

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

November 9, 2004 Board Meeting

9-1

Subject

Appropriate \$3.25 million for three conveyance and distribution system rehabilitation projects: (1) award a procurement contract for \$779,725 to Fuji Electric Corp. of America for the Foothill Hydroelectric Runner Replacement Project; (2) award an \$826,400 construction contract to Fibrwrap Construction, Inc. for the Calabasas Feeder and Rialto Pipeline Repair Project; and (3) authorize repairs of the San Diego Canal (Approp. 15377)

Description

A major portion of Metropolitan's distribution system was initially constructed in the 1940s and has since been in continuous service. Metropolitan's distribution system consists of approximately 780 miles of pipelines and related structures that convey treated water from the filtration plants to the member agencies' service connections. The system also includes hydroelectric plants, pressure control facilities, reservoirs, control structures, turnouts, and sectionalizing valves. Metropolitan staff conducts regular maintenance of the system's structures, mechanical components, and electrical equipment. Although the distribution system continues to perform reliably today, portions of the system are exhibiting signs of normal wear and tear, as may be expected from more than 60 years of operation.

In accordance with Metropolitan's Repair and Rehabilitation Program within the Capital Investment Plan (CIP), this action recommends three rehabilitation projects. Each of the projects has been evaluated and recommended by Metropolitan's CIP Evaluation Team and has been included in the fiscal year 2004/05 capital budget.

1. **Foothill Hydroelectric Runner Replacement (\$1,440,000)** – The Foothill Hydroelectric Plant, a 7.7-megawatt power generation plant, has been in operation since 1980. Over the last 13 years, the plant's two turbine runners have suffered several cracks. When cracks are detected, Metropolitan's staff perform the required repairs. The increased frequency and severity of cracking makes each subsequent repair more difficult and more costly. These indicators illustrate that the runners are at the end of their useful life. In November 2003, Metropolitan's Board authorized final design for replacement of the runners. This action awards a procurement contract to Fuji Electric Corp. of America for two new runners and authorizes installation of the new runners by Metropolitan's forces.
2. **Calabasas Feeder and Rialto Pipeline Repairs (\$1,167,000)** – The Calabasas Feeder is a 54-inch diameter pre-stressed concrete cylinder pipe (PCCP) installed in 1975, and the Rialto Pipeline is a 120-inch diameter PCCP line installed in 1973. In April 2002 and February 2004, electromagnetic inspections conducted on these feeders identified several segments of distressed piping with either "broken back" conditions or greater than ten breaks of pre-stressing wire. In September 2004, Metropolitan's Board authorized final design for repair of seven distressed pipe sections on the Calabasas Feeder and three distressed pipe sections on the Rialto Pipeline. This action authorizes construction of the Calabasas Feeder and Rialto Pipeline Repairs Project and awards a construction contract to Fibrwrap Construction, Inc. for \$826,400 to perform carbon fiber repairs.
3. **San Diego Canal Liner Repairs (\$ 643,000)** – The San Diego Canal conveys raw water from the Colorado River Aqueduct to Lake Skinner. An inspection of the San Diego Canal performed in October 2002 identified abnormalities in the concrete liner such as exposed reinforcing steel, spalled

concrete, separation cracks, differential settlement, moist areas and stress-relief cracks. High priority repairs were performed during an April 2003 shutdown. Those areas identified as medium priority will be repaired during a planned January 2005 shutdown of the canal. This action authorizes the medium priority repairs to the San Diego Canal lining by Metropolitan's forces.

See [Attachment 1](#) for the Detailed Report, [Attachment 2](#) for the Abstracts of Bids, [Attachment 3](#) for the Financial Statement, and [Attachment 4](#) for the Project Location Map.

