

STATE OF CALIFORNIA
CALIFORNIA NATURAL RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF SAFETY OF DAMS

INSPECTION OF DAM AND RESERVOIR IN CERTIFIED STATUS

Name of Dam Syphon Canyon Dam No. 1029-4 County Orange
 Type of Dam Earth Type of Spillway Gunite-lined open channel
 Water is Empty feet N/A spillway crest and Empty feet N/A dam crest.
 Weather Conditions Overcast
 Contacts Made Nang Mwe, Steve Habiger, and Christian Wimenta with IRWD
 Reason for Inspection Maintenance Inspection

Important Observations, Recommendations or Actions Taken

Select if needed:		Descriptions, actions, and recommendations:
☒	Maintenance items required.	- The construction application filed on July 11, 2022, is progressing through the design phase and is expected to break ground in 2026. The application work consists of removing the existing dam, and constructing a new larger dam (Syphon Dam, No. 1029-5) in its place. The reservoir is "off-line" with the owner no longer conveying water into the reservoir. - Because the dam is expected to be replaced in the near future, the following maintenance items will not need to be addressed: - Repair cracked and deteriorating sections of gunite lining in the spillway channel. - Remove woody vegetation encroaching on the spillway approach and side walls of the downstream channel. - Clear debris from the spillway weepholes. - Investigate and determine the condition of piezometers VBW/2-A and VBW/2-B. - However, if the construction project is significantly delayed, these maintenance items will need to be addressed during routine maintenance work. - Arrangements need to be made to fully cycle the outlet controls during the next inspection. - If work associated with the construction application is significantly delayed, the piezometers that have been discontinued will need to be investigated and a plan for abandonment, repair, or replacement will need to be provided to DSOD for review.
☒	Outlet/spillway valves/gates need to be fully cycled during the next DSOD inspection.	
☐	Instrumentation submittal overdue.	
☒	Open construction, alteration, enlargement, repair, or removal application.	
☐	No Action Items/Recommendations.	
☐	Other.	

Photos taken? ☒ Yes ☐ No

Inspected by C.M. Lancaster *CML* 6/23/2025
 Date of Inspection 5/6/25
 Date of Report 6/18/25

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Conclusions

Hazard Classification:

☒ Extremely High ☐ High ☐ Significant ☐ Low

Condition Assessment:

☒ Satisfactory ☐ Fair ☐ Poor ☐ Unsatisfactory

Reservoir Restriction:

☐ Yes ☒ No

From the known information and visual inspection, the dam, reservoir, and the appurtenances are judged safe for continued use.

Observations and Comments

Dam

Dam Description: The dam consists of a homogenous earthen embankment with a gravel-lined crest.

Dam crest in satisfactory condition: ☒ Yes ☐ No

Maintenance needed: None.

Upstream/downstream slopes, abutments, and toe areas uniform, stable, and in satisfactory condition: ☒ Yes ☐ No

Maintenance needed: None.

Vegetation control satisfactory: ☒ Yes ☐ No

Maintenance needed: None.

Rodent control satisfactory: ☒ Yes ☐ No

Maintenance needed: None.

Dam comments: None.

Spillway

Spillway Description: The spillway consists of a reinforced gunite-lined open channel on the left abutment.

Log boom in place and intact: ☒ N/A ☐ Yes ☐ No

Spillway approach area, control section, and downstream exit clear: ☒ Yes ☐ No

Maintenance needed: Woody vegetation is beginning to obstruct the approach from each side.

Spillway condition satisfactory: ☒ Yes ☐ No

Maintenance needed: Some longstanding cracking was observed on the side walls of the spillway and some of the weepholes were obstructed with sediment and debris.

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Observations and Comments		
	<i>Spillway comments:</i> If the construction application work is significantly delayed, then the above maintenance items will need to be addressed during routine maintenance work.	
Outlet	<i>Outlet Type/Description:</i> The low-level outlet consists of a 15-inch RCP encased in reinforced concrete through the embankment. The upstream end of the outlet is controlled by a 12-inch butterfly valve (BFV) and the downstream end is controlled by two 16-inch BFVs. <i>Outlet Control:</i> ☒ Yes ☐ No	
	<i>Last Cycled (DSOD Presence):</i> See below <i>(Independently by Owner):</i> See below	
	Outlet Control	Last Fully Cylced In DSOD's Presence
	12-inch BFV	4/19/23
	16-inch BFV	4/19/23
	16-inch BFV	4/19/23
	<i>Comments:</i> Arrangements need to be made to fully cycle the outlet controls during the next inspection.	
<i>Overall outlet condition satisfactory:</i> ☒ Yes ☐ No		
<i>Outlet visually unobstructed:</i> ☒ Yes ☐ No		
<i>Maintenance needed:</i> None.		
<i>Outlet comments:</i> None.		
Seepage	<i>Instrumented seepage monitoring at the dam:</i> ☒ Yes ☐ No	
	<i>Description and measurements:</i> Seepage through the dam is collected and outfalls into a seepage vault downstream of the toe. The drain was dry during the inspection.	
	<i>Seepage observations and comments:</i> There was no seepage observed on the downstream slope, groins, or toe of the dam.	
	<i>Seepage conditions are consistent with past inspection observations:</i> ☒ Yes ☐ No	
<i>Maintenance needed:</i> None.		
Instr.	<i>Dam instrumented:</i> ☒ Yes ☐ No	<i>Submittal required:</i> ☒ Yes ☐ No
	<i>Submittal frequency:</i> Annually	<i>Overdue:</i> ☐ Yes ☒ No

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Observations and Comments	
	Latest instrumentation submittal: <u>5/19/25</u> Reporting period: <u>CY 2024</u>
	Dam instrumentation: Instrumentation at the dam consists of 12 piezometers and 1 seepage drain. Instrumentation at the dam is judged adequate at this time: ☒ Yes ☐ No
	Instrumentation review: Piezometers: The report includes piezometer data from 2014 to 2024. The piezometers are located along the crest and downstream slope of the dam and have sensing zones in the embankment and foundation. P-1B, P-3B, and VBW/5 appear to track fluctuations in the reservoir elevation and have read mostly dry since the reservoir was lowered to near-empty in 2022. VBW/2-A, VBW/2-B, and VBW/4 have produced erroneous readings and readings have been discontinued. This is acceptable to DSOD at this time, as long as the construction application work isn't significantly delayed. If work is significantly delayed, the piezometers need to be investigated and a plan for abandonment, repair, or replacement needs to be provided to DSOD. The remaining piezometers had little influence from reservoir elevation fluctuations and rainfall. No concerning trends or conditions were observed in the data. Seepage Drain: The report includes data from 2014 to 2024. Historically the drain appeared to track fluctuations in the reservoir elevation; however, IRWD has been lowering the reservoir since 2022, and the drain has remained dry since. No concerning trends or conditions were observed in the data. Instrumentation data indicate the dam is performing satisfactorily: ☒ Yes ☐ No

In accordance with Division 3, Part 1, Chapter 2, section 6029 of the California Water Code, the owner or operator of a dam or reservoir is responsible for the safe operation, performance, and maintenance of their dam or reservoir, and obtaining all necessary permits and approvals from other permitting agencies, as required.

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Photo 1. Upstream slope of the dam.



Photo 2. Downstream slope of the dam.

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Photo 3. Spillway approach.



Photo 4. Downstream channel of the spillway.

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Photo 5. Toe Drain.