THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

BOARD ACTION

- Board of Directors
  Engineering and Operations Committee

1/13/2015 Board Meeting

8-4

Subject

Appropriate $6.3 million; and award $3,637,083 contract to Kana Engineering Group, Inc. to replace filter valves at the Joseph Jensen Water Treatment Plant (Approp. 15371)

Executive Summary

This action awards a construction contract to replace 78 deteriorated filter valves within Module No. 1 at the Joseph Jensen Water Treatment Plant. This project will enhance the reliability and performance of the filters at the Jensen plant.

Timing and Urgency

The filters at the Jensen plant's Module No. 1 have been in service for over 40 years. While the filter valves received regular maintenance during that time, they have gradually deteriorated from continuous use. Based on inspections conducted by staff during recent plant shutdowns, the valves need to be replaced. In 2012, Metropolitan's Board awarded a procurement contract for replacement valves. These valves have been manufactured and delivered to a storage location near the plant. Staff recommends proceeding with installation at this time to maintain reliable filter performance at the Jensen plant.

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

The Jensen plant was placed into service in 1972 with an initial capacity of 400 million gallons per day (mgd). The plant was expanded to its current capacity of 750 mgd in the early 1990s. The Jensen plant treats water from the West Branch of the State Water Project and delivers it to Metropolitan's Central Pool and to exclusive service areas on the west side of the distribution system. The facility is located in Granada Hills.

In a typical filtration cycle, filters are operated by opening and closing a series of valves which allow water to flow in and out of the filter beds during filtration and backwashing. These valves are designed to close tightly to prevent mixing of filtered and unfiltered water, and to prevent leakage into the washwater reclamation system.

Over the life of the Jensen plant, staff has performed regular maintenance on the filter valves to support reliable plant operation. During a shutdown held in January 2007, four valves were removed and replaced. The remaining 78 valves have been monitored and inspected during succeeding shutdowns. These inspections identified that the valves no longer provide a water-tight seal and do not operate effectively due to corrosion of the steel valve bodies and deterioration of embedded elastomeric seals. All remaining filter valves in Module No. 1 need to be replaced. The motorized actuators that open and close the existing valves exhibit signs of normal wear, but do not need to be replaced at this time. Under this project, the actuators will be refurbished and reinstalled onto the new valves.

In October 2012, Metropolitan's Board awarded a procurement contract to furnish 78 replacement valves and one spare valve per size, for a total of 82 valves, and authorized final design for installation of the procured valves. Manufacture of the valves has been completed and the valves have been delivered to a storage warehouse near the Jensen plant. Final design for the installation work has been completed, and staff recommends moving forward with construction at this time.

Planned work includes replacement of the existing valves with new valves that conform to the modern American Water Works Association (AWWA) standard for rubber-lined butterfly valves; modification of piping to accommodate dimensional differences from the original valves; refurbishment of existing actuators by the original equipment manufacturer; replacement of existing wiring and starters at the valve electrical panels; relocation of electrical conduits; and modification of programming within the plant's Supervisory Control and Data Acquisition (SCADA) system.

Jensen Module No. 1 Filter Valve Replacement – Construction ($6,300,000)

Specifications No. 1744A to replace filter valves at Jensen Module No. 1 was advertised for bids on August 28, 2014. As shown in **Attachment 2**, seven bids were received and opened on September 30, 2014. The low bid from Kana Engineering Group, Inc. in the amount of $3,637,083 complies with the requirements of the specifications. The six higher bids ranged from approximately $3.8 million to $9.4 million, while the engineer's estimate was $4.5 million. For this contract, Metropolitan has established a Small Business Enterprise (SBE) participation level of at least 20 percent of the bid amount. Kana Engineering Group is an SBE firm, and thus achieves 100 percent participation. The subcontractors for this contract are listed in **Attachment 3**.

This action appropriates $6.3 million and awards a $3,637,083 contract to Kana Engineering Group, Inc. to replace filter valves at the Jensen plant's Module No. 1. In addition to the amount of the contract, the requested funds include $1,089,000 for construction support by Metropolitan forces, which includes SCADA programming, equipment start-up and testing, and sequential shutdowns of filter units. The requested funds also include $474,000 for construction inspection; $240,000 for submittals review and record drawing preparation by Metropolitan staff; $295,000 for hazardous materials testing and project management; and $564,917 for remaining budget.

Metropolitan staff will perform inspection of the construction. For this project, the anticipated cost of inspection is approximately 11 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction cost greater than $3 million is 9 to 12 percent. The total cost of construction for this project, which includes the contract, Metropolitan force support, and the previously procured valves, is $6.6 million.

The total estimated cost to complete the Jensen Module No. 1 Filter Valve Replacement, including the amount authorized to date and current funds requested, is approximately $10.6 million.

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.

This project is included within capital Appropriation No. 15371, the Jensen Improvements Appropriation, which was initiated in fiscal year 2001/02. With the present action, the total funding for Appropriation No. 15371 will increase from $41,052,000 to $47,352,000.

