



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

3/9/2010 Board Meeting

8-1

Subject

Appropriate \$3.79 million; and award \$2,429,481 contract to J.F. Shea Construction, Inc. for the Weymouth Junction Structure Seismic Upgrade (Approp. 15369)

Description

This action awards a construction contract for needed rehabilitation work at the F. E. Weymouth Water Treatment Plant. The work includes seismic upgrade of the plant's inlet Junction Structure, where untreated Colorado River water and State Water Project (SWP) flows are blended for conveyance to the Weymouth and Diemer water treatment plants, and the replacement of two large-diameter butterfly valves, which are located adjacent to the Junction Structure.

Timing and Urgency

The Weymouth Junction Structure is a cylindrical concrete structure located in the southeast corner of the plant. Flow enters the Junction Structure from the Upper Feeder and the La Verne Pipeline. The Junction Structure needs to be seismically upgraded to provide the necessary strength to resist a seismic event. The Sierra Madre Fault, which is located less than 1.5 miles from the Weymouth plant, has the capability of generating a 7.0 magnitude earthquake. Damage to the Junction Structure caused by a large magnitude earthquake could interrupt operation of both the Weymouth and Diemer plants. Two large-diameter butterfly valves, which are located on the La Verne Pipeline and the Yorba Linda Feeder, are used to isolate the Weymouth and Diemer plants in an emergency or during a scheduled shutdown. As identified during a December 2006 Weymouth plant shutdown, both valves now leak and do not operate as designed to allow isolation of the Weymouth plant.

A shutdown will be required to upgrade the Junction Structure and to replace the valves. Staff recommends award of a single construction contract to upgrade the Junction Structure, to remove the existing two butterfly valves, and to replace them with new Metropolitan-furnished valves. Most of the work will take place during the next planned Weymouth shutdown in February 2011.

This project has been reviewed with Metropolitan's updated Capital Investment Plan (CIP) prioritization criteria. Staff recommends award of construction contract at this time to enhance plant reliability, and to take advantage of the current highly competitive bidding climate. This project is categorized as an Infrastructure Rehabilitation and Replacement project and is budgeted within Metropolitan's CIP for fiscal year 2009/10.

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 (CRA) and SWP to Metropolitan's Central Pool portion of the distribution system.

The Junction Structure was constructed in 1968 when water from the SWP was first introduced into the Weymouth plant. The 64-foot-tall reinforced concrete structure allows blending of untreated SWP and CRA waters for delivery to both the Weymouth and Diemer plants. The Junction Structure consists of a 27 foot-

diameter vertical cylinder (inner ring) within a 58-foot-diameter vertical cylinder (outer ring). Flows from the Upper Feeder are connected to the inner ring, while flows from the La Verne Pipeline and the Yorba Linda Feeder are connected to the outer ring. In November 2006, Metropolitan's Board authorized final design of the Junction Structure Seismic Upgrades, to strengthen both the inner ring wall and the outer ring wall to cost-effectively meet seismic objectives. During the December 2006 Weymouth plant shutdown, the two existing large-diameter butterfly valves on the La Verne Pipeline and the Yorba Linda Feeder currently leak. The valves were installed in 1975 and have deteriorated. In December 2007, Metropolitan's Board authorized final design and preparation of specifications to procure the two replacement valves, in conjunction with the Weymouth Junction Structure Seismic Upgrades project. In July 2009, Metropolitan's Board awarded a \$1,862,175 procurement contract to furnish these valves. Delivery of the large-diameter butterfly valves is scheduled for November 2010. In November 2009, final design of the Junction Structure Seismic Upgrades was completed, and staff recommends award of a construction contract at this time.

