



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

3/9/2010 Board Meeting

---

**8-2**

**Subject**

---

Appropriate \$1.99 million; authorize final design; and award \$810,870 contract to Slater Waterproofing, Inc. for repair of the Calabasas Feeder (Approp. 15441)

**Description**

---

This action authorizes final design and installation of carbon fiber lining to repair seven sections of prestressed concrete cylinder pipe (PCCP) on the Calabasas Feeder. Due to the urgent nature of the repair, the project has been expedited so that the work may be conducted in April 2010.

**Timing and Urgency**

The Calabasas Feeder is a 54-inch PCCP line which was installed in 1975. In December 2009, electromagnetic inspections identified 14 distressed pipe sections with breaks in their prestressing wires. One 20-foot long pipe section has 35 wire breaks, one adjacent section has 30 wire breaks, one section has 20 wire breaks, three sections have 15 wire breaks, and 8 have 10 wire breaks.

The six pipe sections with 15 or greater wire breaks have been distressed to levels which warrant urgent repairs. Based on the locations of the distressed sections and their condition, repair of these seven sections is recommended during a shutdown scheduled in April 2010. Repair of the seven distressed pipe sections at this time will reduce the risk of pipe failure and disruption of member agency deliveries. In addition, staff recommends that final design be authorized to repair the remaining seven sections of pipe. These repairs will be scheduled for a future shutdown.

This project has been reviewed with Metropolitan's updated Capital Investment Plan (CIP) prioritization criteria and is categorized as an Infrastructure Reliability project.

**Background**

The Calabasas Feeder is a 54-inch diameter PCCP line which was constructed in 1975 and is approximately 9 miles long. The Calabasas Feeder delivers treated State project water from the Joseph Jensen Water Treatment Plant to the cities of Agoura Hills, Calabasas, Hidden Hills, Westlake Village, and areas of unincorporated western Los Angeles County.

In April 2004, electromagnetic inspection of the Calabasas Feeder identified 15 distressed pipe sections, of which eight sections were repaired in February 2005. In December 2009, a follow-up electromagnetic inspection of the feeder was completed, and results indicating additional distressed pipe sections were transmitted in February 2010. Staff responded quickly to review the data and commence design of the repairs. Since the shutdown window to perform the repairs is rapidly closing due to the approaching summer demands, staff recommends that the work proceed without delay, utilizing 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 31 pipe sections using carbon fiber lining to date and has realized a savings of approximately \$200,000 per repaired pipe section.

The carbon fiber lining process is a patented process with two co-patent holders. Metropolitan's legal staff, with the assistance of outside patent counsel, has 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 competitors of the patent holders 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. Metropolitan is aware of only two firms (Fibrwrap Construction, Inc. and Slater Waterproofing, Inc.) that have a license to use the patented process and have successful experience in performing urgent repairs on large diameter pipes. Pursuant to Administrative Code Sections 8140 (d) and (e), competitive bidding procedures may be waived or modified if articles [or processes] are patented and not generally available, and if competitive procurement is impracticable or would not produce any advantage. These code sections are applicable to the Calabasas Feeder repair. Staff therefore proceeded to solicit bids from both firms that have a license to use the process.

### **Calabasas Feeder Repairs – Final Design (Phases 1 and 2) and Construction (Phase 1) (\$1,990,000)**

This action authorizes final design to repair 14 distressed pipe sections with carbon fiber liner for the Calabasas Feeder. The repairs will be implemented in two phases. Phase 1 will address the final design and repair of the 7 sections, which are scheduled for repair during the upcoming April 2010 shutdown. Phase 2 will address the final design of the remaining 7 sections, which will be repaired during a future shutdown. Staff will return to the Board at a later time to award a construction contract for that work.

Planned final design activities include engineering design; preparation of plans and specifications; preparation of environmental documentation; coordination with cities and local agencies on street closures and traffic flow, and acquisition of permits; receipt of competitive bids; development of a construction cost estimate; and all other activities in advance of construction. Final design will be performed by Metropolitan staff with assistance from a technical consultant to perform specialized analyses of the distressed PCCP sections. The recommended consultant, Simpson Gumpertz & Heger (SGH), has expertise in the analysis of PCCP lines and was selected through a competitive process (Request for Qualifications No. 884). The agreement is planned to be awarded by the General Manager under his Administrative Code authority. The estimated cost for consultant services is \$100,000. The final design cost for Phases 1 and 2 as a percentage of the estimated construction cost is approximately 13 percent. Engineering Services' goal for design of projects with construction cost less than \$3 million is 9 to 15 percent.

Specifications No. 1676 for the Phase 1 repair of the Calabasas Feeder was issued on February 18, 2009. Bids were requested from the two qualified contractors who have the required qualifications, experience, and license to perform the specialized work of installing carbon fiber lining. The work includes repair of seven distressed pipe sections (a total of approximately 200 feet of pipeline) using carbon fiber lining. The scope of work also includes inspecting the eight sections of carbon fiber lining previously installed in 2005 and performing maintenance of the lining, as necessary. As shown in Attachment 2, two bids were received and opened on February 25, 2010. The low bid from Slater Waterproofing, Inc., in the amount of \$810,870, complies with the requirements of the specifications. The engineer's estimate was \$1.2 million. Due to the specialized nature of the work, no Small Business Enterprise participation was established for this contract.

Construction inspection will be performed by Metropolitan staff. The anticipated cost of inspection as a percentage of the total construction cost is approximately 13 percent. Engineering Services' goal for inspection of contracts with construction cost less than \$3 million is 9 to 15 percent.

