

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

November 8, 2005 Board Meeting

8-4

Subject

Appropriate \$3.35 million; award a \$1.08 million construction contract to Slater Waterproofing, Inc. for the Sepulveda Feeder Repair Project; and award a \$1.378 million construction contract to Gantry Constructors, Inc. for the San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit Repairs Project

Description

Metropolitan's distribution system consists of approximately 780 miles of pipelines and related structures that deliver potable water from Metropolitan's five water treatment plants to member agencies' service connections. Major portions of Metropolitan's distribution system were initially constructed in the 1940s and have been in continuous service ever since. Metropolitan staff conducts regular maintenance of the system's pipelines as well as its 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 over 60 years of operation.

Two pipeline repair projects are recommended to proceed at this time to protect Metropolitan's invested assets, increase service reliability to customers, and reduce the risk of costly emergency repairs. Each of the projects has been evaluated and recommended by Metropolitan's Capital Investment Plan Evaluation Team, and funds have been included within the fiscal year 2005/06 capital budget.

Sepulveda Feeder Repairs – Construction (\$1,564,000)

The Sepulveda Feeder is a 96-inch diameter pre-stressed concrete cylinder pipe (PCCP) installed in 1970. In March 2005, electromagnetic inspections of the Sepulveda Feeder identified three distressed pipe sections with up to 70 pre-stressing wire breaks. In August 2005, Metropolitan's Board authorized final design for repair of the distressed pipe sections using internally reinforced carbon fiber lining.

When a distressed section of PCCP retains its structural continuity (i.e. no "broken-back" condition), carbon fiber lining is usually the preferred repair method due to the ease of construction, speed of repair and reduced cost. With carbon fiber lining repair there is no need to fabricate piping, mobilize heavy equipment, or excavate and remove distressed pipe. In addition, aboveground construction impacts are reduced. Metropolitan has repaired 23 pipe sections using carbon fiber lining to date and has realized a savings of approximately \$200,000 per repaired pipe section.

Specifications No. 1538, for the Sepulveda Feeder Carbon Fiber Liner Repairs, was advertised for bids on August 2, 2005. Metropolitan previously tested and pre-qualified two companies regarding their execution of carbon fiber liner repairs, and received a bid from each company on September 1, 2005. Slater Waterproofing, Inc. (Slater) submitted the low bid in the amount of \$1.08 million. The engineer's estimate was \$1.56 million. The engineer's estimate was consistent with unit prices derived from prior similar carbon fiber liner repair projects at Metropolitan; however, this project came in considerably under prior projects on a per-square-foot basis. The reduced bids are likely the result of an extended shutdown period that was afforded the contractors, allowing efficient use of field crews. For this project, Metropolitan requires Small Business Enterprise (SBE) participation of at least 20 percent of the total construction bid. Slater has committed to meet this requirement.

Following receipt of bids, a principal with the other pre-qualified company, Fibrwrap Construction, Inc. (Fibrwrap), notified both Metropolitan and Slater that he holds a patent for the carbon fiber repair process contained in the specifications. Since Fibrwrap is, thus far, the only licensee of the patent and was the low bidder on all prior Metropolitan carbon fiber lining repair projects, the patent issue did not arise. Metropolitan's legal staff, with the assistance of outside patent counsel, subsequently reviewed the patent and concluded that it is an active patent issued by the U.S. Patent Office, in good standing. Metropolitan has received several calls from Fibrwrap's competitors who contend that the patent is invalid since its subject matter is not "new, useful and novel," and was in the public domain at the time of its issuance. However, no entity has yet undertaken the formidable task of initiating a formal challenge to the patent, which was issued in 1999. Accordingly, and to avoid a potential patent infringement claim from the patent holder, staff has negotiated with the carbon fiber patent holder, a patent license fee of \$110,000 that will allow Metropolitan to proceed with repair of the Sepulveda Feeder under Specifications No. 1538. This approach will permit repair of the three distressed pipe sections in an expedited manner during a planned shutdown. Staff will assess Metropolitan's options with respect to the carbon fiber patent for future projects, and will report to the Board on this issue at a later date.

San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit Repairs – Construction (\$1,786,000)

San Diego Pipeline No. 5 and the Lake Skinner Outlet Conduit are PCCP lines that were built in 1981 and 1971, respectively. Electromagnetic inspections performed in February 2002 revealed one distressed pipe section on the 96-inch-diameter San Diego Pipeline No. 5, and three distressed pipe sections on the 162-inch-diameter Lake Skinner Outlet Conduit, that warrant repair. In August 2005, Metropolitan's Board authorized final design for repair of the distressed pipe sections using a combination of steel lining, replacement of a section, and carbon fiber lining.

