



- **Board of Directors**
Engineering, Operations, and Technology Committee

7/8/2025 Board Meeting

7-5

Subject

Authorize an increase of \$700,000 in change order authority to an existing contract with Power Engineering Construction Co. for urgent diving services at Lake Mathews; the General Manager has determined that the project is exempt or otherwise not subject to CEQA

Executive Summary

Lake Mathews is the terminus of the Colorado River Aqueduct (CRA). Water is withdrawn from the reservoir using two outlet towers connected to a junction shaft. Outlet Tower No. 1 is part of the original construction, and its upper portion was removed when Outlet Tower No. 2 was built. The two lowest tiers of Outlet Tower No. 1 were retained, and the openings modified to include blind flanges mounted on hinges that can be manually closed by divers. These openings on Outlet Tower No. 1 are normally left open, and flows are controlled downstream using gates at the junction shaft. Last month when switching towers for maintenance, the gate at the junction shaft became stuck in the open position. Without the ability to operate the gate, divers must manually close the flanges to prevent the potential for poor-quality water from entering the system during the summer months. A future shutdown will be scheduled to repair the gate.

To prevent adverse water quality impacts this summer, there is an urgent need to manually install the blind flanges at Outlet Tower No. 1 and restrict flow from the lower elevations of the lake. Due to the depth of the water at the location of the blind flanges and other complexities, Metropolitan divers are not recommended to conduct this work. Staff recommends utilizing diving services through a change order to an ongoing construction contract. A contract to install a new floating wave attenuator at Diamond Valley Lake includes diving services as part of the work, and these diving services are suitable for the deep-diving work that is required for this urgent activity. Using the existing contract to perform the urgent diving work at Lake Mathews Outlet Tower No. 1 represents the safest, most cost-effective, and expeditious means to complete the work. This action authorizes increasing the General Manager's authority to execute a change order to an existing contract. See **Attachment 1** for the Location Map.

Proposed Action(s)/Recommendation(s) and Options

Staff Recommendation: Option #1

Option #1

Authorize an increase of \$700,000 in change order authority for a new maximum change order authority of \$1,092,143 to an existing contract with Power Engineering Construction Co. for diving services at Lake Mathews.

Fiscal Impact: Expenditure of \$1.1 million in O&M funds. All costs will be incurred in the current biennium and have been previously authorized.

Business Analysis: This option will prevent adverse water quality impacts to member agencies downstream of Lake Mathews this summer.

Option #2

Do not authorize the increase in change order authority at this time.

Fiscal Impact: None

Business Analysis: Under this option, the water quality of member agencies downstream of the Lake Mathews facility may be adversely impacted this summer.

Alternatives Considered

Staff considered issuing a new contract to perform the urgent diving work at Lake Mathews Outlet Tower No. 1. To comply with bidding requirements and Administrative Code provisions on contract awards, staff would need to develop a contract, bid the contract, and the Board would need to award the contract; likely delaying the start of work until August 2025 at the earliest. During the summer months, poor water quality is anticipated at lower elevations in Lake Mathews. Delaying the urgent diving work to advertise and award a new contract would risk delivering poor quality water to member agencies receiving water from Lake Mathews during the summer months, as well as to the Weymouth and Diemer plants.

Staff also considered utilizing Metropolitan's in-house diving staff to perform the urgent diving work at Lake Mathews Outlet Tower No. 1. Given the depth of Outlet Tower No. 1, there are significant restrictions on the time divers can perform the work at depth. In addition, the work requires entering a confined space to install the flanges. The work is more appropriate for a specialized diving contractor with the experience, equipment, and resources to perform the job safely.

The recommended option would be to utilize a change order under an existing construction contract. The contractor performing work to install a new floating wave attenuator at Diamond Valley Lake includes specialized diving services and can safely and efficiently perform the urgent diving work at Lake Mathews Outlet Tower No. 1.

Applicable Policy

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

Related Board Action(s)/Future Action(s)

By Minute Item 53522, dated February 13, 2024, the Board awarded a \$7,842,856 contract to Power Engineering Construction Co. to install a new Floating Water Attenuator at Diamond Valley Lake.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is exempt from CEQA because it involves the operation, repair, maintenance, or minor alteration of existing public structures, facilities, and mechanical equipment involving negligible or no expansion of existing or former use and no possibility of significantly impacting the physical environment. (State CEQA Guidelines Section 15301.)

CEQA determination for Option #2:

None required

Details and Background

Background

Lake Mathews is the terminus of the CRA and conveys water via the Upper and Lower Feeders to supply the Weymouth and Diemer plants. The Lake Mathews facilities were initially constructed in 1938 and expanded to their current capacity of 182,000 acre-feet in 1961.

