



- Board of Directors  
*Engineering and Operations Committee*

11/8/2011 Board Meeting

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**8-7**

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## **Subject**

Appropriate \$4.4 million; and award \$3,348,791 contract to W. M. Lyles Co. for replacement of transition and manhole structure covers on the Colorado River Aqueduct (Approp. 15373)

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## **Description**

This action awards a construction contract to replace deteriorated access covers at transition and manhole structures along the Colorado River Aqueduct (CRA). These structures provide the primary means for access into the aqueduct to perform maintenance or emergency repairs.

### **Timing and Urgency**

Replacement of 133 deteriorated steel and concrete access covers along the CRA is needed to restrict unauthorized access to the CRA, maintain safety, and avoid legal liability by preventing staff and the public from falling through the deteriorated access covers into the aqueduct. The covers are over 70 years old and are deteriorating due to weathering and corrosion. The potential collapse of these relatively large and heavy covers into the aqueduct could obstruct water deliveries and cause structural damage. The access covers are being replaced in two stages. Under Stage 1, the 37 most severely distressed covers were recently replaced. The present action authorizes Stage 2, which will replace the remaining deteriorated 56 steel transition covers and 77 concrete manhole covers. This work is recommended to move forward to enhance worker safety and improve aqueduct security.

This project has been reviewed with Metropolitan's updated Capital Investment Plan (CIP) prioritization criteria, and is categorized as an Infrastructure Upgrade project. This work is budgeted within Metropolitan's CIP for fiscal year 2011/12.

### **Background**

The CRA is a 242-mile-long conveyance system, which transports water from the Colorado River to Lake Mathews. It consists of five pumping plants, 124 miles of tunnels, 63 miles of canals, and 55 miles of conduits, siphons and reservoirs. The aqueduct was constructed in the late 1930s and was placed into service in 1941.

The CRA conveyance system includes a total of 170 openings to the aqueduct that are covered by either steel transition covers or concrete manhole covers. These openings provide points of access to the aqueduct for maintenance activities or emergency repairs, while restricting unauthorized access to the aqueduct. The transition covers are composed of 1/4-inch thick steel plate attached to steel frames, and are approximately 18 feet wide by 24 feet long. The manhole covers are composed of 3-inch thick concrete slabs, and are approximately 2.5 feet wide by 8.5 feet long. The exact size of each cover varies slightly. The covers are over 70 years old and have deteriorated beyond repair.

In September 2007, Metropolitan's Board authorized final design to replace 170 deteriorated access covers along the CRA. During the final design process, staff assessed the condition of the covers and prioritized the repair work. In December 2009, the Board awarded a construction contract to address 36 of the most severely distressed covers. That work has been completed. An additional transition cover was replaced in March 2010 due to its

advanced state of corrosion. Final design to replace the remaining 133 covers has now been completed, and construction is recommended to proceed at this time.

### **CRA Transition and Manhole Structure Cover Replacement, Stage 2 – Construction (\$4,400,000)**

Planned construction activities include removal and disposal of the existing 133 steel plate transition covers, precast concrete and plate steel manhole covers, and metal support beams along the CRA; installation of 56 transition covers with new steel covers; and installation of 77 manhole covers with new precast concrete covers and support beams. The work also includes repair of 66 manhole structures whose concrete has cracked and spalled. All new covers will be equipped with security locks.

Specifications No. 1614 for the CRA Transition and Manhole Structure Cover Replacement project was advertised for bids on July 21, 2011. As shown in [Attachment 2](#), nine bids were received and opened on September 14, 2011. The low bid from W. M. Lyles Co., in the amount of \$3,348,791, complies with the requirements of the specifications. The eight higher bids ranged from \$3,454,534 to \$6.95 million. The engineer's estimate was \$3.9 million. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 20 percent of the bid amount. W. M. Lyles Co. has committed to meet this level of participation.

This action appropriates \$4.4 million and awards a \$3,348,791 construction contract to W. M. Lyles Co. In addition to the amount of the contract, the requested funds include \$232,000 for Metropolitan force support for hazardous material testing, replacement of survey benchmark monuments on the access covers, and establishment of safety clearances for access to the structures. Requested funds also include \$495,000 for factory fabrication inspection and field construction inspection; \$116,000 for submittals review and record drawing preparation by Metropolitan staff; \$157,000 for environmental monitoring and project management; and \$51,209 in remaining budget.

Construction inspection will be performed by Metropolitan staff. For this project, the anticipated cost of inspection is approximately 13.8 percent of the total construction cost. Engineering Services' goal for inspection of construction contracts greater than \$3 million is 9 to 12 percent. The inspection costs for this project are expected to exceed the goal due to the remote locations of the access structures, which stretch across 127 miles of the aqueduct. For this project, the estimated total cost of construction is \$3,580,791.

This action appropriates \$4.4 million and awards a construction contract to replace transition and manhole structure covers on the CRA. This work will be performed under the CRA Conveyance Reliability Program (Appropriation No. 15373), which was initiated in fiscal year 2001/02. Past work completed under Appropriation No. 15373 includes replacement of the CRA canal liner, installation of internal seals within the CRA siphons, replacement of cast iron flanges throughout the CRA system, and repairs to the Big Morongo Siphon. The total appropriated amount for this program will increase from \$73,998,000 to \$78,398,000.

This work has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds have been included in the fiscal year 2011/12 capital budget. See [Attachment 1](#) for the Financial Statement, [Attachment 2](#) for the Abstract of Bids, and [Attachment 3](#) for the Location Map.

