MINERAL CANYON BASIN
FCDMC GAGE ID # 68807
STATION DESCRIPTION

LOCATION:

The station is located near the Central Avenue entrance to South Mountain Park, just east of Central Ave. near Mineral Road. The station is located at latitude 33° 21’ 20.8” and longitude W112° 04’ 13.7”. It is in S08, T1S, R3E.

ESTABLISHMENT:

The gage was established on September 10, 2015.

DRAINAGE AREA:

The drainage area of the gage is approximately 3.46 square miles.

HISTORY:

No previous gaging at this location. Station established on September 10, 2015. Zero gage height elevation adjusted based on data from survey of FCDMC brass cap.

GAGE INFORMATION:

There is one pressure transducer instrument located near the outlet of the basin which is located near the northwest corner of the northernmost part of the basin. Elevation is an arbitrary 2.00 feet gage height, levels of October 13, 2015.

ZERO GAGE HEIGHT:

Zero is defined as 1,294.000 feet NAVD88.

REFERENCE MARKS:

BM68807 – Is an FCD brass cap monument located just north of the station tube near the north end of the basin. It is at elevation 1,322.402 feet NAVD88 and 28.402 feet gage height, levels of February 20, 2019.

RM-1 is a rebar near the benchmark. It is at elevation 28.401 feet gage height and 1,322.401 feet NAVD88, levels of February 20, 2019.

RM-2 is a chiseled 'X' on the inlet headwall. It is at elevation 12.505 feet gage height and 1,306.505 feet NAVD88, levels of February 20, 2019.

RM-3 is a chiseled 'X' on the inlet apron. It is at elevation 7.739 feet gage height and 1,301.739 feet NAVD88, levels of February 20, 2019.

RP-1 is the top of a sign channel to which the transducer gage is attached. It is at elevation 2.634 feet gage height, levels of February 20, 2019.

CHANNEL AND CONTROL:

The gage is on a large, deep basin on the north side of the Phoenix South Mountains Park. The basin collects runoff from the north side of the mountains. There is an outlet in the basin. The inlet of the basin was surveyed. The invert of the inlet of the principal outlet is at 7.782 feet gage height and 1,301.782 feet NAVD88, levels of February 20, 2019. The discharge pipe is a 36-inch diameter concrete pipe.

RATING:

Discharge rating #1 and capacity rating #1 have been applied since September of 2015

The discharge rating was developed from an HY-8 model using known parameters and some that were estimated. The downstream conditions are unknown and were estimated. The approximate maximum discharge from the 36-inch culvert is about 110 cfs.

A volume rating was determined from a GIS analysis of contours. Maximum volume is about 500 acre-feet.

DISCHARGE MEASUREMENTS:

Direct discharge measurements are not possible at this location.

POINT OF ZERO FLOW:

The elevation of the inlet is at 7.78 feet gage height, levels of February 20, 2019. No other known outlets exist below this elevation.

FLOODS:

The largest event likely at this basin occurred on August 12, 2014, prior to instrumentation. High water marks were surveyed on October 13, 2015, and the peak was at about 12.6 feet gage height and 162.2 acre-feet which is about 32.8 percent full. Since installation, the largest peak occurred on October 13, 2016 with a peak stage of 2.22 feet gage height and about 37 acre-feet volume.

The largest measured event occurred on October 13, 2016. The peak gage height measured 2.22 ft and 37.3 acre-feet or 7.5% capacity.

REGULATION:

The basin regulates natural flows from the Phoenix Mountains as they flow toward the Salt River.

DIVERSIONS:

No diversions are likely to exist in the watershed.

ACCURACY:

The discharge and volume computations are fair.

JUSTIFICATION:

Monitor water in the basin for public safety for the city of Phoenix.

UPDATED:

February 15, 2024
D Gardner