Project Milestone

October 2016 – Completion of installation of the new filter valves

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 Jensen Filter Valve Replacement project was previously determined by the Board to be categorically exempt under Classes 1 and 2 (Sections 15301 and 15302 of the State CEQA Guidelines) on October 9, 2012. With the current action, there is no substantial change proposed since the original project was first approved in 2012. 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 current action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the 2012 categorical exemptions (Classes 1 and 2; Sections 15301 and 15302 of the State CEQA Guidelines) 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 that the proposed action has been previously addressed in the 2012 categorical exemptions and that no further environmental analysis or documentation is required, and

a. Appropriate $6.3 million; and
b. Award $3,637,083 contract to Kana Engineering Group, Inc. to replace filter valves at the Jensen plant's Module No. 1.

Fiscal Impact: $6.3 million in capital funds under Approp. 15371

Business Analysis: This option will enhance the reliability and operating efficiency of the Jensen plant.

Option #2

Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: This option would forego an opportunity to enhance plant reliability. Staff would replace existing filter valves individually as they fail. Overall valve replacement costs would increase, and Metropolitan would continue to incur storage costs for the replacement valves.

Staff Recommendation

Option #1

12/16/2014
Date

Gordon Johnson
Manager/Chief Engineer,
Engineering Services

12/23/2014
Date

Jeffrey Kightlinger
General Manager

Attachment 1 – Financial Statement
Attachment 2 – Abstract of Bids
Attachment 3 – Subcontractors for Low Bidder
Attachment 4 – Location Map

Financial Statement for Jensen Improvements Appropriation

A breakdown of Board Action No. 23 for Appropriation No. 15371 for the Jensen Module No. 1 Filter Valve Replacement project [1] is as follows:

	Previous Total Appropriated Amount (July 2014)	Current Board Action No. 23 (Jan. 2015)	New Total Appropriated Amount
Labor			
Studies & Investigations	$ 2,420,890	$ -	$ 2,420,890
Final Design	3,661,553	-	3,661,553
Owner Costs (Program mgmt.)	4,221,601	295,000	4,516,601
Submittals Review & Record Drwgs	299,000	240,000	539,000
Construction Inspection & Support	2,565,400	425,000	2,990,400
Metropolitan Force Construction	2,429,400	709,000	3,138,400
Materials & Supplies	2,262,321	320,000	2,582,321
Incidental Expenses	229,228	109,000	338,228
Professional/Technical Services	3,856,256	-	3,856,256
Equipment Use	84,203	-	84,203
Contracts	18,248,197	-	18,248,197
Kana Enginering Group, Inc.	-	3,637,083	3,637,083
Remaining Budget	773,951	564,917	1,338,868
Total	**$ 41,052,000**	**$ 6,300,000**	**$ 47,352,000**

Funding Request

Appropriation Name:	Jensen Improvements Appropriation		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15371	**Board Action No.:**	23
Requested Amount:	**$** 6,300,000	**Budget Page No.:**	124
Total Appropriated Amount:	**$** 47,352,000	**Total Program Estimate:**	$58,100,000

[1]The total amount expended to date on the Jensen Module No. 1 Filter Valve Replacement project is approximately $4.3 million. The total estimated cost to complete this project, including the amount authorized to date and current funds requested, is approximately $10.6 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on September 30, 2014 at 2:00 P.M.

Specifications No. 1744A

Jensen Module No. 1 Filter Valve Replacement

The work consists of removal of existing valves, fabrication and installation of valve supports and adaptors, installation of 78 Metropolitan-furnished butterfly valves, refurbishment of actuators, and upgrade of electrical equipment.

Engineer's Estimate: $4,500,000

Bidder and Location	Total	SBE $	SBE %	Met SBE[1]
Kana Engineering Group, Inc., Rancho Cucamonga, CA	**$ 3,637,083**	**$ 3,637,083**	**100%**	**Yes**
Abhe & Svoboda, Inc., Alpine, CA	$ 3,770,406	–	–	–
Hobbs-Bannerman, Inc., Torrance, CA	$ 3,922,000	–	–	–
Kiewit Infrastructure West, Inc., Santa Fe Springs, CA	$ 4,760,900	–	–	–
Environmental Construction, Inc., Woodland Hills, CA	$ 4,778,548	–	–	–
Minako America Corp. dba Minco Construction, Gardena, CA	$ 5,377,700	–	–	–
Metro Builders & Engineers, Ltd., Newport Beach, CA	$ 9,370,030	–	–	–

[1] SBE (Small Business Enterprise) participation level was established at 20% for this contract

