,927.003 feet NAVD88.

Top of dam elevation is at about 47.04 feet gage height, or 1,933.94 feet NAVD88, levels of January 18, 2018. Several points on top of the dam were surveyed and the low point on the top of the dam was found at the right side.

RATING – The rating for the discharge is from an analysis by G.V. Sabol for the Fountain Hills North ADMS. The current discharge rating is Rating #1.

The capacity rating is also from the Fountain Hills North ADMS. The current capacity rating is Rating #1.

DISCHARGE MEASUREMENTS – It may be possible to capture a discharge measurement from the outlet channel but it has steep side slopes. Flows through the emergency spillway are measureable if deep enough.

POINT OF ZERO FLOW – The point of zero flow is the invert of the inlet of the principal outlet, at 0.00 feet gage height.

FLOODS / SIGNIFICANT IMPOUNDMENTS – Peak event occurred on October 2, 2018 at a stage of 13.24 feet, and 2.6 acre-feet.

REGULATION – Sunridge Canyon Dam regulates flows through the natural wash.

DIVERSIONS – None known

ACCURACY – Good

JUSTIFICATION – Monitor flows and impoundments in Sunridge Canyon Dam for safety in the town of Fountain Hills.

UPDATE – January 2, 2024
DE Gardner