



● **Board of Directors**
Engineering and Operations Committee

2/9/2016 Board Meeting

7-2

Subject

Appropriate \$650,000; and award \$270,099.36 procurement contract to CS Associated Municipal Sales Corporation for gate valves at the Colorado River Aqueduct pumping plants (Approp. 15438)

Executive Summary

This action provides funding for two procurement contracts for rehabilitation projects at the Colorado River Aqueduct (CRA) pumping plants: (1) a slide gate to replace the existing deteriorated radial gate at Eagle Mountain Reservoir; and (2) gate valves to isolate the main sumps at each pumping plant. This action also awards the gate valve procurement contract. The slide gate procurement will be awarded by the General Manager under his Administrative Code authority.

Timing and Urgency

The radial gate at the Eagle Mountain Reservoir spillway is used to dewater the reservoir for maintenance and repairs, and to safely release water in case of emergency. The existing 70-year-old gate is deteriorating and needs to be replaced. If the spillway gate were to fail, discharge flows would be uncontrolled.

The main sump basins at each of the five pumping plants contain both the sump discharge system and circulating water system, which were installed in the 1930s. These systems are partially submerged and operate in a humid and corrosive environment. Both systems need to be rehabilitated to maintain reliability of the CRA pumping plants. Installation of the sump gate valves in advance of the sump rehabilitation work will allow the sumps to be isolated, which will minimize disruptions to operation of the CRA.

Staff recommends that procurement of the sump gate valves and the reservoir spillway gate proceed at this time so the equipment may be delivered prior to a scheduled shutdown of the CRA in early 2017. These projects have been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria, and are included in the CRA Reliability Program. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2015/16.

Details

Background

The CRA is a 242-mile-long conveyance system that transports water from the Colorado River to Lake Mathews. It consists of five pumping plants; 124 miles of tunnels, siphons, and reservoirs; 63 miles of canals; and 55 miles of conduits. The aqueduct was constructed in the late 1930s and was placed into service in 1941. Two procurement contracts are recommended to be awarded at this time so that two needed CRA rehabilitation projects can proceed.

Project No. 1 – Eagle Mountain Reservoir Spillway Radial Gate Replacement – Procurement (\$350,000)

The radial gate at the Eagle Mountain Reservoir spillway is used to dewater the reservoir for maintenance and repairs, and to safely release water in case of emergency. The gate is constructed of a steel framework that resembles a slice of pie, with a curved plate that rotates to block flow when the gate is in the closed position.

An electric motor actuator is used to pivot the gate upward from the closed to the open position. The radial gate, its electric motor, and the hoisting mechanism are mounted on a concrete outlet structure. The gate is 8 feet wide and 10 feet in height.

In May 2014, Metropolitan's Board authorized final design to replace radial gates along the CRA. Protective coatings on various components of the gates have begun to fail, and significant metal loss has occurred. In addition, the performance of existing motor actuators used to open and close the gates has diminished. These components require frequent repairs.

The planned work on this project includes replacing a total of eight radial gates along the CRA. Due to its deteriorated condition, the spillway gate at Eagle Mountain Reservoir has been prioritized for replacement. This action provides funding to procure a single slide gate at this location so that installation may occur during a scheduled shutdown of the Eagle Mountain Reservoir in early 2017. The procurement contract will be competitively bid and is planned to be awarded by the General Manager under his Administrative Code authority to award contracts up to \$250,000. Staff will return to the Board at a later date for award of an installation contract for the Eagle Mountain Reservoir spillway gate, and to award a procurement contract for the remaining seven slide gates.

This action appropriates \$350,000 to provide funding for procurement of a new spillway slide gate at Eagle Mountain Reservoir. Requested funds include \$220,000 for the procurement contract; \$31,000 for factory fabrication inspection and functional testing; \$40,000 for review of submittals and responding to requests for information; \$28,000 for contract administration, shutdown planning, and project management; and \$31,000 for remaining budget.

The total estimated cost to replace the eight CRA radial gates, including the amount appropriated to date, current funds requested, and future installation costs, is anticipated to range from \$10 million to \$12 million.

