

## **GRANITE REEF DIVERSION**

### **FCD GAGE ID# 75007**

#### **STATION DESCRIPTION**

**LOCATION** - The gage is located approximately 1/2 mile southeast of Granite Reef Dam in the outlet channel from Spookhill FRS, along Bush Highway. Latitude 33° 30' 43.0" North; Longitude 111° 41' 1.9" West. Located in S18 T2N R7E, in the Granite Reef Dam 7.5-minute quadrangle.

**ESTABLISHMENT** - The gage was installed on July 21, 2005.

**DRAINAGE AREA** – 33.1 mi<sup>2</sup>

**GAGE** - The gage is a pressure transducer type instrument. The PT diaphragm is at gage height -0.25 feet, levels of March 1, 2018. The PT is on the left bank of the channel.

There is one crest-stage gage at this location. It is located near the transducer gage on the left bank. It has a pin at elevation 0.18 feet gage height, levels of March 1, 2018.

There is one staff gage at this site. It is located opposite of the pressure transducer at the outlet of the Bush Highway culvert.

**ZERO GAGE HEIGHT** – Zero gage height is defined as the zero elevation of the staff gage. 1 foot on the painted staff gage is considered 1.000 feet gage height. Zero gage height is equal to 1,335.766 feet NAVD88, levels of March 1, 2018.

**HISTORY** – Gaging established on July 21, 2005. No previous gaging history at this location.

#### **REFERENCE MARKS**

BM-4568 is an FCDMC brass cap located near the station tube. It is at elevation 5.519 feet gage height and 1,341.285 feet NAVD88, levels of March 1, 2018.

RM-1 is a chiseled 'X' on top of the left bank wall above the instrumentation. It is at elevation 6.550 feet gage height and 1,342.316 feet NAVD88, levels of March 1, 2018.

RM-2 is a chiseled 'X' at the base of the painted staff gage on the right bank. It is at elevation -0.034 feet gage height and 1,335.732 feet NAVD88, levels of March 1, 2018.

RM-3 is a chiseled 'X' at the base of the middle pier on the downstream side of Bush Highway. It is at elevation 0.554 feet gage height and 1,336.320 feet NAVD88, levels of March 1, 2018.

RP-1 is the lower bolt on the upstream side of the crest gage bracket. It is at elevation 1.287 feet gage height, levels of March 1, 2018.

**CHANNEL AND CONTROL** - The channel is concrete bottom with vertical concrete walls. The channel bottom is covered somewhat with sand and cobbles.

The control for the channel is the channel at levels above about one foot gage height.

**RATING** - The current rating is Rating #2, dated October 1, 2020. The rating was created from an HEC-RAS model of seven surveyed cross section surveyed in January 2021. Flows were supercritical due to high slope.

**DISCHARGE MEASUREMENTS** - Direct measurements would be difficult at the gage because access is unavailable. Direct measurements could be obtained at the end of channel/beginning of sediment basin downstream. Indirect measurements would be difficult given the unlikelihood of high water marks being left on the vertical concrete sides.

**POINT OF ZERO FLOW** - The low point in the gage cross section of the channel was found at about -0.4 feet gage height, levels of January 13, 2021.

**FLOODS** – An event with a peak discharge of 776 cfs at 1.62 feet gage height occurred on August 12, 2023.

**REGULATION** - Spookhill FRS regulates flows into the outlet channel.

**DIVERSIONS** - None known

**ACCURACY** - Fair

**JUSTIFICATION** - Monitor flows into the sediment basin and ultimately into Granite Reef diversion dam.

**UPDATED** - January 28, 2021  
DE Gardner