This project is consistent with Metropolitan's goals for sustainability by enhancing reliability of the existing CRA system in order to maintain reliable water deliveries in the future.

### **Project Milestone**

April 2013 – Completion of the second stage of construction to replace transition and manhole structure covers on the CRA

### **Policy**

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Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Section 5108: General Authority of the General Manager to Enter Contracts

## California Environmental Quality Act (CEQA)

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### CEQA determination for Option #1:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall activities involve funding, design, minor alterations and replacement of existing public facilities; minor modifications in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees; and a check for performance of an operation, or quality, health, or safety of a project. In addition, these activities involve negligible or no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed action qualifies under Class 1, Class 2, Class 4, and Class 9 Categorical Exemptions (Sections 15301, 15302, 15304, and 15309 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under four Categorical Exemptions (Class 1, Section 15301; Class 2, Section 15302; Class 4, Section 15304; and Class 9, Section 15309 of the State CEQA Guidelines).

### CEQA determination for Option #2:

None required

## Board Options

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### Option #1

Adopt the CEQA determination and

- a. Appropriate \$4.4 million; and
- b. Award \$3,348,791 contract to W. M. Lyles Co. for replacement of transition and manhole structure covers on the Colorado River Aqueduct.

**Fiscal Impact:** \$4.4 million in budgeted funds under Approp. 15373

**Business Analysis:** This option will enhance worker and public safety, and CRA reliability.

### Option #2

Do not award the construction contract and re-advertise in an attempt to receive more favorable bids.

**Fiscal Impact:** None

**Business Analysis:** This option may or may not result in more favorable bids and would delay completion of the cover replacement work.

## Staff Recommendation

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### Option #1

	10/17/2011
Gordon Johnson Manager/Chief Engineer, Engineering Services	Date
	10/25/2011
Jeffrey Kightlinger General Manager	Date

[Attachment 1 – Financial Statement](#)

[Attachment 2 – Abstract of Bids](#)

[Attachment 3 – Location Map](#)

Ref# es12612485

**Financial Statement for CRA Conveyance Reliability Program**

A breakdown of Board Action No. 15 for Appropriation No. 15373 for the CRA Transition and Manhole Structure Cover Replacement project<sup>1</sup> is as follows:

	<b>Previous Total Appropriated Amount (Nov. 2010)</b>	<b>Current Board Action No. 15 (Nov. 2011)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies & Investigations	\$ 3,182,300	\$ -	\$ 3,182,300
Final Design	3,783,700	-	3,783,700
Owner Costs (Program mgmt., envir. monitoring)	4,574,700	157,000	4,731,700
Submittals Reviews & Record Dwgs	-	116,000	116,000
Construction Inspection & Support	5,098,220	495,000	5,593,220
Metropolitan Force Construction	7,210,118	232,000	7,442,118
Materials & Supplies	1,660,300	-	1,660,300
Incidental Expenses	392,800	-	392,800
Professional Services	3,820,400	-	3,820,400
Right of Way	10,000	-	10,000
Equipment Use	101,450	-	101,450
Contracts	40,426,861	3,348,791	43,775,652
Remaining Budget	3,737,151	51,209	3,788,360
<b>Total</b>	<b>\$ 73,998,000</b>	<b>\$ 4,400,000</b>	<b>\$ 78,398,000</b>

Funding Request

<b>Program Name:</b>	CRA Conveyance Reliability Program		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15373	<b>Board Action No.:</b>	15
<b>Requested Amount:</b>	\$ 4,400,000	<b>Capital Program No.:</b>	15373
<b>Total Appropriated Amount:</b>	\$ 78,398,000	<b>Capital Program Page No.:</b>	278
<b>Total Program Estimate:</b>	\$ 113,500,000	<b>Program Goal:</b>	I-Infrastructure Reliability

<sup>1</sup> The total amount expended to date on the CRA Transition and Manhole Structure Cover Replacement project is approximately \$688,000.

**The Metropolitan Water District of Southern California**  
**Abstract of Bids Received on September 14, 2011 at 2:00 P.M.**  
**Specifications No. 1614**  
**CRA Transition and Manhole Structure Cover Replacement**

The contract consists of replacement of 56 existing transition covers with new steel plate covers; replacement of 77 existing manhole covers with new precast concrete covers; and repair of 66 manhole structures along the Colorado River Aqueduct (CRA) between Mile Marker 104.96 and Mile Marker 232.15.

**Engineer's Estimate: \$3,900,000**

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE \$</b>	<b>SBE %</b>	<b>Met SBE*</b>
<b>W.M. Lyles Co., Fresno, CA</b>	<b>\$ 3,348,791</b>	<b>\$670,000</b>	<b>20%</b>	<b>Yes</b>
PCL Construction, Inc., San Marcos, CA	\$ 3,454,534	-	-	-
Granite Construction Company, Watsonville, CA	\$ 3,727,273			
Abhe & Svoboda, Inc., Prior Lake, MN	\$ 4,055,217			
J.F. Shea Construction, Inc., Walnut CA	\$ 4,170,458	-	-	-
Gantry Constructors, Inc., Clarkdale, AZ	\$ 4,408,000	-	-	-
Sukut Construction, Inc., Oceanside, CA	\$ 4,484,000	-	-	-
Road Builders, Inc., Murrieta, CA	\$ 4,975,000	-	-	-
DDH Apple Valley Construction, Inc., Apple Valley, CA	\$ 6,950,000	-	-	-

\*SBE (Small Business Enterprise) participation was established at 20% for this contract

Location Map