Project No. 2 – CRA Pumping Plant Sump System Rehabilitation – Procurement (\$300,000)

Each of the five CRA pumping plants has two main sumps and five auxiliary sumps that collect water leakage from the main CRA pumps, backwash flows from the domestic water treatment system, washwater from plant maintenance activities, and spent cooling water after it has been used to cool the main CRA pumps. The main sump basins are located at either end of each pumping plant's main building, and the five auxiliary sump basins are located between the main CRA pumps.

The sump basins contain portions of two separate piping systems: the sump discharge system and circulating water system. Each of these systems includes 16-inch-diameter piping, pumps, valves and couplings. The sump discharge system pumps water from the sump basins to either the CRA or to the pumping plant forebay, depending on the pumping plant. The circulating water system pressurizes water from the pumping plant's 16-foot-diameter inlet pipe into a closed piping system which passes through the sump basins. This water is delivered to separate storage tanks for fire protection, potable water, and main pump cooling water systems.

The sump discharge systems and circulating water systems were installed in the 1930s. These systems are partially submerged and operate in a humid and corrosive environment. Pipe leaks have become more frequent in recent years, requiring immediate system shutdowns for repairs by divers. The circulating water systems are integral to the pump operations. If the sump discharge or circulating water systems were to fail, water could potentially overflow from the sump basins into the CRA pump bays, damaging electrical and mechanical equipment and interrupting deliveries from the CRA.

In October 2014, Metropolitan's Board authorized final design for rehabilitation of the sump collection, discharge, and circulating water equipment and piping systems. Installation of the subject gate valves in advance of the sump piping rehabilitation will allow staff to isolate sumps and minimize disruptions to operation of the CRA. This action awards a procurement contract for gate valves so that installation may be expedited to occur during a scheduled shutdown of the CRA in early 2017. Staff will return to the Board at a later date for award of the installation contract.

Purchase requisition RFB-AS-302724 for furnishing 13 gate valves for the CRA pumping plants was advertised for bids on November 16, 2015. As shown in [Attachment 2](#), two bids were received and opened on December 8, 2015. The low bid from CS Associated Municipal Sales Corporation in the amount of \$270,099.36 complies with the requirements of the specifications. The budgetary cost estimate for this equipment, based on a survey of vendors, ranged from \$300,000 to \$350,000. CS Associated Municipal Sales Corporation is based in Huntington Beach, California, and qualifies as a Small Business Enterprise (SBE) and a Regional Business Enterprise (RBE). As a procurement contract, there are no subcontracting opportunities.

This action appropriates \$300,000 and awards a \$270,099.36 contract to CS Associated Municipal Sales Corporation for procurement of 13 gate valves for the five CRA pumping plants. The contract amount includes all sales and use taxes imposed by the state of California. In addition to the amount of the contract, the requested funds include \$6,000 for contract administration and project management; and \$23,900.64 for remaining budget.

The total estimated cost to rehabilitate the pumping plant sump systems, including the amount authorized to date, current funds requested, and future installation costs, is anticipated to range from \$19 million to \$22 million.

Summary

This action appropriates \$650,000 for two CRA rehabilitation projects, and awards a gate valve procurement contract. The slide gate procurement will be awarded by the General Manager under his Administrative Code authority. The two projects have been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2015/16 capital expenditure plan. See [Attachment 1](#) for the Financial Statement, [Attachment 2](#) for the Abstract of Bids, and [Attachment 3](#) for the Location Map.

These projects are included within capital Appropriation No. 15438, the CRA Reliability Appropriation – FY 2006/07 Through FY 2011/12, which was initiated in fiscal year 2006/07. With the present action, the total funding for this appropriation will increase from \$62,944,000 to \$63,594,000.

Project Milestones

November 2016 – Delivery of the Eagle Mountain Reservoir spillway slide gate

December 2016 – Delivery of the pumping plant sump gate valves

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

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

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed project involves the funding; final design; and minor alterations, reconstruction or replacement of existing public facilities with no expansion of use and no possibility of significantly impacting the physical environment. In addition, the proposed project involves minor modifications in the condition of land, water, and/or vegetation which does not involve removal of healthy, mature, scenic trees. Accordingly, the proposed action qualifies under Class 1, Class 2, and Class 4 Categorical Exemptions (Sections 15301, 15302, and 15304 of the State CEQA Guidelines).

