



- Board of Directors  
*Engineering and Operations Committee*

10/11/2011 Board Meeting

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**7-1**

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## **Subject**

Appropriate \$870,000; and award \$428,551 contract to Mehta Mechanical Company, Inc. for Stage 1 repairs of pipe expansion joints at Julian Hinds Pumping Plant (Approp. 15374)

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## **Description**

This action awards a construction contract for the first of two stages of repairs of leaking delivery pipe expansion joints at the Julian Hinds Pumping Plant on the Colorado River Aqueduct (CRA).

### **Timing and Urgency**

The Hinds Pumping Plant has nine main pumps located in the pump-house that lift water from the plant through a series of discharge pipelines to the downstream aqueduct. There are nine expansion joints on the 6-foot diameter discharge lines and nine expansion joints on the 10-foot diameter discharge lines. These 18 expansion joints are more than 50 years old and have been in service beyond their expected useful lives. However, the joints are showing signs of corrosion and leaking as a result of continuous service for several decades. Rehabilitation of the joints is needed to maintain reliable water deliveries from the CRA and to avoid costly emergency repairs. Staff has assessed the urgency of this project, and recommends moving forward with repair of the first nine joints at this time so that the work may take place during a planned February 2012 CRA shutdown.

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

### **Background**

The Hinds Pumping Plant has nine main pump units within the pump-house. Each pump discharges through a 6-foot diameter steel pipe section, which contains one expansion joint. Three of these 6-foot diameter pipelines then converge into a single 10-foot diameter steel discharge pipeline. The pumping plant has three 10-foot diameter discharge pipelines, each with three expansion joints, which then convey the water downstream to the aqueduct. There is a total of 18 expansion joints, which allow for thermal expansion and contraction of the pipelines as a result of temperature changes. All of the expansion joints have been in continuous service for 50-70 years.

Over the last several years, leaks have been detected at many of the expansion joints due to normal wear and tear over many decades of operation. The amount of water leakage at present is low. However, the leakage is beginning to cause the steel pipe joints to corrode. In order to maintain reliable CRA deliveries, the joints need to be rehabilitated. Due to the time required for curing of the specialized coatings and the constrained shutdown window for the CRA, repair of the joints has been staged to take place over two shutdown seasons. The Stage 1 repairs will address the expansion joints located on the 6-foot diameter pipelines during a February 2012 shutdown. The remaining nine expansion joints on the 10-foot diameter discharge lines are planned to be repaired during the next CRA shutdown in 2013.

Metropolitan has successfully completed the rehabilitation of expansion joints at Iron Mountain and Eagle Mountain Pumping Plants in October 2009 and April 2010, respectively. This approach of scheduling one expansion joint repair project during each CRA shutdown allows the unique configuration and needs of each plant to be addressed individually, while increasing opportunities for participation by Small Business Enterprise (SBE) firms. Staff will return to the Board at a later date to award construction contracts to complete the remaining work at Hinds Pumping Plant and at the Gene and Intake Pumping Plants.

### **Hinds Pumping Plant, Stage 1 Pipe Expansion Joint Repairs – Construction (\$870,000)**

Specifications No. 1702 was advertised for bids on July 21, 2011. As shown in [Attachment 2](#), 4 bids were received and opened on August 30, 2011. The low bid from Mehta Mechanical Company, Inc., in the amount of \$428,551, complies with the requirements of the specifications. The 3 higher bids ranged from \$588,937 to \$982,916. The engineer's estimate was \$510,000. For this contract, Metropolitan established an SBE participation level of at least 20 percent of the bid amount. Mehta Mechanical Company, Inc. is an SBE firm, and thus achieves 100 percent participation.

This action appropriates \$870,000 in budgeted funds and awards a \$428,551 contract to Mehta Mechanical Company, Inc. for Stage 1 repairs of leaking expansion joints on the discharge pipes at Hinds Pumping Plant. In addition to the amount of the contract, the appropriated funds include \$175,000 for Metropolitan force shutdown activities, which includes shutting down and restarting the Hinds Pumping Plant, establishing clearances, and dewatering and refilling the aqueduct system. Requested funds also include: \$101,300 for construction inspection; \$35,400 for submittal reviews and preparation of record drawings; \$56,300 for environmental monitoring and project management; and \$73,449 for remaining budget.

Metropolitan staff will perform inspection of the construction contract. For this project, the anticipated cost of inspection is approximately 16.8 percent of the total construction cost. Engineering Services' goal for inspection of construction contracts less than \$3 million is 9 to 15 percent. Inspection costs for this project are expected to exceed the goal because of the round-the-clock specialized inspection required for the 21-day CRA shutdown, and the remote location of the site. The total estimated cost of construction for the project is \$603,551.

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. This project is included within capital Appropriation No. 15374, the CRA Pumping Plant Program, which was initiated in fiscal year 2001/02. Past work completed under Appropriation No. 15374 includes the Intake Pumping Plant Automation, Circulating Water System Rehabilitation, and Expansion Joint Repairs at Iron Mountain and Eagle Mountain Pumping Plants. The total appropriated amount for this program will increase from \$20,997,000 to \$21,867,000.

