



- Board of Directors
Engineering and Operations Committee

10/10/2017 Board Meeting

7-2

Subject

Adopt CEQA determination and appropriate \$900,000; and authorize design of Stage 3 improvements for West Valley Feeder No. 1 (Appropriation No. 15377)

Executive Summary

This action authorizes preliminary design to replace valves and add valve structures at five locations on West Valley Feeder No. 1, along with access improvements to those sites. This action also authorizes final design to replace deteriorated valves in the De Soto Valve Structure. This work represents the final stage of a three-stage project to upgrade the feeder.

Timing and Urgency

A staged improvement project on West Valley Feeder No. 1 commenced in 2001. This project is replacing deteriorated valves, adding valve structures, and improving access for maintenance and repairs. The existing valves were installed when the line was constructed in 1962 and no longer seal properly. Further, several of the valves were directly buried and cannot be accessed without excavating the pipeline. Given the importance of this feeder in delivering treated water to Metropolitan's member agencies, staff recommends moving forward with design of the Stage 3 improvements at this time.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is included in the Distribution System Reliability Program. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2017/18.

Details

Background

West Valley Feeder No.1 delivers treated water from the Joseph Jensen Water Treatment Plant in Granada Hills to Calleguas Municipal Water District (Calleguas), Las Virgenes Municipal Water District, and the Los Angeles Department of Water and Power. This 8.3-mile-long feeder was constructed in 1962 by Calleguas and was acquired by Metropolitan in 1970. The line is comprised of prestressed concrete cylinder pipe (PCCP) with a diameter varying from 48 inches to 57 inches. The feeder has a capacity of 100 cfs and serves five member agency service connections.

In 2001, a condition assessment of West Valley Feeder No. 1 identified that most of the blowoff valves, air release/vacuum valves, and sectionalizing valves were deteriorating and needed to be replaced. The work was prioritized and divided into three stages over multiple shutdown seasons to minimize the duration of pipeline outages. The first stage, which addressed 42 structures over four shutdown seasons, was completed in 2006. The second stage, which addressed 14 structures over two shutdown seasons, was completed in 2012. The third stage of work will add new valve structures in Chatsworth Park and replace valves located near Rinaldi Avenue. Chatsworth Park has been closed to the public since 2008 due to hazardous materials that were discovered within the park boundaries. In August 2017, the city of Los Angeles completed remediation of the park. Staff recommends that the Stage 3 work move forward at this time in order to complete the needed repairs to the feeder.

Project No. 1 - West Valley Feeder No. 1 Valve Structures - Preliminary Design Phase (\$710,000)

The planned work includes addition of new vaults to house valves that at present are directly buried at five locations; replacement of existing deteriorated valves; and modification of air release/vacuum valve installations. Two of the structures will be located adjacent to streambeds, and two will be located at the top of a hill where road access is limited or no longer available. (See **Attachment 4**). Under this project, an access road will be graded to support construction and long-term patrol and maintenance activities for the structures. Finally, due to the challenges in accessing the sites, staff will investigate the cost and benefit of lining approximately 100 feet of the feeder's PCCP segments under this project.

Preliminary design phase activities will include: (1) field surveys; (2) geotechnical investigations; (3) development of design criteria for the access road and valve structures; (4) preparation of environmental documentation; and (5) development of a construction cost estimate. Environmental support will be provided by PSOMAS under an existing professional services agreement. Similarly, geotechnical support will be provided by Kleinfelder, Inc. under an existing professional services agreement. All other activities will be performed by Metropolitan staff.

This action appropriates \$710,000 and authorizes preliminary design to replace valves and add valve structures at five locations on West Valley Feeder No. 1. The requested funds include \$378,000 for the preliminary design activities by Metropolitan staff; \$100,000 for preparation of the environmental documentation by PSOMAS; \$62,000 for the geotechnical investigations by Kleinfelder, Inc.; \$161,000 for permitting and project management; and \$9,000 for remaining budget. Staff will return to the Board at a later date for authorization to commence final design.

Project No. 2 – West Valley Feeder No. 1 Valve Structure – Final Design Phase (\$190,000)

The De Soto Valve Structure was constructed in 1962 and is located in the city of Chatsworth. This underground vault houses a 42-inch-diameter butterfly valve and a 12-inch-diameter bypass line with two plug valves. The structure is located within Metropolitan right-of-way, just north of Rinaldi Avenue.

The De Soto Valve Structure was originally used to isolate West Valley Feeder No.1 for shutdowns. Since 1977, the valve has remained closed to isolate a 5.5-mile reach of the feeder, extending from the Sepulveda Feeder to the sectionalizing valve, which is leased to the Los Angeles Department of Water and Power. Despite receiving regular maintenance, the valves in the structure have deteriorated from use and gradual corrosion.

