



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

5/12/2015 Board Meeting

7-1

Subject

Appropriate \$1.41 million; and award \$989,215 contract to Kaveh Engineering & Construction, Inc. to replace the HVAC system at Metropolitan's Water Quality Laboratory (Approp. 15477)

Executive Summary

This action awards a construction contract to replace a portion of the heating, ventilating, and air conditioning (HVAC) system at Metropolitan's Water Quality Laboratory in La Verne. Due to over 29 years of continuous operation, major components of the existing HVAC system have begun to fail and need to be replaced. A functional HVAC system is required to maintain environmental control within the building for compliance with laboratory safety standards, and to enable continued occupancy of the building.

Timing and Urgency

The existing HVAC system for the southern half of the Water Quality Laboratory is over 29 years old and needs to be replaced. In March 2013, the chiller unit that provides cooling for the HVAC system failed, requiring a temporary rental unit to be installed to enable continued operation of the laboratory. This project will replace that rental chiller and other deteriorated components of the laboratory's HVAC system. Moving forward with this project will provide a reliable and energy-efficient HVAC system, and will minimize the risk of future system failures. It will also enable staff to continue to conduct water quality analyses and submit regulatory reports without the risk of interruption, and will maintain compliance with laboratory safety standards.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is categorized as an Infrastructure Reliability project. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2014/15.

Details

Background

Metropolitan's Water Quality Laboratory is located on the grounds of the F. E. Weymouth Water Treatment Plant in La Verne. The southern portion of the laboratory was constructed in 1985 to perform water quality testing for Metropolitan's treatment plants and the distribution system, and to support efforts to assess emerging contaminants and future treatment technologies. In 1996, the laboratory was expanded to the north to provide new workspace for applied research, regulatory compliance, and administrative needs. Due to its construction in two phases, the Water Quality Laboratory has two HVAC systems to meet the facility's climate control and code-required ventilation needs. The southern system serves the original 27,000-square-foot portion of the building, where a majority of the analytical testing work is performed on a daily basis. The northern system serves the 30,000-square-foot newer portion of the building, which houses both offices and analytical testing areas.

Major components of the existing southern HVAC system have failed and need to be replaced. In August 2013, Metropolitan's Board authorized final design to replace the southern HVAC system, along with procurement of a replacement chiller. The HVAC system serving the northern portion of the laboratory is presently in good condition, and no major rehabilitation work is needed at this time.

Planned improvements to the southern HVAC system include: (1) replacement of the 175-ton chiller, two 1.2-million-Btu/hour hot water boilers, and the hydronic system water pumps; (2) installation of a new air handler; (3) construction of a sound wall; and (4) replacement of ancillary HVAC components. The replacement chiller has already been manufactured, and the unit has been delivered to the La Verne site for installation under the subject construction contract. Final design to replace the HVAC system has also been completed, and staff recommends moving forward with construction at this time.

Water Quality Laboratory HVAC System Replacement – Construction (\$1.41 million)

Specifications No. 1780 to replace the HVAC system at Metropolitan's Water Quality Laboratory was advertised for bids on February 24, 2015. As shown in [Attachment 2](#), nine bids were received and opened on April 7, 2015. The low bid from Kaveh Engineering & Construction, Inc. in the amount of \$989,215 complies with the requirements of the specifications. The eight higher bids ranged from approximately \$1.09 million to \$1.87 million, while the engineer's estimate was \$1,119,000. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 25 percent of the bid amount. Kaveh Engineering & Construction, Inc. is an SBE firm and thus achieves 100 percent participation. The subcontractors for this contract are listed in [Attachment 3](#).

This action appropriates \$1.41 million and awards a \$989,215 contract to Kaveh Engineering & Construction, Inc. to replace the Water Quality Laboratory's HVAC system. In addition to the amount of the contract, the requested funds include \$29,000 for support by Metropolitan forces, which includes start-up of the new equipment and testing of the HVAC system. The requested funds also include: \$144,000 for construction inspection; \$95,000 for submittals review, technical support and record drawing preparation by Carollo Engineers; \$46,000 for permitting, project management and contract administration; and \$106,785 for remaining budget.

Construction inspection will be performed by Metropolitan staff. For this project, the anticipated cost of inspection is approximately 11.5 percent of the total construction cost. Engineering Services' goal for inspection of construction contracts less than \$3 million is 9 to 15 percent. The total cost of construction for this project, which includes the construction contract, Metropolitan force activities, and the chiller unit, is \$1,254,000.

Technical Services During Construction (Carollo Engineers) – No Action Required

Carollo Engineers performed final design to replace the Water Quality Laboratory's HVAC system under a board-authorized agreement. As the Engineer of Record, Carollo Engineers is recommended to provide technical support during construction. These activities will include reviewing submittals, responding to requests for information, advising staff on technical issues as they may arise, and preparing record drawings. For this agreement, Metropolitan has established an SBE participation level of 18 percent. Carollo Engineers has agreed to provide this level of participation. No amendment to the existing agreement with Carollo is required for this work. The planned subconsultant under this agreement is Project Line Technical Services.

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2014/15 capital expenditure plan. See [Attachment 1](#) for the Financial Statement, [Attachment 2](#) for the Abstract of Bids, [Attachment 3](#) for the List of Subcontractors, and [Attachment 4](#) for the Location Map.