Policy

Metropolitan Water District Administrative Code § 5108: Capital Project Appropriation
Metropolitan Water District Administrative Code § 8113: Construction Contract Award

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

Foothill Hydroelectric Runner Replacement

The proposed project is categorically exempt under the provisions of CEQA and State CEQA Guidelines. The proposed actions involve funding minor alterations, reconstruction or replacement of existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed actions qualify under Class 1 and Class 2, Categorical Exemptions (Sections 15301 and 15302 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed actions qualify under two Categorical Exemptions (Class 1, Section 15301; Class 2, Section 15302 of the State CEQA Guidelines).

Calabasas Feeder Repair

The proposed project is categorically exempt under the provisions of CEQA and State CEQA Guidelines. The proposed actions involve funding minor alterations, reconstruction or replacement of existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed actions qualify under Class 1 and Class 2, Categorical Exemptions (Sections 15301 and 15302 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed actions qualify under two Categorical Exemptions (Class 1, Section 15301; Class 2, Section 15302 of the State CEQA Guidelines).

Rialto Feeder Repair

The project was previously determined to be categorically exempt under the provisions of CEQA and State CEQA Guidelines. The Rialto Feeder Repair was found to be exempt under Class 1, Class 2, and Class 4 of the State CEQA Guidelines on September 14, 2004. A Notice of Exemption (NOE) was filed on the project at that time and the statute of limitation has ended. With the current board action, there are no substantial changes proposed to the project since the original NOE was filed. Hence, the previous environmental document in conjunction with the project fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act with regards to the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the 2004 NOE (Class 1, Section 15301; Class 2, Section 15302; and Class 4, Section 15304 of the State CEQA Guidelines) and that no further environmental analysis or documentation is required.

San Diego Canal Liner Repairs

The proposed project is categorically exempt under the provisions of CEQA and State CEQA Guidelines. The proposed actions involve funding minor alterations, reconstruction or replacement of existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed actions qualify under Class 1 and Class 2, Categorical Exemptions (Sections 15301 and 15302 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed actions qualify under two Categorical Exemptions (Class 1, Section 15301; Class 2, Section 15302 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options/Fiscal Impacts

Option #1

Adopt the CEQA determination and

- a. Appropriate \$3.25 million in budgeted funds; and
- b. Authorize three projects under the Conveyance and Distribution System Rehabilitation Program:
 - Award a procurement contract to Fuji Electric Corporation of America for \$779,725 for replacement runners for the Foothill Hydroelectric Plant, and authorize installation by Metropolitan's forces;
 - Award a contract for \$826,400 to Fibrwrap Construction, Inc. for the Calabasas Feeder and Rialto Pipeline carbon fiber repairs; and
 - Authorize repairs of the existing concrete lining along portions of the San Diego Canal.

Fiscal Impact: \$3.25 million of budgeted capital funds under Approp. 15377

Option #2

Do not authorize design and repairs to the conveyance and distribution system. The existing pipelines and facilities will continue to be monitored, and repairs will be made when problems occur.

Fiscal Impact: Higher long-term operating and maintenance costs and loss of revenue during repair outages

Recommendation

Option #1


Gordon L. Johnson
for Roy L. Wolfe
Manager, Corporate Resources
10/21/2004 Date


Debra C. Man
for Ronald R. Gastelum
Chief Executive Officer
10/21/2004 Date

Attachment 1 – Detailed Report

Attachment 2 – Abstract of Bids

Attachment 3 – Financial Statement

Attachment 4 – Location Map

BLA #2811

Detailed Report

Purpose/Background

Metropolitan's distribution system is comprised of 780 miles of pipelines, in addition to its reservoirs, pressure control structures, flow meters, sectionalizing valves, and hydroelectric power plants. Under the Conveyance and Distribution System Rehabilitation Program, staff is conducting reconnaissance surveys of Metropolitan's entire conveyance, treatment and distribution system. The surveys are ongoing and are intended to be completed by 2005. In the interim, staff has identified numerous elements of the distribution system in need of repair, refurbishment or replacement, and is recommending that three projects proceed at this time.

