DYSART DRAIN AT EL MIRAGE ROAD
FCD GAGE ID# 85707

STATION DESCRIPTION

LOCATION – The gage is located on El Mirage Road approximately one-half mile north of Glendale Avenue. The gaging equipment is on the northeast corner of the bridge crossing at El Mirage Road. Latitude N 33° 32' 37.1", Longitude W112° 19' 26.6". Located in the SW1/4 SW1/4 NW1/4 S01 T2N R1W in the El Mirage 7.5-minute quadrangle.

ESTABLISHMENT – The gage was established on March 7, 1997.

DRAINAGE AREA – Approximately 34.7 mi^2

GAGE – The gage is a pressure transducer type instrument. Elevation 0.30 feet gage height, levels of January 11, 2018.

There is no staff gage at this location.

There is no usable crest gage at this location.

ZERO GAGE HEIGHT - Zero gage height is defined as 1,054.287 feet NAVD88.

HISTORY – No previous gaging at this location. A gage was installed June 23, 1994 upstream from the El Mirage Road bridge but was removed for construction on December 26, 1995. This new gage was installed on March 7, 1997 following construction. On January 20, 1999 a sonar device was installed and the PT removed. The sonar device became ID# 5423. On February 18, 1999, the PT was re-installed and the sonar device was retained with the sonar ID becoming 5422 and the PT 5423. On July 13, 2000, the PT was found destroyed and it was removed. The sonar device retains the #5422 ID number. Acoustic sensor removed and replaced with pressure transducer on January 18, 2006. PT has ID number 5423.

REFERENCE MARKS –

BM-5423 is an FCDMC brass cap located on the top of the left bank at road level. It is at elevation 23.603 feet gage height and 1,077.890 feet NAVD88, levels of January 11, 2018.

RM-1 is a MCDOT brass tablet located in a hand hole on the east side of the road just north of the channel. Its elevation is 23.670 feet gage height and 1,077.957 feet NAVD88, levels of January 11, 2018.

RM-2 is an FCDMC brass tablet located on the southeast bridge rail. Elevation 25.431 feet gage height, or 1,079.718 feet NAVD88, levels of January 11, 2018.

RM-3 is a rebar located on top of the left bank about 10 feet downstream of the station tube. It is at elevation 16.291 feet gage height and 1,070.578 feet NAVD88, levels of January 11, 2018.

RP-1 is a chiseled 'X' painted white, located on top of the channel concrete near the station tube. Elevation 14.803 feet gage height, or 1,069.090 feet NAVD88, levels of January 11, 2018.

CHANNEL AND CONTROL – The channel is a concrete lined trapezoidal shaped, constructed channel. The channel is straight up and downstream of the gage location. The Agua Fria River is approximately 1,000 feet downstream from the gage. The channel is control for all levels. By the spring of 2011, the channel had become significantly clogged with vegetation in the channel as well as downstream near the outfall to the Agua Fria River.

RATING –

The current rating is Rating #3. It was developed from a 3 cross section survey in August 2020. Data were used in an HEC-RAS model for analysis. Runoff was found to be flowing in critical depth, which is a change from past analyses. Because of this, significant changes from past ratings.

The previous rating is Rating #2 for this gage. It was developed from an HEC-RAS model of surveyed cross sections from 1997. It was updated from the initial rating computation by using a higher roughness coefficient. The 1997 analysis used N=0.013 for bare concrete. The 2017 analysis used 0.035 for a more rough channel. The rating is for water year 2018, and will be updated again following a new survey in the near future. Because the channel has been cleared out of all vegetation, the original rating is more realistic now and the current rating is now the original rating.

DISCHARGE MEASUREMENTS – Direct measurements could be made by wading. However, because of the steep sides and the likelihood that they will be wet, it is best to proceed with extreme caution. The channel bottom could be very slippery as well due to algal growth.

POINT OF ZERO FLOW – The invert of the channel at the transducer gage cross section is defined as the PZF and is at 0.00 feet gage height.

REGULATION – A detention basin is upstream about 3 miles.

DIVERSIONS – None known

ACCURACY – Good

JUSTIFICATION – Monitor flows in Dysart Drain and into the Agua Fria River.

UPDATE – August 18, 2020
D E Gardner