

**BUCKEYE #1 FRS
FCD GAGE ID# 5203**

STATION DESCRIPTION

LOCATION – The gage site is located near the Hassayampa River crossing of Interstate Highway 10. The gaging equipment is located at the principal outlet, which discharges directly into the Hassayampa River. The structure is about seven miles in length. Latitude 33° 27' 36" N, Longitude 112° 44' 02" W. Located in the SW1/4 SE1/4 NE1/4 S03 T1N R5W in the Buckeye NW 7.5-minute quadrangle.

ESTABLISHMENT – The gage was installed on July 26, 1983.

DRAINAGE AREA – 74 mi² not including area from Buckeye #2 and #3 FRS.

GAGE – The recording gage is a pressure transducer type instrument located near the invert of the inlet and is at elevation –2.30 feet gage height, or 1,059.80 feet NAVD 1988, levels of May 12, 2010.

There is one staff gage at this location. It is located on the trash rack at the principal outlet. The gage reads from zero to 20 feet. The staff gage reads in gage height with zero gage height equaling 1,062.10 feet NAVD 1988, levels of March 18, 2004.

There are no crest gages at this location.

ZERO GAGE HEIGHT - is defined as 0.0 on the staff gage mounted to the outside of the trash rack at the principal outlet. Elevation is 1,062.10 feet NAVD 1988, levels of March 18, 2004, and updated with recent survey data in July 2016.

HISTORY – No previous history at this location. Zero gage height has been redefined as being the invert of the outlet to 0.0 on the staff gage mounted to the trash rack. Transducer raised to -2.30 feet gage height, March 5, 2010. The elevations in this station description were updated on July 7, 2016 to match more recent elevations from dam safety surveys.

REFERENCE MARKS –

RM58 is a 1/2-inch rod set at the northeast corner of the Hassayampa River spillway, per the McLain Harbers survey under contract FCD93-51. Elevation 19.85 feet gage height, or 1,081.95 feet NAVD 1988, levels of December 21, 1995.

RM-60 is a 1/2-inch rod set at the bend of the dam from east-west to north-south. Set per the McLain-Harbers survey contract FCD93-51. Elevation 27.78 feet gage height, or 1,089.88 feet NAVD 1988, levels of March 18, 2004.

A-33 is an FCDMC brass cap settlement monument located south of the station standpipe. Elevation 27.09 feet gage height, or 1,089.19 feet NAVD 1988, levels of March 18, 2004. NAVD elevation for A-33 is tied to the Maricopa County G-DACS system.

RP-A is the top of pipe acting as a gate stop at “No Trespassing” sign. Elevation 28.64 feet gage height, or 1,090.74 feet NAVD 1988, levels of December 21, 1995.

RP-B is a brass tablet in center of head wall at inlet to outlet works. Elevation 4.07 feet gage height, or 1,066.17 feet NAVD88, levels of March 18, 2004.

CHANNEL AND CONTROL – The principal outlet is an ungated 60-inch diameter RCP, 1,150 feet in length. The emergency spillway for the dam is located on the west end of the dam.

PRINCIPAL OUTLET / EMERGENCY SPILLWAY –

The principal outlet is a 60-inch diameter RCP. The culvert invert elevation at the inlet is –2.49 feet gage height, or 1,059.61 feet NAVD88. The culvert invert elevation at the outlet is –34.23 feet gage height, or 1,027.87 feet NAVD88.

The emergency spillway crest is at elevation 18.70 feet gage height and 1,080.80 feet NAVD88.

Top of dam elevation is approximately 27.5 feet gage height and 1,089.60 feet NAVD88.

RATING – The current discharge rating is Rating #3. The outlet discharge rating is a combination culvert analysis for flows below the spillway, and an HEC-RAS step-backwater analysis for the spillway.

The current capacity rating is Rating #3 developed from DTM data by the GIS group at the District from the FCD93-51 survey contract.

DISCHARGE MEASUREMENTS – Indirect measurements could be made of the spillway.

POINT OF ZERO FLOW – Flow begins at –2.49 feet gage height through the principal outlet.

Flow through the emergency spillway begins at about 18.7 feet gage height.

FLOODS / SIGNIFICANT IMPOUNDMENTS –

REGULATION – The dam is a regulation of natural flows upstream from the White Tank Mountains

DIVERSIONS – None known

ACCURACY – Good

JUSTIFICATION – Monitor levels behind Buckeye #1 FRS for public safety.

UPDATE – July 7, 2016
D E Gardner