PHOENIX ZOO DAM #3
FCD ALERT2 STATION ID= 50043, DEVICE ID= 4307

STATION DESCRIPTION

LOCATION – The dam is located inside the Phoenix Zoo property near the south end. Latitude N 33° 26’ 57.1” Longitude W 111° 57' 04.2". Located in the S09 T1N R4E in the Tempe 7.5-minute quadrangle.

ESTABLISHMENT – The gage was established on April 25, 2016.

DRAINAGE AREA – 0.04 mi^2, via Papago Park Emergency Action Plan

GAGE – The gage is a pressure transducer type instrument located near the south end of the dam structure. It is at elevation 8.80 feet gage height, levels of March 6, 2019.

There are no staff gages at this dam.

There are no crest gages at this location.

ZERO GAGE HEIGHT - Zero is defined as the base elevation of the dam as defined by the emergency action plan. According to the EAP, this elevation is 1,229.50 feet MSL. As updated in NAVD88, the equivalent elevation is 1,230.164 feet NAVD88.

HISTORY – The lakes in Papago Park have existed for many years. Water for the lakes is taken from the Crosscut Canal to the east. Aerial photographs from 1937 indicate their presence. It is unknown what type of stage gaging was done prior to FCDMC gage installation in 2016.

REFERENCE MARKS –

BM-50048 is an FCDMC brass cap located near the station tube. It is at elevation 12.336 feet gage height and 1,242.500 feet NAVD88, levels of March 6, 2019.

RP-1 is a chiseled ‘X’ on the northeast corner of the utility slab south of the gage tube. It is at elevation 11.170 feet gage height and 1,241.334 feet NAVD88, levels of March 6, 2019.

RP-2 is a chiseled ‘X’ on the main sidewalk west of the station tube and southwest of the lake. It is at elevation 12.307 feet gage height, levels of March 6, 2019.

CHANNEL AND CONTROL – The site is a lake with a permanent water pool. The operational water level is 9.29 feet gage height and 1,238.79 feet MSL or 1,239.45 feet NAVD88.

There is a gated irrigation type outlet near the pressure transducer. It is at nearly the same elevation as the transducer, but has yet to be surveyed.

There is an emergency spillway that discharges higher flows. Its exact location is uncertain. It is at a stated elevation of 1,242.30 feet MSL and 12.80 feet gage height and 1,242.96 feet NAVD88.

PRINCIPAL OUTLET / EMERGENCY SPILLWAY –

The principal outlet is unknown. There likely is one, but there is no information about it.

The emergency spillway is located somewhere yet to be determined. It is likely located along the west side of the lake near the parking lot. The minimum spillway elevation is at 1,242.30 feet MSL, or 12.80 feet gage height and 1,242.96 feet NAVD88.

The average crest elevation is 1,242.90 feet MSL and 13.40 feet gage height and 1,243.56 feet NAVD88.

RATING – There is no current discharge rating.

The current capacity rating is Rating #1. Rating #1 was based on information provided from the emergency action plan for volumes given at the spillway and the operating water surface elevation.

DISCHARGE MEASUREMENTS – Direct measurements are not practical.

POINT OF ZERO FLOW – Flow leaves the lake at approximately 9.0 feet gage height. Flow begins through the emergency spillway at approximately 12.80 feet gage height.

FLOODS / SIGNIFICANT IMPOUNDMENTS – None recorded to date.

REGULATION – There are 2 dams upstream from this dam.

DIVERSIONS – None

ACCURACY – Fair

JUSTIFICATION – Monitor water levels behind dam for public safety.

UPDATE – April 9, 2019, D E Gardner