The CEQA determination is: Determine that the proposed action is categorically exempt from CEQA pursuant to three Categorical Exemptions (Class 1, Section 15301; Class 2, Section 15302; and Class 4, Section 15304 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed action is categorically exempt, and

- a. Appropriate \$650,000; and
- b. Award \$270,099.36 contract to CS Associated Municipal Sales Corporation to furnish 13 gate valves for the sumps at each CRA pumping plant.

Fiscal Impact: \$650,000 of capital funds under Approp. 15438

Business Analysis: This option will help to maintain operational reliability of the Eagle Mountain Reservoir and the CRA pumping plants.

Option #2

Do not proceed with the two projects at this time.

Fiscal Impact: None

Business Analysis: This option would forgo an opportunity to enhance reliability of the CRA. Further deterioration of the sump systems and spillway gate could lead to excessive leakage, more extensive repairs, and increased cost to perform repairs. Emergency repairs on those facilities may require an unplanned outage of the CRA.

Staff Recommendation

Option #1



Gordon Johnson 1/22/2016
 Manager/Chief Engineer Date
 Engineering Services



Jeffrey Nightlinger 1/26/2016
 General Manager Date

[Attachment 1 – Financial Statement](#)

[Attachment 2 – Abstract of Bids](#)

[Attachment 3 – Location Map](#)

Financial Statement for CRA Reliability Appropriation – FY 2006/07 Through FY 2011/12

A breakdown of Board Action No. 31 for Appropriation No. 15438 for two rehabilitation projects at the Colorado River Aqueduct pumping plants¹ is as follows:

	Previous Total Appropriated Amount (Sep. 2015)	Current Board Action No. 31 (Feb. 2016)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 2,505,800	\$ -	\$ 2,505,800
Final Design	5,118,900	-	5,118,900
Owner Costs (Program mgmt.)	4,116,090	34,000.00	4,150,090
Submittals Review & Record Drwgs.	865,600	40,000.00	905,600
Construction Inspection & Support	4,263,500	31,000.00	4,294,500
Metropolitan Force Construction	4,565,600	-	4,565,600
Materials & Supplies	2,995,405	-	2,995,405
Incidental Expenses	138,800	-	138,800
Professional/Technical Services	4,193,000	-	4,193,000
Equipment Use	25,505	-	25,505
Contracts	32,231,237	-	32,231,237
Slide Gate Mfr. (To be determined)	-	220,000.00	220,000
CS Associated Municipal Sales Corp.	-	270,099.36	270,099
Remaining Budget	1,924,563	54,900.64	1,979,464
Total	\$ 62,944,000	\$ 650,000	\$ 63,594,000

Funding Request

Appropriation Name:	CRA Reliability Appropriation – FY 2006/07 Through FY 2011/12		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15438	Board Action No.:	31
Requested Amount:	\$ 650,000	Budget Page No.:	280
Total Appropriated Amount:	\$ 63,594,000	Total Appropriation Estimate:	\$ 64,826,000

¹ The total amount expended to date on the CRA Radial Gate Replacement project is approximately \$770,000. The total estimated cost to complete this project, including the amount appropriated to date, current funds requested, and future construction costs, is anticipated to range from \$10 million to \$12 million. The total amount expended to date on the CRA Pumping Plant Sump System Rehabilitation project is approximately \$810,000. The total estimated cost to complete this project, including the amount appropriated to date, current funds requested, and future construction costs, is anticipated to range from \$19 to \$22 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on December 8, 2015 at 2:00 P.M.

**Purchase Requisition No. RFB-AS-302724
CRA Pumping Plant Sump System Rehabilitation**

The work consists of furnishing 13 gate valves for the CRA pumping plant sump systems.

Engineer's Estimate: \$300,000

Bidder and Location	Base Bid Price Total¹	Small Business (Y/N)	Regional Business (Y/N)	Evaluated Bid Total²
CS Associated Municipal Sales Corp. Huntington Beach, CA	\$270,099.36	Y	Y	\$245,099.36
JS Valve, Inc. Huffman, TX	\$349,499.88	N	N	\$349,499.88

¹ Includes sales and use tax of 9.00 percent imposed by the State of California.

² Includes a bid-price reduction credit of \$12,500 within the evaluated bid total for qualified Small Business Enterprise (SBE) participation, and an additional \$12,500 for qualified Regional Business Enterprise (RBE) participation.

Location Map