Specifications No. 1536, for the San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit Repairs, was advertised for bids on September 1, 2005. Three bids were received and opened on October 5, 2005. The low bid from Gantry Constructors, Inc., in the amount of \$1.378 million, complies with the requirements of the specifications. The engineer's estimate was \$1.1 million. The engineer's estimate was consistent with unit prices derived from prior similar pipeline repair projects at Metropolitan; however, this project came in over prior projects on a per-square-foot basis. The increased bids are likely the result of an increase in steel prices. As Fibrwrap was identified as a subcontractor by Gantry Constructors, Inc. for the carbon fiber lining work, no patent issue arises with this bid. Metropolitan requires SBE participation of at least 20 percent of the total construction bid on this contract. Gantry Constructors, Inc. has committed to meet this requirement.

Board Options

Due to issues associated with the carbon fiber patent, four options have been identified:

Option #1 – This action would appropriate \$3.35 million and award a \$1.08 million contract to Slater for the Sepulveda Feeder repairs, which would require payment of a separate \$110,000 license fee to the carbon fiber patent holder. This action would also award a \$1.378 million contract to Gantry Constructors for the San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit repairs.

Option #2 – This action would appropriate \$1.786 million and award a \$1.378 million construction contract to Gantry Constructors, Inc. for the San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit repairs. This option would not award the contract for Sepulveda Feeder repairs, and staff would pursue an alternate repair method not involving carbon fiber application. This approach would defer critical repairs of the Sepulveda Feeder until the next shutdown season while the alternate repair method is designed and advertised for bids. This option would result in increased repair costs, including approximately \$600,000 in construction cost, and additional environmental impacts in comparison with Option #1.

Option #3 – This action would appropriate \$3.35 million and award a \$1.378 million construction contract to Gantry Constructors, Inc. for the San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit repairs. This option would not award the contract for Sepulveda Feeder repairs. All bids for the Sepulveda Feeder repairs would be

rejected, and staff would negotiate directly with Fibrwrap to perform the repairs. Since Fibrwrap holds the only license from the patent holder for carbon fiber repair, a directly negotiated sole-source contract would comply with Metropolitan's Administrative Code Section 8140 (d), which permits sole-source contracts where "articles wanted are patented." This action would also delegate to the CEO the authority to award the negotiated contract with Fibrwrap to perform the Sepulveda Feeder repairs. Although this option may cost less than Option #1, the time required to successfully negotiate the contract is unknown.

Option #4 – This action would not award any construction contracts and all repairs would be deferred until problems occur. This option would not reduce the risk and potential liability associated with pipe leakage.

Summary

Based on Option #1, this action appropriates \$3.35 million, awards a \$1.08 million construction contract to Slater for the Sepulveda Feeder Repair project, and awards a \$1.378 million construction contract to Gantry Constructors, Inc. for the San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit Repairs project. In addition to the amounts of the contracts, the appropriated funds include \$220,000 for Metropolitan force construction; \$110,000 for the patent license fee; \$433,500 for construction inspection and support; and \$128,500 for remaining budget. Support activities include project management, submittals review and technical support, environmental monitoring, and as-built preparation. Metropolitan staff will perform construction management and inspection for both projects. The cost of inspection as a percentage of the total construction cost is approximately 11 percent. Engineering Services' goal for inspection of construction contracts of less than \$3 million is 9 to 15 percent.

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

Policy

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

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

Sepulveda Feeder Repairs

The project was previously determined by the Board to be categorically exempt under the provisions of CEQA and the State CEQA Guidelines (Class 1, Section 15301 of the State CEQA Guidelines) on August 16, 2005. A Notice of Exemption (NOE) was filed on the project at that time. With the current board action, there are no substantial changes proposed to the project since the original NOE was filed. Hence the previous environmental documentation 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 2005 NOE (Class 1, Section 15301 of the State CEQA Guidelines) and that no further environmental analysis or documentation is required.

San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit Repairs

The project was previously determined to be categorically exempt under the provisions of CEQA and State CEQA Guidelines. The activities associated with this project were found by the Board to be exempt under Class 1, Section 15301; Class 2, Section 15302; and Class 4, Section 15304 of the State CEQA Guidelines on August 16, 2005. The Notice of Exemption (NOE) was filed on the project at that time. With the current board actions, there are no substantial changes proposed to the original project. Hence, the previous environmental documentation 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 2005 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.

CEQA determination for Option #2:

San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit Repairs

The project was previously determined to be categorically exempt under the provisions of CEQA and State CEQA Guidelines. The activities associated with this project were found by the Board to be exempt under Class 1, Section 15301; Class 2, Section 15302; and Class 4, Section 15304 of the State CEQA Guidelines on August 16, 2005. The Notice of Exemption (NOE) was filed on the project at that time. With the current board actions, there are no substantial changes proposed to the original project. Hence, the previous environmental documentation 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 2005 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.