The planned rehabilitation work includes: (1) replacement of the valves and associated piping; (2) upgrade of the vault's electrical system; (3) abatement of hazardous materials; and (4) site restoration. The roof slab of the existing vault will need to be removed in order to replace the valves. The new roof will employ segmented lids to improve access for future work.

Design phase activities will include: (1) site investigations; (2) performing a 3-D survey of the existing vault and equipment; (3) preparing a procurement package for the butterfly valve; (4) preparing drawings and specifications for the installation contract; (5) developing a construction cost estimate; and (6) initiating the local agency permitting. All activities will be performed by Metropolitan staff.

This action appropriates \$190,000 and authorizes final design to replace deteriorated valves in the De Soto Valve Structure. The requested funds include \$154,000 for the technical activities described above; \$25,000 for outreach, permitting, and project management; and \$11,000 for remaining budget. Staff will return to the Board at a later date for award of the procurement contract for the butterfly valve, and for award of the installation contract.

Environmental Support (PSOMAS) – No action required

PSOMAS will provide environmental support under an existing professional services agreement. PSOMAS was selected based on its experience with similar projects in environmentally sensitive locations. The planned scope of work includes preparation of environmental documentation; conducting environmental surveys; identification of permitting needs; and submitting reports of the surveys and monitoring. The estimated cost for these activities is \$100,000. No board action is required for this work.

For this agreement, Metropolitan established a Small Business Enterprise (SBE) participation level of 25 percent. PSOMAS has agreed to meet this level of participation. The subconsultants for this agreement are listed in **Attachment 2**.

Geotechnical Investigations (Kleinfelder, Inc.) – No action required

Geotechnical investigations for the valve structure modifications will be performed by Kleinfelder, Inc. under an existing board-authorized agreement. Kleinfelder was selected based on its experience with similar projects including site and slope stability investigations and evaluation of geohazards. The planned scope of work includes field investigations, review of historical reports, drilling of borings, laboratory testing, development of technical recommendations, and design support. The estimated cost for these activities is \$62,000. No board action is required for this work.

For this agreement, Metropolitan established a SBE participation level of 55 percent. Kleinfelder has agreed to meet this level of participation. The subconsultants for this agreement are listed in **Attachment 2**.

Summary

This action appropriates \$900,000, authorizes preliminary design to replace valves and add valve structures on West Valley Feeder No. 1, and authorizes final design to replace valves in the De Soto Valve Structure. These projects are included within Appropriation No. 15377, the Conveyance and Distribution System Rehabilitation Appropriation, which was initiated in fiscal year 2001/02. With the present action, the total funding for Appropriation No. 15377 will increase from \$81,015,700 to \$81,915,702. The total estimated cost to complete all three stages of rehabilitation work for West Valley Feeder No.1, including the amount appropriated to date, current funds requested, and future construction costs, is anticipated to range from \$12 million to \$13 million.

These projects have been evaluated and recommended by Metropolitan's Capital Investment Plan Evaluation Team, and funds have been included in the fiscal year 2017/18 capital budget. See **Attachment 1** for the Financial Statement and **Attachment 3** for the Location Map.

Project Milestones

March 2019 – Completion of final design

December 2020 – Completion of construction

Policy

Metropolitan Water District Administration Code Section 5108: Appropriations

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

Project No. 1 - West Valley Feeder No. 1 Valve Structures - Preliminary Design Phase

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall activities involve the funding, studying, carrying out preliminary design, and preparing and processing environmental documentation for the proposed action. These activities consist of basic data collection and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource. This may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded. In addition, the activities may involve a check for performance of an operation, or quality, health, or safety of a project. Accordingly, the proposed action qualifies for both Class 6 and Class 9 Categorical Exemptions (Sections 15306 and 15309 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under two Categorical Exemptions (Class 6, Section 15306 and Class 9, Section 15309 of the State CEQA Guidelines).

Project No. 2 – West Valley Feeder No. 1 Valve Structure – Final Design Phase

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall activities involve the funding, design, minor alterations and replacement of existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical environment. The proposed action also consists of basic data collection and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. This may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed action qualifies under Class 1, 2 and 6 Categorical Exemptions (Class 1, Sections 15301, Class 2, Section 15302, and Class 6, Section 15306, 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 6, Section 15306, of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed actions are categorically exempt, and

- a. Appropriate \$900,000; and
- b. Authorize design of Stage 3 improvements for West Valley Feeder No. 1.

Fiscal Impact: \$900,000 of capital funds under Appropriation No. 15377

Business Analysis: This option will enhance the reliability of treated water deliveries to member agencies, and reduce the risk of costly emergency repairs.

Option #2

Do not proceed with the improvements at this time.