Foothill Hydroelectric Runner Replacement (\$1,440,000)

The Foothill Hydroelectric Plant, which is located downstream of Castaic Reservoir, generates electricity and revenues for Metropolitan while reducing water pressure in the Foothill Feeder. The two turbine runners of the hydroelectric plant, installed in 1980, have suffered several cracks over the past 13 years. Metropolitan's personnel periodically inspect the runners and repair the cracks as they are detected. The increased frequency and severity of cracking makes each subsequent repair more difficult and more costly. These are indicators that the runners are at the end of their useful life. Replacement of the runners will increase the power plant's reliability and reduce operating costs. In November 2003, Metropolitan's Board authorized final design for replacement of the two new runners.

The procurement contract was advertised for bids on January 21, 2004. One bid was received and opened on February 23, 2004. The sole bid from Fuji Electric Corporation of America, in the amount of \$720,300, complies with the requirements of the specifications. The engineer's estimate was \$725,000. These amounts do not include sales tax, which is added to arrive at the final contract amount. For this procurement, Metropolitan did not require Small Business Enterprise (SBE) participation.

Since the existing runners are a proprietary design, there are only a few manufacturers capable of manufacturing replacements. To encourage competition, four manufacturers that could potentially furnish the replacement runners were contacted prior to advertising. Of the firms which were contacted, two manufacturers expressed interest in bidding and the other two firms indicated they were not interested because the job was too small. While two firms expressed an interest in the work, only Fuji Electric submitted a bid. Staff recommends proceeding since Fuji Electric's bid is less than the engineer's estimate, and re-bidding would not assure more advantageous bids.

This action awards a procurement contract for two runners and authorizes installation of the runners by Metropolitan's forces. Including sales tax, the amount of the procurement contract is \$779,725.

Actions and Milestones

February 2006 – Completion of procurement

April 2006 – Completion of runner installation

Calabasas Feeder and Rialto Pipeline Repairs (\$1,167,000)

The Rialto Pipeline is a 120-inch diameter pipeline approximately 30 miles in length, of which approximately 16 miles are prestressed concrete cylinder pipe (PCCP). The Rialto Pipeline conveys water from the California Department of Water Resources' Devil Canyon Power Plant to Metropolitan's San Dimas Flow Control Facility near Live Oak Reservoir. It serves the cities of La Verne, Claremont, Chino, Chino Hills, Montclair, Ontario, Ranch Cucamonga, Upland and Fontana. The Calabasas Feeder is a 54-inch diameter PCCP approximately nine miles in length which conveys water originating from the Jensen filtration plant to the cities of Agoura Hills, Calabasas, Hidden Hills, Westlake Village, and areas of unincorporated western Los Angeles County.

In September 2004, Metropolitan's Board authorized final design for repair of seven distressed PCCP pipe sections on the Calabasas Feeder and final design and repairs or replacement of three PCCP distressed pipe sections on the Rialto Pipeline. Repair of the pipelines at this time will increase the pipelines' reliability and take advantage of a planned shutdown of the pipeline.

Specifications No. 1514, Calabasas Feeder and Rialto Pipeline Repairs, was advertised for bids on September 21, 2004. Two bids were received and opened on October 19, 2004. The low bid from Fibrwrap Construction, Inc., in the amount of \$826,400, complies with the requirements of the specifications. The engineer's estimate was \$900,000. For this project, Metropolitan requires SBE participation of at least 20 percent of the total construction bid. Fibrwrap Construction, Inc. is a small business, thereby achieving 100 percent participation.

This action awards a construction contract for \$826,400 to Fibrwrap Construction, Inc. for the Calabasas Feeder and Rialto Pipeline Repairs, and authorizes construction inspection and support activities. Metropolitan's staff will perform construction inspection of this project. The cost of inspection as a percentage of the construction cost is approximately 15 percent. The Engineering Services goal for inspection of construction contracts of less than \$10 million is 9 to 15 percent.