CEQA determination for Option #3:

Same as Option #1

CEQA determination for Option #4:

None required

Board Options/Fiscal Impacts

Option #1

Adopt the CEQA determination and

- a. Appropriate \$3.35 million in budgeted funds;
- b. Award a \$1.08 million construction contract to Slater for the Sepulveda Feeder repairs; and
- c. Award a \$1.378 million construction contract to Gantry Constructors, Inc. for the San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit repairs.

Fiscal Impact: \$3.35 million of budgeted funds under Approp. 15377

Option #2

Adopt the CEQA determination and

- a. Appropriate \$1.786 million in budgeted funds;
- b. Do not award the contract for the Sepulveda Feeder repairs, and instead evaluate an alternate repair method; and
- c. Award a \$1.378 million construction contract to Gantry Constructors, Inc. for the San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit repairs.

Fiscal Impact: \$1.786 million of budgeted funds under Approp. 15377. This option would delay the repair of the Sepulveda Feeder, and increase repair costs by approximately \$600,000.

Option #3

Adopt the CEQA determination and

- a. Appropriate \$3.35 million in budgeted funds;
- b. Award a \$1.378 million construction contract to Gantry Constructors, Inc. for the San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit repairs;
- c. Do not award the contract for the Sepulveda Feeder repairs; and
- d. Delegate to the CEO the authority to award a sole-source contract to Fibrwrap Construction, Inc. to perform the Sepulveda Feeder repairs, following successful completion of negotiations.

Fiscal Impact: \$3.35 million of budgeted funds under Approp. 15377

Option #4

Do not authorize the repair projects. The pipelines will continue to be monitored, and repairs will be made if problems occur.

Fiscal Impact: Unknown

Staff Recommendation

Option #1


 _____ 10/21/2005
 Roy J. Wolfe Date
 Manager, Corporate Resources


 _____ 10/24/2005
 Dennis B. Underwood Date
 CEO/General Manager

Attachment 1 – Abstracts of Bids

Attachment 2 – Financial Statement

Attachment 3 – Location Map

The Metropolitan Water District of Southern California

Abstract of Bids Received on September 1, 2005

Specifications No. 1538

Sepulveda Feeder Carbon-Fiber Liner Repair

The project consists of performing carbon fiber liner repair to three pipe sections of the Sepulveda Feeder.

Engineer's Estimate: \$1,560,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE*
Slater Waterproofing, Inc. Montclair, CA	\$1,080,000	\$529,200	49	Yes
Fibrwrap Construction, Inc. Duarte, CA	\$1,126,000	N/A	N/A	N/A

N/A – Not Applicable

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

The Metropolitan Water District of Southern California

Abstract of Bids Received on October 5, 2005

Specifications No. 1536

San Diego Pipeline No. 5 and Lake Skinner Outlet Conduit Repairs

The project consists of performing carbon fiber liner repairs to the San Diego Pipeline No. 5 and the Lake Skinner Outlet Conduit; replacing a section of the Lake Skinner Outlet Conduit with welded steel pipe; and installing a new steel liner at the Lake Skinner Outlet Conduit.

Engineer's Estimate: \$1,100,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE*
Gantry Constructors, Inc. Clarksdale, AZ	\$1,378,000	\$477,600	35	Yes
J.F. Shea Construction, Inc. Walnut, CA	\$1,421,648	N/A	N/A	N/A
CCL Contracting, Inc. San Marcos, CA	\$1,914,831	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. 14 for Appropriation No. 15377 is as follows:

	Previous Total Appropriated Amount (Oct. 2005)	Current Board Action No. 14 (Nov. 2005)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 2,606,200	\$ -	\$ 2,606,200
Final Design	2,249,920	-	2,249,920
Owners Cost (Program management, environmental monitoring)	2,527,400	164,000	2,691,400
Construction Inspection & Support	754,300	269,500	1,023,800
Metropolitan Force Construction	8,579,830	200,000	8,779,830
Materials and Supplies	3,778,075	-	3,778,075
Incidental Expenses	910,620	120,000	1,030,620
Professional/Technical Services	666,500	-	666,500
Equipment Use	740,350	10,000	750,350
Contracts	6,461,800	2,458,000	8,919,800
Remaining Budget	3,089,705	128,500	3,218,205
Total	<u>\$ 32,364,700</u>	<u>\$ 3,350,000</u>	<u>\$ 35,714,700</u>

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.:	14
Requested Amount:	\$ 3,350,000	Capital Program No.:	15377-I
Total Appropriated Amount:	\$ 35,714,700	Capital Program Page No.:	E-35
Total Program Estimate:	\$ 48,535,000	Program Goal:	R-Reliability