Weymouth Junction Structure Seismic Upgrade Project - Construction (\$3,790,000)

Specifications No. 1640 for construction of the Weymouth Junction Structure Seismic Upgrade was advertised for bids on December 2, 2009. The contract includes increasing the thickness of the existing Junction Structure's inner wall and outer wall; extending the existing foundation footing; infilling two existing gates with concrete; removing two slide gates with actuators, motors, and shafts; removing and replacing the existing underdrain system around the foundation; relocating the existing electrical ductbank; and removing the existing 108-inch and 120-inch valves and installing new Metropolitan-furnished valves. As shown in [Attachment 2](#), ten bids were received on January 19, 2010. The low bid from J.F. Shea Construction, Inc., in the amount of \$2,429,481, complies with the requirements of the specifications. The nine other bids ranged from approximately \$2.64 million to \$3.84 million. The engineer's estimate was \$2.69 million. For this contract, Metropolitan has established a Small Business Enterprise (SBE) participation level of at least 22 percent of the total bid amount. J.F. Shea Construction, Inc. has committed to meet this level of participation.

This action appropriates \$3.79 million in budgeted funds and awards a \$2,429,481 contract to J.F. Shea Construction, Inc. to construct the Weymouth Junction Structure Seismic Upgrade project. In addition to the amount of the contract, the appropriated funds include \$230,000 for Metropolitan force construction, which includes control system modifications, shutdown activities, and quagga mussel control measures. The appropriated funds also include \$541,000 for construction inspection; \$235,500 for submittals review by Metropolitan staff; \$43,000 for preparation of as-built drawings and operations and maintenance manuals; \$156,500 for project management and environmental monitoring; and \$154,519 for remaining budget.

Metropolitan staff will perform inspection of the construction contract. For this project, the anticipated cost of inspection and support is approximately 13.8 percent of the total construction cost, which includes the construction contract, the valve procurement contract, and Metropolitan force construction. Engineering Services' goal for inspection of projects with construction costs less than \$3 million is 9 to 15 percent.

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

This project is consistent with Metropolitan's goals for sustainability by enhancing the reliability of existing treatment facilities in order to maintain reliable water deliveries in the future.

Project Milestone

February 2011 – Completion of Weymouth Junction Structure Seismic Upgrade

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 environmental effects from the Weymouth Junction Structure Seismic Upgrade Project, were evaluated in the F. E. Weymouth Filtration Plant Ozonation Facilities and Site Improvements Program Final Environmental Impact Report (Final EIR), which was certified by the Board on April 12, 2005. The Board also approved the Findings of Fact (Findings), the Statement of Overriding Considerations, the Mitigation Monitoring and Reporting Program (MMRP), and the projects themselves. The current board action is solely based on appropriating funding and authorizing award of a construction contract for the Junction Structure Seismic Upgrade Project, and not on any changes to the approved program itself. Hence, the previous environmental documentation acted on by the Board in conjunction with the proposed actions fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act on the proposed actions.

The CEQA determination is: Determine that the proposed actions have been previously addressed in the certified 2005 Final EIR, findings, SOC, and MMRP, and that no further environmental analysis or documentation is required.

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination and

- a. Appropriate \$3.79 million; and
- b. Award \$2,429,481 construction contract to J.F. Shea Construction, Inc. for the Weymouth Junction Structure Seismic Upgrade.

Fiscal Impact: \$3.79 million of budgeted funds under Approp. 15369

Business Analysis: This option will enhance reliability and continued operation of the Junction Structure in the event of a significant earthquake. Replacement of the Junction Structure valves will enhance the plant's operational flexibility in the event of emergencies or planned Weymouth plant shutdowns for maintenance or rehabilitation work.

Option #2

Do not award the construction contract and re-advertise in an attempt to receive more favorable bids.

Fiscal Impact: Unknown

Business Analysis: This option may or may not result in a lower bid, and would delay completion of the seismic upgrade. This option would forego an opportunity to replace the two large-diameter butterfly valves during the next planned Weymouth plant shutdown in February 2011. The plant would store the new valves and installation would be rescheduled for the 2014 plant shutdown. Delay in seismic upgrade and valve replacements would limit the operational flexibility of the Weymouth and Diemer plants during emergencies and earthquake events.

