

PHOENIX BASIN #2B
FCD GAGE ID# 9907

STATION DESCRIPTION

LOCATION – The dam is located east of 7th Street and south of Thunderbird Road. The impound basin is located within the Lookout Mountain Golf Course. The gage is located at the principal outlet of the dam. Latitude N 33° 36' 23.9" Longitude W 112° 03' 28.9". Located in the S16 T3N R3E in the Sunnyslope 7.5-minute quadrangle.

ESTABLISHMENT – The gage was established on June 30, 2009.

DRAINAGE AREA – About 0.48 mi²

GAGE – The gage is a pressure transducer type instrument located at the principal outlet. The transducer is at elevation 0.00 feet gage height, or 1,398.20 feet NAVD88, levels of February 24, 2016.

There are no staff gages at this dam.

There are no crest gages at this location.

ZERO GAGE HEIGHT - Zero is defined as the invert of the inlet, elevation 1,398.20 feet NAVD88, levels of February 24, 2016.

HISTORY – No history at this location prior to gage installation. Dam was constructed in 1978. Gaging established on June 30, 2009. Permanent monument installed in late-2015.

REFERENCE MARKS –

BM-4778 is an FCDMC brass cap located on the top of the structure about 10 feet east of the station tube. Elevation is 23.947 feet gage height, or 1,422.150 feet NAVD88, levels of February 24, 2016. Checked on May 6, 2025.

RM-1 is a phoenix brass cap located on top of the structure labeled PH-2B-5A. Elevation is 23.28 feet gage height, or 1421.48 feet NAVD88, Levels of May 6, 2025.

RM-2 is a phoenix brass cap located on top of the structure labeled PH-2B-4A. Elevation is 20.87 feet gage height, or 1419.07 feet NAVD88, Levels of May 6, 2025.

RP-1 is the concrete apron at the invert of the outlet. Elevation 0.00 feet gage height. Checked on May 6, 2025.

RP-2 is the top left side corner of the headwall near the PT conduit. Elevation is 3.904 feet gage height, or 1,402.107 feet NAVD88, levels of February 24, 2016. Checked on May 6, 2025.

CHANNEL AND CONTROL – The principal outlet from the dam is a reinforced concrete pipe culvert. Diameter of the culvert is 27 inches. A steel plate with a 16-inch by 16-inch opening covers the culvert entrance. The culvert length is 229 feet. The emergency spillway for the dam is located southwest of the principal outlet.

PRINCIPAL OUTLET / EMERGENCY SPILLWAY –

The principal outlet is a 27-inch diameter concrete culvert pipe, fitted with a metal plate with a 16-inch by 16-inch opening. The invert of the inlet is at 0.00 feet gage height, or 1,398.203 feet NAVD88. The invert of the outlet is at –3.0 feet gage height, or 1,395.20 feet NAVD88. The culvert length is 229 feet. Flow begins through the culvert at 0.00 feet gage height through a square orifice covering the culvert pipe. All elevations are from the As-Built drawings.

The emergency spillway is located to the southwest of the principal outlet. The bottom width of the spillway is 80 feet. The minimum spillway crest is at about 16.0 feet gage height, or about 1,414.20 feet NAVD88, from As-Built. The survey of February 24, 2016 on a concrete curb in the spillway was at elevation 15.870 feet gage height, but it is unknown if it is the actual spillway crest.

The minimum top of the dam elevation is at about 22.0 feet gage height, or about 1,420.20 feet NAVD88, from the As-Built.

RATING – The current discharge rating is Rating #1. The rating was taken from the design rating on the As-Built. The spillway flows were computed using a broad-crested weir for spillway analysis.

The current capacity rating is Rating #1. Rating #1 was taken from the As-Built design plans.

DISCHARGE MEASUREMENTS – Direct measurements could be taken in the outlet wash/channel below the dam.

POINT OF ZERO FLOW – Flow begins through the principal outlet at 0.00 feet gage height. Flow begins through the emergency spillway at approximately 16.0 feet gage height.

FLOODS / SIGNIFICANT IMPOUNDMENTS – An impoundment of 7.62 feet, and 12.8 acre-feet, and 26.9 percent full, occurred on September 8, 2014.

REGULATION – None upstream of the dam. The dam itself regulates natural flows in the wash it covers.

DIVERSIONS – None

ACCURACY – Fair

JUSTIFICATION – Monitor water levels behind dam for public safety.

UPDATE – May 14, 2025
ES Thomas