The Metropolitan Water District of Southern California

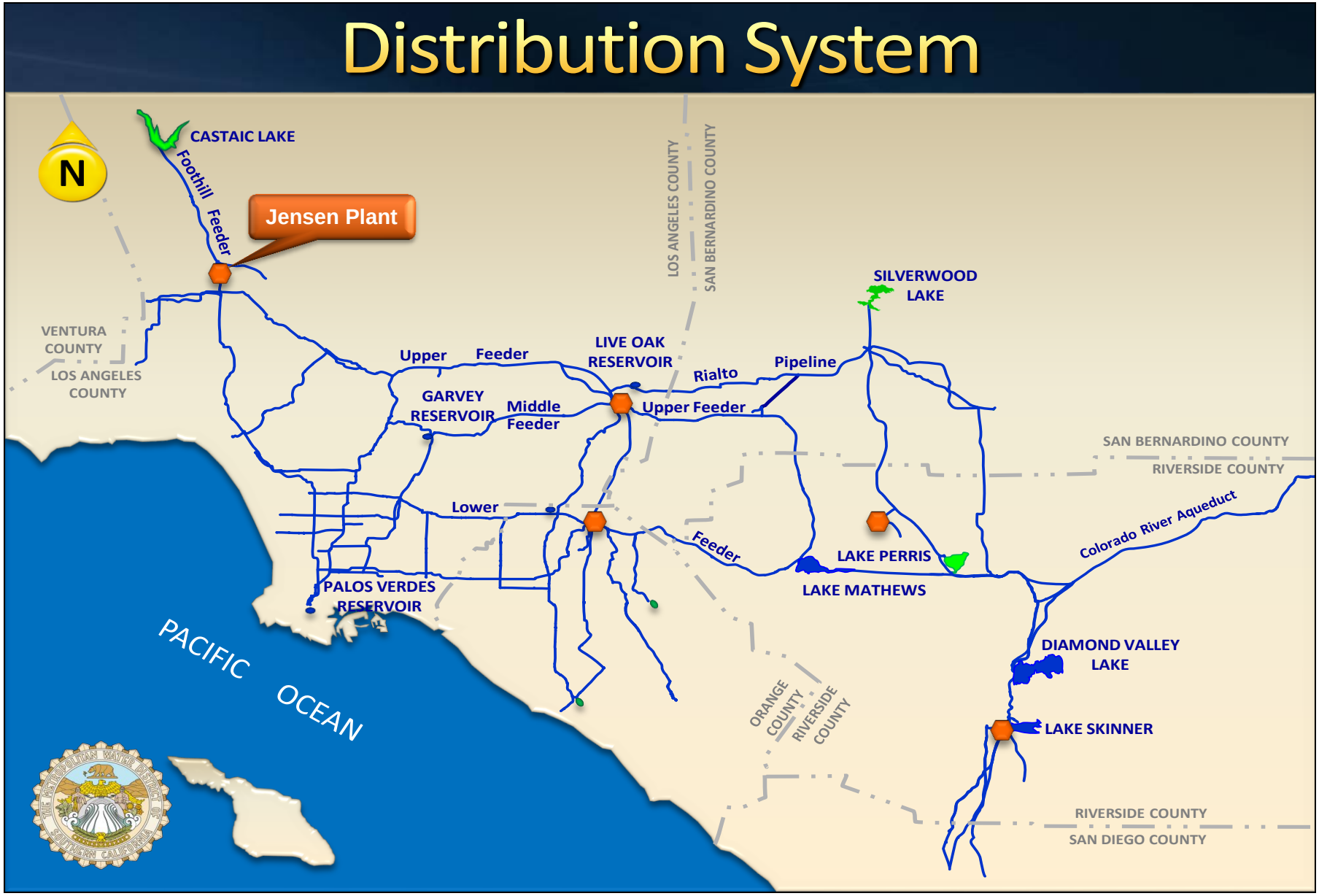
Subcontractors for Low Bidder

Specifications No. 1744A

Jensen Module No. 1 Filter Valve Replacement

Low Bidder: Kana Engineering Group, Inc.

Subcontractor and Location
Mehta Mechanical Company, Inc. dba MMC Inc., La Palma, CA
Performance Abatement Services, Inc., Anaheim, CA
Murphy Industrial Coatings, Inc., Signal Hill, CA
U.S. Controls, Inc., Ontario, CA


Distribution System
N
CASTAIC LAKE
Foothill Feeder
Jensen Plant
VENTURA COUNTY
LOS ANGELES COUNTY
LOS ANGELES COUNTY
SAN BERNARDINO COUNTY
SILVERWOOD LAKE
Upper Feeder
LIVE OAK RESERVOIR
Rialto Pipeline
GARVEY RESERVOIR
Middle Feeder
Upper Feeder
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
Lower Feeder
Colorado River Aqueduct
LAKE PERRIS
LAKE MATHEWS
PALOS VERDES RESERVOIR
PACIFIC OCEAN
DIAMOND VALLEY LAKE
ORANGE COUNTY
RIVERSIDE COUNTY
LAKE SKINNER
RIVERSIDE COUNTY
SAN DIEGO COUNTY