Actions and Milestones

December 2004 – Issue Notice to Proceed

February 2005 – Completion of construction

San Diego Canal Lining Repairs (\$643,000)

The San Diego Canal conveys raw water from the Colorado River Aqueduct to Lake Skinner. The canal is central to Metropolitan's ability to reliably meet demands in the southern portion of the service area.

In October 2002, Metropolitan's staff inspected the San Diego and Casa Loma Canals' concrete lining. Staff identified abnormalities in the concrete liner such as exposed reinforcing steel, spalled concrete, separation cracks, differential settlement, moist areas, and stress-relief cracks.

Temporary repair of the high priority areas was performed during an April 2003 shutdown. The duration of that shutdown was insufficient for repair of all of the damaged areas. Remaining areas for repair have been prioritized, and the medium priority sections will be repaired by Metropolitan's forces during a planned January 2005 shutdown of the canal. Repair of lower priority areas will be accomplished during subsequent shutdowns and will be the subject of future board actions.

Actions and Milestones

January 2005 – Completion of construction

The Metropolitan Water District of Southern California**Abstract of Bids Received on February 23, 2004 at 11:00 A.M.****Request for Bids No. 110694****Foothill Hydroelectric Runner Replacement**

The contract consists of procurement of two turbine runners.

Engineer's Estimate: \$ 725,000*

Bidder and Location	Total	SBE \$	SBE %	Met SBE
Fuji Electric Corp. of America, Irvine, CA	\$ 720,300*	N/A	N/A	N/A

N/A – Not Applicable

* Excludes 8.25% sales tax.

The Metropolitan Water District of Southern California**Abstract of Bids Received on October 19, 2004****Specifications No. 1514****Calabasas Feeder and Rialto Pipeline Repairs**

The contract consists of repair of the Calabasas Feeder and Rialto Pipelines as specified in Specifications No. 1514.

Engineer's Estimate: \$900,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE*
Fibrwrap Construction, Inc Duarte, CA	\$826,400	100	100	Yes
Shaker Waterproofing, Inc. Montclair, CA	\$899,995	N/A	N/A	N/A

N/A – Not Applicable

* The required Small Business Enterprise (SBE) participation is 20 percent

Financial Statement for Conveyance and Distribution System Rehabilitation Program

A breakdown of Board Action No. 9 for Appropriation No. 15377 for three rehabilitation projects within the Conveyance and Distribution System Rehabilitation Program is as follows:

	Previous Total Appropriated Amount (Sep. 2004)	Current Board Action No. 9 (Nov. 2004)	New Total Appropriated Amount
Labor			
Studies and Investigations	\$ 2,204,000	\$ 0	\$ 2,204,000
Final Design	1,791,420	52,000	1,843,420
Owner Costs (Program management, permitting)	1,870,500	210,000	2,080,500
Construction Inspection and Support	465,300	151,000	616,300
Metropolitan Force Construction	6,718,250	675,000	7,393,250
Materials and Supplies (Includes runner procurement)	2,617,100	820,725	3,437,825
Incidental Expenses	825,500	29,000	854,500
Professional/Technical Services	443,000	21,000	464,000
Equipment Use	638,000	29,000	667,000
Contracts	4,426,400	886,400	5,312,800
Remaining Budget	<u>2,593,230</u>	<u>375,875</u>	<u>2,969,105</u>
Total	\$ 24,592,700	\$ 3,250,000	\$ 27,842,700

Funding Request

Program Name:	Conveyance and Distribution System Rehabilitation Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15377	Board Action No.:	9
Requested Amount:	\$ 3,250,000	Capital Program No.:	15377-I
Total Appropriated Amount:	\$ 27,842,700	Capital Program Page No.:	E-35
Program Estimate:	\$ 43,540,000	Program Goal:	R – Reliability

