

**EMF AT BROADWAY ROAD
FCD GAGE ID# 34307 (6573)**

STATION DESCRIPTION

LOCATION – The gage is located approximately 1/2 mile east of Higley Road and approximately 1/4 mile south of Broadway Road in Mesa. The gage is located downstream from the Broadway Road bridge and at the upper end of the golf course in Leisure World. Latitude N 33° 24' 19.9", Longitude W 111° 42' 37.1". Located in the NE1/4 NW1/4 S26 T1N R6E, in the Buckhorn 7.5-minute quadrangle.

ESTABLISHMENT – The gage was installed August 10, 1989.

DRAINAGE AREA – 11.4 mi²

GAGE – The gage is a pressure transducer type instrument. It is located in the channel just upstream from the road/culvert crossing at Leisure World. Elevation is -3.84 feet gage height, levels of January 29, 2019.

The staff gage is very faded and will be repainted soon and it will display in gage height.

There are two crest stage gages at this location. The lower crest gage is located with the pressure transducer. Pin elevation of the lower crest gage is -3.51 feet gage height, levels of January 29, 2019. The upper crest gage is located up the right bank from the pressure transducer. Pin elevation of the upper crest gage is 1.07 feet gage height, levels of January 29, 2019.

ZERO GAGE HEIGHT – Is defined as the elevation of the road crossing. It is equivalent to 1,335.631 feet NAVD88, levels of January 29, 2019.

HISTORY – No previous gaging at this location prior to FCD gage installation. Gaging established on August 10, 1989. A crest gage was installed at an unknown date. It is believed that the datum has shifted since original installation. The amount of shift is uncertain. The PT was moved on May 21, 1992, and no record of additional survey is available. The PT and crest gage was moved on February 9, 2008 to the right bank of the channel. This was to allow access to the station when the channel is flowing.

REFERENCE MARKS –

BM-6573 is an FCDMC brass cap located near the station tube on the right bank of the channel. It is at elevation 6.789 feet gage height and 1,342.420 feet NAVD88, levels of September 19, 2019.

RM-1 is a chiseled 'X' on the top of the headwall of the old intake for the stilling well. It is at elevation -2.433 feet gage height and 1,333.198 feet NAVD88, levels of September 19, 2019

RM-2 is an FCDMC brass cap located at the top of the left bank near the fence. It is at elevation 7.155 feet gage height and 1,342.786 feet NAVD88, levels of September 19, 2019.

RM-3 is a rebar on the top of the left bank in the gage cross section. It is at elevation 7.032 feet gage height and 1,342.663 feet NAVD88, levels of September 19, 2019.

RM-4 is a rebar on the top of the right bank near the station tube at the gage cross section. It is at elevation 6.602 feet gage height and 1,342.233 feet NAVD88, levels of September 19, 2019.

RM-5 is an FCDMC brass cap located on a recently constructed headwall at the intake of the low flow outlet. It is at elevation -4.141 feet gage height and 1,331.490 feet NAVD88, levels of September 19, 2019.

RP-1 is the top and most streamward side bolt securing the transducer gage. It is at elevation -3.640 feet gage height, levels of September 19, 2019.

CHANNEL AND CONTROL – The channel is a trapezoidal shape with grass lining. Upstream of the gaging location, approximately 500 feet, a large drainage channel enters from the northeast. It adds water to the EMF from Broadway Road. Immediately downstream of the gaging location, a road in Leisure World crosses the channel. It acts as a weir for higher flows. Water will back upstream of the gage location until the crest is reached. The road crossing just downstream of the fence is the PZF at 0.00 feet gage height. There appears to be a small culvert, less than two feet in diameter, that can convey the water out of the 'pool' upstream of the road to remove standing water.

The road crossing is the control for the gage. The small culvert does not appear to have much capacity, and it is well below the transducer. The invert of this culvert is at -6.37 feet gage height, levels of January 29, 2019.

RATING – The current rating is Rating #4 and it was developed from recent cross sectional surveys from September 19, 2019. Data were used in an HEC-RAS model. Rating made effective to July 1, 2019.

Past Ratings: Rating #3 and is dated May 22, 1992. This rating is a modification of rating #2 to account for a movement of the PT. Rating #2 was developed by R. W. Cruff from an HEC-2 model using surveyed cross sections. Rating #1 was developed by S. D. Waters from an HEC-2 model of surveyed cross sections.

DISCHARGE MEASUREMENTS – Discharge measurements can be made by wading the channel at low flows. Higher flows require direct measurement from the Broadway Road bridge or from indirect methods. The channel near the PT is deep.

POINT OF ZERO FLOW – The PZF is at 0.00 feet gage height which is the low point in the road just downstream of the breakaway fence, levels of January 29, 2019.

FLOODS – The greatest discharge recorded was 4,292 cfs at 5.08 feet gage height on September 7, 2012. Previously to this, a flood of approximately 3,800 cfs was recorded by the gage on September 2, 1996.

REGULATION – No known regulation

DIVERSIONS – No known diversions

ACCURACY – Fair to good

JUSTIFICATION – Monitor flows in the East Maricopa Floodway

UPDATE – September 23, 2019
DE Gardner