

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

July 8, 2003 Board Meeting

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**8-1**

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**Subject**

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Appropriate \$12.750 million; and award a \$9.095 million construction contract to Kiewit Pacific Company, for the OC-88 Energy Savings Modifications Project, as part of the Power Reliability and Energy Conservation Program (Approp. 15391)

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**Description**

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The Power Reliability and Energy Conservation Program was developed in fiscal year 2000/01, as a result of the ongoing need to enhance power reliability and energy use optimization throughout Metropolitan's facilities. To date, numerous energy-saving projects within the program have been implemented. The OC-88 Energy Savings Modifications Project involves modifying the existing OC-88 pump station to reduce the energy required for booster pumping. Currently, the pumping facility is supplied with water by the Allen-McColloch Pipeline (AMP), which requires throttling valves to reduce the pressure of the incoming flow. The water is then delivered to a 2-million-gallon forebay and finally pumped into the South County Pipeline. The proposed modifications will allow the system to move water directly from the AMP into the South County Pipeline, thereby utilizing the pressure in the AMP. Modifications include the installation of a 66-inch diameter pipeline, 300 feet in length, the relocation and modification of four existing pumps and the installation of three new pumps. It is estimated that power costs at this facility will be reduced by 50 to 60 percent per year by implementing this project. Based on current power costs, the capital expenditure for this project will be recovered in approximately ten years.

In March 2002, Metropolitan's Board authorized final design and pre-purchase of long lead-time equipment for the OC-88 Energy Savings Modifications Project. The project was advertised for bid on April 25, 2003. The low bid from Kiewit Pacific Company of Santa Fe Springs, California, in the amount of \$9,095,000, complies with the requirements of the specifications. The engineer's estimate was \$11 million. For this project, Metropolitan requires Small Business Enterprise (SBE) participation of at least 20 percent of the total construction bid. Kiewit Pacific Company has committed to achieving this requirement.

This action awards a construction contract to modify the existing pump station and appropriates \$12.75 million for the construction contract and for construction management and support. This project was evaluated and recommended by Metropolitan's Capital Investment Plan Evaluation Team and is included in the fiscal year 2003/04 CIP budget. See [Attachment 1](#) for the Detailed Report, [Attachment 2](#) for the Abstract of Bids, and [Attachment 3](#) for the Financial Statement.

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**Policy**

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Metropolitan Water District Administrative Code § 5108: Capital Projects Appropriation

Metropolitan Water District Administrative Code § 8113: Construction Contract Award

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**California Environmental Quality Act (CEQA)**

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CEQA determination for Option #1:

To comply with CEQA and the State CEQA Guidelines, Metropolitan as the Lead Agency prepared a Mitigated Negative Declaration (MND) for the OC-88 Energy Savings Modifications Project. The MND was distributed for a 30-day public review period that began on December 24, 2001. The Board later adopted the MND and the mitigation monitoring and reporting program (MMRP) on March 12, 2002. The current board actions are solely

based on funding and entering into a contract for construction services, as well as for purchases of new equipment, and not on any changes to the approved project. Hence, the previously adopted environmental documentation in conjunction with the current proposed actions fully complies with CEQA and the State CEQA Guidelines. As such, no further environmental documentation is necessary for the Board to act on with respect to the proposed actions.

The CEQA determination is: Determine that the proposed actions have been previously addressed in the 2002 adopted MND and its MMRP and that no further environmental analysis or documentation is required.

CEQA determination for Options #2 and #3:

None required

## Board Options/Fiscal Impacts

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### Option #1

Adopt the CEQA determination and

- a. Appropriate \$12.75 million in budgeted CIP funds; and
- b. Award a \$9.095 million construction contract to Kiewit Pacific Company for the modification of the OC-88 pumping station.

**Fiscal Impact:** \$12.75 million of budgeted CIP funds under Approp. 15391, and \$1.15 million per year in differential long-term energy cost savings.

### Option #2

Reject all bids and readvertise in order to obtain a more favorable bid. This approach would delay the project and disrupt the critical shutdown schedule that is required by the project, and which has been closely coordinated with the member agencies. This option may or may not result in a lower bid.

**Fiscal Impact:** Unknown

### Option #3

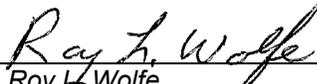
Do not modify facility and continue to pay higher energy costs.

**Fiscal Impact:** \$1.15 million per year in differential energy costs.

## Staff Recommendation

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Option #1

 _____ Roy L. Wolfe Manager, Corporate Resources	6/17/2003 Date
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 _____ Ronald R. Gastelum Chief Executive Officer	6/18/2003 Date
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**Attachment 1 – Detailed Report**

**Attachment 2 – Abstract of Bids**

**Attachment 3 – Financial Statement for Power Reliability and Energy Conservation Program**

## **Detailed Report**

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### ***Purpose/Background***

Metropolitan began extensive energy conservation studies of its five filtration plants in 1995. Since that time, numerous energy-saving measures have been implemented at many facilities, including the headquarters at Union Station. Most of these initiatives have required minimal capital expenditures, and many were accomplished as a part of regular operations and maintenance activities. The Power Reliability and Energy Conservation Program was developed in fiscal year 2000/01, as a result of an ongoing review of power reliability and energy use optimization throughout Metropolitan's facilities.