See [Attachment 1](#) for the Financial Statement, [Attachment 2](#) for the Abstract of Bids, and [Attachment 3](#) for the Location Map.

These projects are consistent with Metropolitan's goals for sustainability by enhancing reliability of the existing conveyance and distribution system in order to maintain reliable water deliveries in the future.

### ***Project Milestone***

May 2012 – Completion of construction of Stage 1 repairs of the delivery pipe expansion joints at Julian Hinds Pumping Plant.

### **Policy**

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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)

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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. 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, and Class 4 Categorical Exemptions (Sections 15301, 15302, and 15304 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; and Class 4, Section 15304 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 \$870,000; and
- b. Award \$428,551 contract to Mehta Mechanical Company, Inc. for Stage 1 repairs of pipe expansion joints at the Hinds Pumping Plant.

**Fiscal Impact:** \$870,000 in budgeted funds under Approp. 15374

**Business Analysis:** This option will enhance reliability and long-term operation of the CRA.

### 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 defer the rehabilitation work to the next shutdown season in 2012/13.

## Staff Recommendation

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### Option #1

  
 \_\_\_\_\_ 9/29/2011  
 Gordon Johnson Date  
 Manager/Chief Engineer,  
 Engineering Services

  
 \_\_\_\_\_ 9/29/2011  
 Jeffrey Lightlinger Date  
 General Manager

[Attachment 1 – Financial Statement](#)

[Attachment 2 – Abstract of Bids](#)

[Attachment 3 – Location Map](#)

### Financial Statement for CRA Pumping Plant Reliability Program

A breakdown of Board Action No. 13 for Appropriation No. 15374 for the Hinds Pumping Plant Pipe Expansion Joint Repairs, Stage 1<sup>1</sup> is as follows:

	<b>Previous Total Appropriated Amount (Apr. 2011)</b>	<b>Current Board Action No. 13 (Oct. 2011)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies and Investigations	\$ 889,000	\$ -	\$ 889,000
Final Design	2,340,100 <sup>2</sup>	-	-
Owner Costs (Envir. monitoring, program mgmt)	2,383,400	56,300	2,439,700
Submittal Reviews, Record Dwgs.	-	34,900	34,900
Construction Inspection and Support	1,465,000	101,300	1,566,300
Metropolitan Force Construction	3,299,100	175,000	3,474,100
Materials and Supplies	2,666,000	-	2,666,000
Incidental Expenses	190,500	500	191,000
Professional Services	763,000	-	763,000
Equipment Use	82,700	-	82,700
Contracts	5,587,358	428,551	6,015,909
Remaining Budget	1,330,842 <sup>2</sup>	73,449	73,449
<b>Total</b>	<b>\$ 20,997,000</b>	<b>\$ 870,000</b>	<b>\$ 18,196,058</b>

#### Funding Request

<b>Program Name:</b>	CRA Pumping Plant Reliability Program		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15374	<b>Board Action No.:</b>	13
<b>Requested Amount:</b>	\$ 870,000	<b>Capital Program No.:</b>	15374
<b>Total Appropriated Amount:</b>	\$ 21,867,000	<b>Capital Program Page No.:</b>	281
<b>Total Program Estimate:</b>	\$ 42,961,600	<b>Program Goal:</b>	I-Infrastructure Reliability

<sup>1</sup>The total amount expended to date on the Hinds Pumping Plant Pipe Expansion Joint Repairs, Stage 1 project is approximately \$119,500.

<sup>2</sup>Includes previous allocation of \$890,000 from remaining budget to Intake Pumping Plant Instrumentation Replacement & Automation for increased scope related to additional programming, hardware controls and hazardous material disposal.

**The Metropolitan Water District of Southern California**  
**Abstract of Bids Received on August 30, 2011 at 2:00 P.M.**

**Specifications No. 1702**

**Julian Hinds Pumping Plant Delivery Pipe  
Expansion Joint Repairs Phase I Project**

The Julian Hinds Pumping Plant Delivery Pipe Expansion Joint Repairs Phase I project consists of coating repairs to nine mechanical expansion joints in the 6-foot diameter sections of the delivery pipes. The work includes disassembly, unpacking, blast cleaning, recoating, repacking, and reassembly of the expansion joints.

**Engineer's Estimate: \$510,000**

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE \$</b>	<b>SBE %</b>	<b>Met SBE**</b>
<b>Mehta Mechanical Company, Inc., dba MMC, La Palma, CA</b>	<b>\$ 428,551</b>	<b>\$428,551</b>	<b>100%</b>	<b>Yes</b>
Zusser Company, Inc., Los Angeles, CA	\$ 588,937	N/A	N/A	N/A
Abhe & Svoboda, Inc., Alpine, CA	\$ 621,408	N/A	N/A	N/A
Caliagua, Inc., Chino, CA	\$ 982,916	N/A	N/A	N/A

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

Location Map