In 2004, a second outlet tower was installed at Lake Mathews, and the existing Outlet Tower No. 1 was modified as part of the work. The top portion of the old tower was removed, but the bottom portion was retained as a low-level outlet. The control valves in the old tower were removed and replaced with blind flanges for isolation. A junction shaft connects the two towers to the outlet headworks and controls flow between the two towers with large slide gates. The blind flanges at the old tower can only be removed or installed by divers, as flows were meant to be controlled at the junction shaft by the gates.

Last month, the slide gate at the junction shaft became inoperable. The gate became bound during operation and is currently stuck in the 70 percent open position. The gate would normally be closed during the summer to isolate Outlet Tower No. 1, as lake stratification can often lead to poor water quality at the lowest lake elevations. With the junction shaft gate stuck in the open position, utilizing divers to install the blind flanges is the only way to isolate Outlet Tower No. 1.

As the weather warms, water quality in the lake may deteriorate at the Outlet Tower No. 1 inlet elevations adversely affecting the water quality leaving Lake Mathews and ultimately entering the Weymouth and Diemer. While Metropolitan's treatment plants with their ozone facilities are expected to be able to handle the poor water quality without violating drinking water standards, there is potential for taste and odor issues. In addition, member agencies relying on raw water deliveries from the Upper or Lower Feeders would be adversely impacted.

The configuration of Outlet Tower No. 1 presents some unique challenges for divers. The tower is currently submerged under more than 100 feet of water. Due to the depth, divers have limited working time available before needing to return to the surface. In addition, the structure must be entered using a small opening in the top deck, making the structure an underwater confined space. Experienced divers with appropriate equipment and resources are needed to perform the work safely.

Staff recommends utilizing a change order under an ongoing contract to perform the urgent diving work at Lake Mathews Outlet Tower No. 1. The current contract for installing a new floating wave attenuator at Diamond Valley Lake includes diving services for installing the anchors. The contractor has specialized diving experience, has performed comparable work under the existing contract, and has the necessary equipment and resources to safely perform the urgent diving work needed at Outlet Tower No. 1. The urgent diving work is expected to be completed in July and will allow continued delivery of high-quality water deliveries from Lake Mathews.

Metropolitan's Administrative Code authorizes the General Manager to execute change orders on construction contracts in an aggregate amount not to exceed five percent of the initial amount of the contract or \$250,000, whichever is greater. If changes occur on a construction contract that will exceed this total, additional authorization from Metropolitan's Board is required. The proposed change order to perform the urgent diving work will exceed the General Manager's Administrative Code authority. As a result, an increase in the maximum change order amount on the existing contract is requested at this time.

Diamond Valley Lake Floating Wave Attenuator System Replacement – Increase in Change Order Authority (Contract 2004)

The recommended work to be added to the contract includes providing a barge or work boat to access and perform the work; supplying adequate skilled, experienced divers and appropriate equipment for the conditions; accessing the interior of Outlet Tower No. 1; cleaning and removing quagga mussels as needed at 18 existing inlet flanges; closing (18) 30-inch diameter blind flanges; and accessing the interior of the junction shaft structure to document the conditions of the gate and gate guides to determine the cause of binding to be addressed in a future shutdown.

Per Metropolitan's Administrative Code, the General Manager has the authority to execute change orders for this contract in an aggregate amount not to exceed five percent of the initial amount of the contract or \$250,000, whichever is greater. For this contract, the maximum change order authority is \$392,143. To date, staff has not executed change orders on this contract, but there are some pending issues still to be resolved with the contractor. To perform the needed extra work, staff recommends that the change order authority be increased by \$700,000 for a new maximum change order authority of \$1,092,143. This action authorizes increasing the change order

authority to an existing contract with Power Engineering Construction Co. to perform urgent diving services at Lake Mathews.

Urgent Diving Services at Lake Mathews Outlet Tower No. 1 – Metropolitan Staff Activities

Additional Metropolitan staff activities will be required to perform the urgent diving services, including (1) shutdown of Lake Mathews outlet works and establishment of clearances; and (2) construction inspection, submittal review, technical support, contract administration, and project management.

A total of \$1.1 million is required for this work. The increase to the existing contract amount for the work described above is approximately \$700,000, with other budgeted funds including the following: \$240,000 for shutdown-related activities and materials by Metropolitan staff; \$57,000 for construction inspection; \$27,000 for submittals review, technical support during construction, and responding to requests for information; \$25,000 for contract administration and project management; and \$51,000 for remaining budget.

In accordance with the provisions of the Governmental Accounting Standards Board, Metropolitan's work associated with these diving services must be conducted with O&M funds instead of a capital appropriation. Funds for this action are available within Metropolitan's operating budget funds for fiscal years 2024/25 and 2025/2026.

Project Milestone

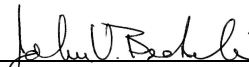
July 2025 – Completion of work activities to install the blind flanges on Outlet Tower No. 1



6/18/2025

Mai M. Hattar
Interim Chief Engineer
Engineering Services

Date



6/18/2025

John Bednarski
Assistant General Manager

Date

Attachment 1 – Location Map

Ref# es12709639

