



- Board of Directors
Engineering and Operations Committee

11/19/2013 Board Meeting

7-2

Subject

Appropriate \$680,000; and award \$368,480 contract to Atlas-Allied, Inc. to replace a domestic water pipeline at the F. E. Weymouth Water Treatment Plant (Approp. 15477)

Executive Summary

This action awards a construction contract to replace the backup domestic water supply pipeline at the F. E. Weymouth Water Treatment Plant in La Verne. This pipeline supports the plant's chlorination process in case of loss of pressure in the Weymouth domestic water system.

Timing and Urgency

The Weymouth plant's domestic water system features a connection with the city of La Verne's municipal system to provide a backup water source for the plant's domestic and fire water needs. This connection was installed 31 years ago and includes a 700-foot-long, eight-inch-diameter polyvinyl chloride (PVC) pipeline within the plant. If there were a failure of the plant's domestic and fire water system, the city of La Verne backup line would provide adequate pressure to sustain the chlorination process. In recent years, there have been an increasing number of failures of PVC piping within the plant's domestic and fire water system. These failures are most likely due to age and the pipes' diminished ability to withstand system pressures. Staff recommends replacing the aging PVC backup line with mortar-lined steel pipe.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is categorized as an Infrastructure Upgrade project. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2013/14.

Details

Background

The Weymouth plant was placed into service in 1941 with an initial capacity of 100 million gallons per day (mgd), and was expanded twice to its current capacity of 520 mgd. The Weymouth plant delivers a blend of waters from the Colorado River Aqueduct and State Water Project to Metropolitan's Central Pool portion of the distribution system, and to an exclusive service area. The plant is located within the city of La Verne.

The Weymouth plant's domestic and fire water system typically serves treated water from the on-site 50-million-gallon finished water reservoir. As a backup domestic water source, a 700-foot-long, eight-inch-diameter PVC line can also deliver water from the city of La Verne. This connection with La Verne's municipal water system was constructed in 1982. The connection opens automatically when the plant's domestic water system pressure drops below 65 pounds per square inch (psi).

Reliable chlorine injection is critical in meeting regulatory requirements for disinfection of drinking water. A loss of continuous pressurized water would result in a loss of chlorine feed and disinfection. If there were a failure of the Weymouth plant's domestic and fire water system, the treatment process would rely on the city of La Verne backup line to provide adequate pressure to maintain chlorination. In addition, during plant shutdowns, the city of La Verne supply provides domestic water and fire protection service to the Weymouth plant.

During a shutdown in 2011, a pressure surge occurred which resulted in failure of a PVC pipeline in the tunnel to Filter Building No. 1, which supplies water to the plant's chlorine ejectors. Following that event, a system-wide evaluation was conducted to identify if the existing system could withstand pressure surges if the domestic water pumps were to start or stop suddenly. The evaluation identified the need for a surge chamber and several air release and vacuum valves near the finished water reservoir, and the replacement of critical PVC lines with metallic pipes. In August 2012, Metropolitan's Board authorized final design to replace the Weymouth plant's backup domestic water supply line and preliminary design for other improvements to the domestic water system. More recently, numerous PVC pipe failures have occurred in a chemical feed area and around the treatment basins. These failures are most likely due to the age of the pipes and their diminished ability to withstand pressure fluctuations encountered during the starting and stopping of pumps.

As a result of these incidents, staff recommends replacing the backup water supply pipeline with mortar-lined steel pipe, which is less susceptible to external mechanical damage and better able to withstand higher system pressures. This line extends from the backflow preventer located northwest of the Water Quality Laboratory to the finished water reservoir. Final design of the backup domestic water pipeline replacement has been completed, and staff recommends moving forward with construction at this time.

Staff will return to the Board at a later date to authorize design of the final phase of upgrades to the domestic and fire water system. The upgrades are being phased based on urgency and timing in order to minimize impacts on plant operations.

Weymouth Backup Domestic Water Pipeline Replacement – Construction (\$680,000)

Specifications No. 1746 for the Weymouth Backup Domestic Water Pipeline Replacement was advertised for bids on September 9, 2013. As shown in [Attachment 2](#), three bids were received on October 3, 2013. The low bid was deemed to be nonresponsive. The lowest responsive bid from Atlas-Allied, Inc., in the amount of \$368,480, complies with the requirements of the specifications. The engineer's estimate was \$419,000. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 18 percent of the total bid amount. Atlas-Allied, Inc. is an SBE firm and thus achieves 100 percent participation.

This action appropriates \$680,000 and awards a \$368,480 contract to Atlas-Allied, Inc. to replace the Weymouth backup domestic water supply pipeline. In addition to the amount of the contract, the requested funds include \$58,000 for construction support by Metropolitan forces, which include water system shutdowns, establishment of clearances, and irrigation system installation. The requested funds also include \$64,000 for construction inspection; \$60,000 for submittals review and record drawing preparation by Metropolitan staff; \$66,000 for environmental monitoring, permitting, and project management; and \$63,520 for remaining budget.