The total estimated cost to complete the Water Quality Laboratory HVAC System Replacement, including the amount appropriated to date and current funds requested, is approximately \$2,174,000. This project was initiated under Appropriation No. 15391, the Power Reliability and Energy Conservation Program – FY 2006/07 through FY 2011/12, and with this action will be included within Appropriation No. 15477, the Weymouth Improvements Appropriation – FY 2012/13 Through FY 2017/18, which was initiated in year fiscal year 2012/13. With the present action, the total funding for Appropriation No. 15477 will increase from \$48,726,950 to \$50,136,950.

Project Milestone

January 2016 – Completion of construction

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 proposed action involves the funding, design, and minor alterations, reconstruction or replacement of existing public facilities along with the construction of minor appurtenant structures with negligible or no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed action qualifies under Class 1, Class 2, and Class 3 Categorical Exemptions (Sections 15301, 15302, and 15303 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under three Categorical Exemptions (Class 1, Section 15301; Class 2, Section 15302; and Class 3, Section 15303 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 \$1.41 million; and
- b. Award \$989,215 contract to Kaveh Engineering & Construction, Inc. to replace the southern HVAC system at Metropolitan's Water Quality Laboratory.

Fiscal Impact: \$1.41 million in capital funds under Approp. 15477

Business Analysis: Improvements to the HVAC system are required to comply with laboratory testing and safety standards. In addition, this option will reduce the HVAC system's operating cost and will improve its reliability.

Option #2

Do not proceed with the project at this time and continue to replace components of the existing HVAC system as they fail.

Fiscal Impact: None

Business Analysis: This option would forgo an opportunity to improve reliability of the Water Quality Laboratory's HVAC system. At some future time, continued repair of the existing equipment or reliance on rental units will be infeasible and/or cost-prohibitive.

Staff Recommendation

Option #1



Gordon Johnson
Manager/Chief Engineer
Engineering Services

4/21/2015
Date



Jeffrey Kightlinger
General Manager

4/29/2015
Date

- Attachment 1 – Financial Statement**
- Attachment 2 – Abstract of Bids**
- Attachment 3 – List of Subcontractors**
- Attachment 4 – Location Map**

Ref# es12633496

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

A breakdown of Board Action No. 12 for Appropriation No. 15477 for the Water Quality Laboratory HVAC Replacement project¹ is as follows:

	Previous Total Appropriated Amount (Apr. 2015)	Current Board Action No. 12 (May 2015)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 1,359,000	\$ -	\$ 1,359,000
Final Design	1,079,500	-	1,079,500
Owner Costs (Program mgmt. & permitting)	1,680,250	46,000	1,726,250
Submittals Review & Record Drawgs	264,000	15,000	279,000
Construction Inspection & Support	3,344,000	144,000	3,488,000
Metropolitan Force Construction	887,700	26,000	913,700
Materials & Supplies	15,800	2,000	17,800
Incidental Expenses	89,900	1,000	90,900
Professional/Technical Services	3,153,000	-	3,153,000
Carollo Engineers	183,900	80,000	263,900
Equipment Use	49,100	-	49,100
Contracts	32,306,394	989,215	33,295,609
Remaining Budget	4,314,406	106,785	4,421,191
Total	\$ 48,726,950²	\$ 1,410,000	\$ 50,136,950

Funding Request

Appropriation Name:	Weymouth Improvements Appropriation – FY 2012/13 Through FY 2017/18		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15477	Board Action No.:	12
Requested Amount:	\$ 1,410,000	Budget Page No.:	326
Total Appropriated Amount:	\$ 50,136,950 ²	Total Appropriation Estimate:	\$83,957,950 ²

¹The total amount expended to date on the Water Quality Laboratory HVAC Replacement project is approximately \$723,830. The total estimated cost to complete this project, including the amount appropriated to date and current funds requested, is approximately \$2,174,000.

²Funds for this project were originally appropriated under Approp. No. 15391. All expenditures to date will be transferred to Approp. No. 15477. The Total Appropriation Estimate reflects the full project budget of \$2,174,000 allocated to Approp. No. 15477.

The Metropolitan Water District of Southern California

Abstract of Bids Received on April 7, 2014 at 2:00 P.M.

Specifications No. 1780

Water Quality Laboratory HVAC Chiller Replacement

The project consists of installation of HVAC system components, hydronic system, heating boilers, piping, a sound wall, and control system modifications.

Engineer's estimate: \$1,119,000

Bidder and Location	Total	SBE %	Met SBE¹
Kaveh Engineering & Construction, Inc. Anaheim, CA	\$989,215	100	Yes
Sea Pac Engineering, Inc. Los Angeles, CA	\$1,087,000	-	-
Cal-City Construction, Inc. Cerritos, CA	\$1,113,000	-	-
J. F. Shea Construction, Inc. Walnut, CA	\$1,233,027	-	-
Carbon Activated Corporation Compton, CA	\$1,254,000	-	-
Mehta Mechanical Company, Inc. La Palma, CA	\$1,334,111	-	-
Cora Constructors, Inc. Palm Desert, CA	\$1,354,000	-	-
Broughton Construction, Inc. Rancho Cucamonga, CA	\$1,820,287	-	-
Minako America Corporation Gardena, CA	\$1,871,400	-	-

¹ SBE (Small Business Enterprise) participation level set at 25 percent

The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

Specifications No. 1780

Water Quality Laboratory HVAC Chiller Replacement

Low Bidder: Kaveh Engineering & Construction, Inc.

Subcontractor and Location
Dean's Certified Welding, Temecula, CA
Regan Paving, Corona, CA