Staff Recommendation

Option #1



Roy L. Wolfe
Manager, Corporate Resources

2/22/2010

Date



Jeffrey Nightlinger
General Manager

2/24/2010

Date

Attachment 1 – Financial Statement

Attachment 2 – Abstract of Bids

Attachment 3 – Location Map

Ref#12603454

Financial Statement for Weymouth Improvements Program

A breakdown of Board Action No. 32 for the Weymouth Junction Structure Upgrade project* is as follows:

	Previous Total Appropriated Amount (Mar. 2010)	Current Board Action No. 32 (Mar. 2010)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 1,896,477	\$ -	\$ 1,896,477
Final Design	7,265,641	-	7,265,641
Owner Costs (Project mgmt & environ. monitoring)	6,825,740	156,500	6,982,240
Submittals Review, O&M Manuals & As-builts	2,392,223	278,500	2,670,723
Construction Inspection & Support	10,929,704	541,000	11,470,704
Metropolitan Force Construction	5,975,680	225,000	6,200,680
Materials and Supplies	2,525,848	-	2,525,848
Incidental Expenses	348,400	5,000	353,400
Professional/Technical Services	12,376,032	-	12,376,032
Contracts	94,942,574	2,429,481	97,372,055
Remaining Budget	7,989,681	154,519	8,144,200
Total	\$ 153,468,000	\$ 3,790,000	\$ 157,258,000

Funding Request

Program Name:	Weymouth Improvements Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment, or General Funds		
Appropriation No.:	15369	Board Action No.:	32
Requested Amount:	\$ 3,790,000	Capital Program No.:	15369-I
Total Appropriated Amount:	\$ 157,258,000	Capital Program Page No.:	249
Total Program Estimate:	\$ 272,390,000	Program Goal:	I-Infrastructure & Reliability

* The total amount expended to date on the Weymouth Junction Structure Seismic Upgrade is approximately \$1,207,140.

The Metropolitan Water District of Southern California
Abstract of Bids Received on January 19, 2010 at 2:00 P.M.
Specifications No. 1640
Weymouth Junction Structure Seismic Upgrades

The project consists of increasing the thickness of the existing Junction Structure's inner wall and outer wall; extending the existing foundation footing; infilling two existing gates with concrete; removing two slide gates actuators, motors, and shafts; removing and replacing the existing underdrain system around foundation; relocating the existing electrical ductbank; removing the existing 108-inch and 120-inch valves; and installing new Metropolitan-furnished valves.

Engineer's Estimate: \$2,690,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE*
J.F. Shea Construction, Inc., Walnut, CA	\$ 2,429,481	\$ 574,736	23.66	YES
J.R. Filanc Construction Company, Inc., Escondido, CA	\$ 2,639,000	N/A	N/A	N/A
Brutoco Engineering & Construction, Inc., Fontana, CA	\$ 2,675,000	N/A	N/A	N/A
Griffith Company, Brea, CA	\$ 2,677,777	N/A	N/A	N/A
Zusser Company, Inc., Los Angeles, CA	\$ 2,761,000	N/A	N/A	N/A
Western Group, Inc., Woodland Hills, CA	\$ 2,890,000	N/A	N/A	N/A
Los Angeles Engineering, Inc., Covina, CA	\$ 3,033,000	N/A	N/A	N/A
Gantry Constructors, Inc., Clarkdale, AZ	\$ 3,422,000	N/A	N/A	N/A
Abhe & Svoboda, Inc., Prior Lake, MN	\$ 3,777,000	N/A	N/A	N/A
Diablo Contractors, Inc., San Ramon, CA	\$ 3,844,000	N/A	N/A	N/A

*SBE (Small Business Enterprise) participation set at 22 percent

F.E. Weymouth Water Treatment Plant