Metropolitan staff will perform inspection of the construction contract. For this project, the anticipated cost of inspection is approximately 15 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction cost less than \$3 million is 9 to 15 percent. The total construction cost for this project is estimated to be \$426,480.

Environmental monitoring will be performed by Environmental Science Associates under an existing professional services agreement. Environmental Science Associates was selected through a competitive process via Request for Qualifications (RFQ) No. 956. For this agreement, Metropolitan has established an SBE participation level of 18 percent. The estimated cost for these services is \$25,000.

The total estimated cost to complete the replacement of the backup domestic water pipeline, including the amount authorized to date and the current funds requested, is \$790,000.

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2013/14 capital expenditure plan. See [Attachment 1](#) for the Financial Statement, [Attachment 2](#) for the Abstract of Bids, and [Attachment 3](#) for the Location Map.

This project is included within capital Appropriation No. 15477, the Weymouth Improvements Program – FY 2012/13 Through FY 2017/18. With the present action, the total funding for Appropriation No. 15477 will increase from \$3,945,000 to \$4,625,000.

Project Milestone

July 2014 – Completion of Weymouth backup domestic water supply pipeline replacement

Policy

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)

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 the funding, operation, repair, minor alterations, and replacement of existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed action qualifies 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 action qualifies under two Categorical Exemptions (Class 1, Section 15301 and Class 2, Section 15302 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed action is categorically exempt and

- a. Appropriate \$680,000; and
- b. Award \$368,480 contract to Atlas-Allied, Inc. to replace the Weymouth backup water supply pipeline.

Fiscal Impact: \$680,000 in capital funds under Approp. 15477

Business Analysis: This option will enhance the reliability of the Weymouth plant's treatment process.

Option #2

Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: This option would forgo an opportunity to enhance the reliability of the Weymouth plant's domestic and fire water system.

Staff Recommendation

Option #1



Gordon Johnson
Manager/Chief Engineer,
Engineering Services

10/28/2013

Date



Jeffrey Kightlinger
General Manager

11/1/2013

Date

Attachment 1 – Financial Statement

Attachment 2 – Abstract of Bids

Attachment 3 – Location Map

Ref# es12626947

Financial Statement for Weymouth Improvements Program – FY 2012/13 Through FY 2017/18

A breakdown of Board Action No. 6 for Appropriation No. 15477 for the Weymouth Domestic Water Pipeline Replacement project¹ is as follows:

	Previous Total Appropriated Amount (May 2013)	Current Board Action No. 6 (Nov. 2013)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 712,000	\$ -	\$ 712,000
Final Design	255,000	-	255,000
Owner Costs (Program mgmt. & permitting)	522,300	41,000	563,300
Submittals Review & Record Drwgs	-	60,000	60,000
Construction Inspection & Support	-	64,000	64,000
Metropolitan Force Construction	17,000	53,000	70,000
Materials & Supplies	500	5,000	5,500
Incidental Expenses	33,400	-	33,400
Professional/Technical Services	1,880,000	-	1,880,000
Environmental Science Assoc.	-	25,000	25,000
Contracts	-	368,480	368,480
Remaining Budget	524,800	63,520	588,320
Total	\$ 3,945,000	\$ 680,000	\$ 4,625,000

Funding Request

Program Name:	Weymouth Improvements Program – FY 2012/13 Through FY 2017/18		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15477	Board Action No.:	6
Requested Amount:	\$ 680,000	Budget Page No.:	340
Total Appropriated Amount:	\$ 4,665,000	Total Program Estimate:	\$105,203,000

¹ The total amount expended to date on the Weymouth Domestic Water Pipeline Replacement project is approximately \$110,000. The total estimated cost to complete this project, including the amount authorized to date and the current funds requested, is \$830,000.

The Metropolitan Water District of Southern California
Abstract of Bids Received on October 3, 2013 at 2:00 P.M.
Specifications No. 1746
F. E. Weymouth Water Treatment Plant
Domestic Water Supply Pipeline Replacement

The work consists of installing approximately 700 feet of 8-inch-diameter mortar-lined carbon steel pipe from the plant entrance to the finished water reservoir, replacing a backflow preventer, and making connections to existing domestic water lines.

Engineer's Estimate: \$419,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
Modern Day Construction, Rialto, CA ²	\$290,000	-	-	-
Atlas-Allied, Inc., Anaheim, CA	\$368,480	\$368,480	100%	Yes
Mode Engineering, Laguna Niguel, CA	\$419,000	-	-	-

¹ SBE (Small Business Enterprise) participation level set at 18 percent.

² Bid was nonresponsive.

Distribution System