This action appropriates \$1.99 million and awards an \$810,870 construction contract to Slater Waterproofing, Inc. for Calabasas Feeder Phase 1 repairs. In addition to the amount of the contract, the requested funds include \$193,800 for shutdown support by Metropolitan forces; \$131,600 for construction inspection; \$297,600 for final design of Phases 1 and 2; \$256,100 for all other staff support; and \$300,030 for remaining budget. The other support activities include \$30,000 for permitting with the cities and local agencies, \$27,000 for environmental monitoring; \$60,000 for technical support during construction and preparation of as-built drawings by

Metropolitan staff; \$72,000 for preparation of bidding documents and construction contract administration; and \$67,100 for project management.

This project has been evaluated by and recommended by Metropolitan's CIP Evaluation Team. This project is not budgeted within fiscal year 2009/10 because results of the electromagnetic inspection were received after adoption of the budget. Upon approval of this action, the fiscal year 2009/2010 capital expenditure plan will be adjusted to reflect the new work. See [Attachment 1](#) for the Financial Statement, [Attachment 2](#) for Abstract of Bids, and [Attachment 3](#) for the Location Map.

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

### ***Project Milestone***

April 2010 – Completion of construction

### **Policy**

---

Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Sections 8140 (d) and (e): Competitive Procurement

### **California Environmental Quality Act (CEQA)**

---

CEQA determination for Option #1:

The proposed actions are exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed actions include urgent repairs of existing pipelines with the same purpose and capacity. Accordingly, the proposed actions qualify under a statutory exemption (Sections 21060.3 and 21080(b) of the California Public Resources Code and Section 15269 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed actions qualify under a statutory exemption (Sections 21060.3 and 21080(b) of the California Public Resources Code and Section 15269 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

### **Board Options**

---

#### **Option #1**

Adopt the CEQA determination and

- a. Appropriate \$1.99 million;
- b. Authorize final design of Phase 1 and Phase 2 repairs to the Calabasas Feeder; and
- c. Award \$810,870 construction contract to Slater Waterproofing, Inc. for Phase 1 repairs to the Calabasas Feeder.

**Fiscal Impact:** \$1.99 million of unbudgeted funds under Approp. 15441

**Business Analysis:** This project will protect the Calabasas Feeder, maintain reliable deliveries to Metropolitan's member agencies, and reduce the risk of costly emergency repairs.

#### **Option #2**

Do not authorize final design and repairs to the Calabasas Feeder.

**Fiscal Impact:** None

**Business Analysis:** This option would forego an opportunity to perform urgent repairs. The feeder will continue to be monitored, and repairs will be deferred to another season or made when problems occur. Deferral may result in increased costs for future repairs.

**Staff Recommendation**

---

Option #1

  
\_\_\_\_\_  
Roy L. Wolfe  
Manager, Corporate Resources

3/3/2010  
Date

  
\_\_\_\_\_  
Jeffrey Knightlinger  
General Manager

3/3/2010  
Date

- [Attachment 1 – Financial Statement](#)
- [Attachment 2 – Abstract of Bids](#)
- [Attachment 3 – Location Map](#)

Ref# CR12604520

### **Financial Statement for Conveyance and Distribution System Rehabilitation Program – Phase II**

A breakdown of Board Action No. 19 for Appropriation No. 15441 for the Calabasas Feeder Repair Project\* is as follows:

	<b>Previous Total Appropriated Amount (Dec. 2009)</b>	<b>Current Board Action No. 19 (Mar. 2010)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies & Investigations	\$ 1,156,800	\$ -	\$ 1,156,800
Preliminary Design	141,600	-	141,600
Final Design	1,465,550	189,600	1,655,150
Owner Costs (Program mgmt, bid contract admin., enviro. monitoring)	2,178,350	196,100	2,374,450
Submittal Review	-	60,000	60,000
Construction Inspection & Support	466,500	131,600	598,100
Metropolitan Force Construction	3,882,700	176,300	4,059,000
Materials and Supplies	642,100	5,500	647,600
Incidental Expenses	507,900	18,000	525,900
Professional/Technical Services	762,500	100,000	862,500
Equipment Use	149,200	2,000	151,200
Contracts	3,131,777	810,870	3,942,647
Remaining Budget	1,577,023	300,030	1,877,053
<b>Total</b>	<b>\$ 16,062,000</b>	<b>\$ 1,990,000</b>	<b>\$ 18,052,000</b>

### **Funding Request**

<b>Program Name:</b>	Conveyance and Distribution System Rehabilitation Program - Phase II		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15441	<b>Board Action No.:</b>	19
<b>Requested Amount:</b>	\$ 1,990,000	<b>Capital Program No.:</b>	15441
<b>Total Appropriated Amount:</b>	\$ 18,052,000	<b>Capital Program Page No.:</b>	
<b>Total Program Estimate:</b>	\$ 53,850,000	<b>Program Goal:</b>	Infrastructure Reliability

\* This action is the initial appropriation for the Calabasas Feeder Repair Project.

**The Metropolitan Water District of Southern California**

**Abstract of Bids Received on February 25, 2010 at 2:00 P.M.**

**Specifications No. 1676, Calabasas Feeder Carbon Fiber Lining Repair**

The project consists of performing carbon fiber lining repairs to the Calabasas Feeder and performing maintenance on the existing carbon fiber lining.

**Engineer's Estimate: \$1.2 million**

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE \$</b>	<b>SBE %</b>	<b>Met SBE*</b>
Slater Waterproofing, Inc. Montclair, CA	\$810,870	N/A	N/A	N/A
Fibrwrap Construction, Inc. Duarte, CA	\$1,039,800	-	-	-

\*No SBE (Small Business Enterprise) participation was established for this contract.

# Calabasas Feeder