### ***Project Description and Implementation***

This project will modify the existing OC-88 Pump Station to a closed-suction design to reduce energy costs at the facility. Currently, the four 1,500-horsepower pumps at OC-88 are an open-suction design, so they can draw water from the buried 2-million-gallon forebay and pump it into the South County Pipeline for delivery to southern Orange County. The forebay is supplied with water by the Allen-McColloch Pipeline (AMP), which requires throttling valves to reduce the pressure of the incoming flow. Since the pumps cannot utilize the available pressure in the AMP, the pump system is energy intensive and is expensive to operate. The new closed-suction configuration will allow the system to pump water directly from the AMP into the South County Pipeline, thereby utilizing the pressure in the AMP. This new configuration will save the energy currently lost by discharging into the forebay, with overall pumping cost savings estimated at 50 to 60 percent per year. Based on current power costs, the capital expenditure for this project will be recovered in approximately ten10 years. These modifications include surge protection for the AMP to protect it from an unanticipated pump shutdown or failure.

A previous board action in March 2002 authorized design of the modifications, along with pre-purchase of long lead-time equipment such as pumps and other key materials. The proposed action awards a competitively bid construction contract and appropriates funds for construction management and support. Metropolitan staff will perform construction inspection of this project. Construction inspection and support as a percentage of the construction cost is approximately 14 percent.

### ***Bid Results and Business Outreach***

Specifications No. 1466, OC-88 Energy Savings Modifications Project, was advertised on April 25, 2003. The low bid from Kiewit Pacific Company of Santa Fe, California, in the amount of \$9,095,000, complies with the requirements of the specifications. The engineer's estimate was \$11 million. For this project, Metropolitan requires Small Business Enterprise (SBE) participation of at least 20 percent of the total construction bid. Kiewit Pacific Company has committed to achieving this requirement.

### ***Actions and Milestones***

Aug. 2003 – Issue Notice to Proceed

Sept. 2003 – Begin construction

Aug. 2005 – Completion of construction

**The Metropolitan Water District of Southern California**

**Abstract of Bids Received June 11, 2003, at 3:00 P.M.**

**Specifications No. 1466**

**OC-88 Energy Savings Modifications Project**

The project consists of modifying four existing pumps; furnishing and installing three new pumps, motors and variable frequency drives (VFDs); replacing one existing fixed speed motor and installing a VFD; installing two spherical surge tanks, footings and retaining wall; installing eight relief valves; installing approximately 300 feet of 66-inch diameter pipeline; modifying the existing forebay and chlorine room; installing a Metropolitan-furnished 66-inch diameter valve; installing a plant flow meter; building a valve vault and flow meter vault; modifying the existing discharge line and replacing the existing valves; installing chillers and air handler units; and other appurtenances as specified and shown on the contract documents.

**Engineer's Estimate: \$ 11,000,000**

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE % Participation</b>	<b>Met SBE (20% Minimum)</b>
1. Kiewit Pacific Company Santa Fe Springs, CA	\$ 9,095,000	29.55	Yes
2. J. F. Shea Construction Inc Walnut, CA	\$ 11,274,875		N/A
3. Brutoco Engrg & Const Inc Fontana, CA	\$ 11,500,000		N/A
4. The Industrial Company Bakersfield, CA	\$ 14,200,000		N/A

N/A – Not applicable

**Financial Statement for Power Reliability and Energy Conservation Program**

A breakdown of Board Action No. 2 for Approp. No. 15391, for modification of the OC-88 pumping plant, as part of the Power Reliability and Energy Conservation Program, is as follows:

	<b>Previous Board Action No. 1 (Mar. 2002)</b>	<b>Current Board Action No. 2 (July 2003)</b>	<b>New Total Appropriated Amount</b>
<b>Labor</b>			
Studies and Investigations	\$ 175,000	\$ 0	\$ 175,000
Design and Specifications	700,000	0	700,000
Submittal Review	0	420,000	420,000
Owner Costs (Program Management)	225,000	210,700	435,700
Control System Integration	0	128,000	128,000
Construction Inspection and Support	60,000	1,262,250	1,322,250
Water System Operations	217,000	120,000	337,000
Materials and Supplies	1,020,000	0	1,020,000
Incidental Expenses	10,000	5,000	15,000
Professional/Technical Services	10,000	0	10,000
Equipment Use	10,000	5,000	15,000
Contracts	0	9,095,000	9,095,000
Remaining Budget	369,000	1,504,050	1,873,050
<b>Total</b>	<b><u>\$ 2,850,000</u></b>	<b><u>\$ 12,750,000</u></b>	<b><u>\$ 15,600,000</u></b>

**Funding Request**

<b>Program Name:</b>	Power Reliability and Energy Conservation Program		
<b>Source of Funds:</b>	Construction Funds (Possibly General Obligation, Revenue Bonds, or Pay-As-You-Go Fund)		
<b>Appropriation No.:</b>	15391	<b>Board Action No.:</b>	2
<b>Requested Amount:</b>	\$ 12,750,000	<b>Capital Program No.:</b>	01219-E
<b>Total Appropriated Amount:</b>	\$ 15,600,000	<b>Capital Program Page No.:</b>	E-61
<b>Total Program Estimate:</b>	\$ 15,600,000	<b>Program Goal:</b>	E-Efficiency/ Productivity