Fiscal Impact: None

Business Analysis: This option would forego an opportunity to reduce the risk of pipe failure, unplanned shutdowns, and costly emergency repairs.

Staff Recommendation

Option #1


 _____ 9/21/2017
 Gordon Johnson Date
 Manager/Chief Engineer
 Engineering Services


 _____ 9/25/2017
 Jeffrey Kightlinger Date
 General Manager

Attachment 1 – Financial Statement

Attachment 2 – Subconsultants for Agreements with PSOMAS and Kleinfelder, Inc.

Attachment 3 – Location Map

Attachment 4 – Aerial Photo of Valve Structure Locations

Financial Statement for Conveyance and Distribution System Rehabilitation Appropriation

A breakdown of Board Action No. 40 for Appropriation No. 15377¹ is as follows:

	Previous Total Appropriated Amount (Nov. 2016)	Current Board Action No. 40 (Oct. 2017)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 4,049,200	\$ 378,000	\$ 4,427,200
Final Design	7,889,956	154,000	8,043,956
Owner Costs (Program mgmt., permitting)	7,133,550	186,000	7,319,550
Submittals Review & Record Drwgs.	371,500	-	371,500
Construction Inspection & Support	3,314,050	-	3,314,050
Metropolitan Force Construction	17,885,548	-	17,885,548
Materials & Supplies	6,201,575	-	6,201,575
Incidental Expenses	1,472,120	-	1,472,120
Professional/Technical Services	1,946,500	-	1,946,500
Kleinfelder, Inc.	-	62,000	62,000
PSOMAS	-	100,000	100,000
Equipment Use	977,850	-	977,850
Contracts	28,143,669	-	28,143,669
Remaining Budget	1,630,182 ²	20,000	1,650,182
Total	\$ 81,015,700	\$ 900,000	\$ 81,915,700

Funding Request

Appropriation Name:	Conveyance and Distribution System Rehabilitation Appropriation		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15377	Board Action No.:	40
Requested Amount:	\$ 900,000	Budget Page No.:	211
Total Appropriated Amount:	\$ 81,915,700	Total Appropriation Estimate:	\$ 119,500,000

¹The total amount expended to date on improvements for West Valley Feeder No. 1 is approximately \$7.6 million. The total estimated cost to complete all three stages of the rehabilitation work, including the amount appropriated to date, current funds requested, and future construction costs, is anticipated to range from \$12 million to \$13 million.

²Includes previous allocation of \$175,000 from Remaining Budget to the Power Plant Discharge Elimination project at Venice Power Plant for construction of two new sump pumps and a sanitary sewer connection to meet storm water discharge requirements.

The Metropolitan Water District of Southern California**Subconsultants for Agreement with PSOMAS
Agreement No. 168168**

Subconsultant and Location
Bloom Biologist, Inc., Santa Ana, CA
Daly & Associates, Carlsbad, CA
dBF Associates, Inc., Carlsbad, CA
Diaz Yourman & Associates, Santa Ana, CA
Leatherman BioConsulting, Inc., Yorba Linda, CA
Leopold Biological Services, San Diego, CA
MBC Applied Environmental Sciences, Costa Mesa, CA
Natural Resources Assessment, Inc., Riverside, CA
Normandeau Associates, Inc., Seattle, WA
Paleo Solutions, Inc., Monrovia, CA
Petra Resources Management, San Diego, CA
Phoenix Biological Consulting, Tehachapi, CA
Randel Wildlife Consulting, Inc., Pasadena, CA
The Sanberg Group, Inc., Santa Fe Springs, CA
SIM Biological Consultants, LLC., Phoenix, AZ
Yorke Engineering, LLC., Long Beach, CA

The Metropolitan Water District of Southern California

**Subconsultants for Agreement with Kleinfelder, Inc.
Agreement No. 168729**

Subconsultant and Location
A Cone Zone, Inc., Corona, CA
Advanced Geoscience, Inc., Torrance, CA
AP Engineering and Testing, Inc., Pomona, CA
Belshire Environmental Services, Inc., Foothill Ranch, CA
Bluesky Helicopters, Inc., Redlands, CA
C & L Drilling, Inc., La Habra, CA
California Barricade, Inc., Santa Ana, CA
Crux Subsurface Exploration, Inc., Spokane Valley, WA
Enviro-Chem, Inc., Pomona, CA
GEOVision, Inc., Irvine, CA
Great West Drilling, Inc., Fontana, CA
Gregg Drilling & Testing, Inc., Signal Hill, CA
HDR/Schiff., Claremont, CA
Hushmand Associates, Inc., Irvine, CA
Kehoe Testing & Engineering, Inc., Huntington Beach, CA
Layne Christensen Company, Santa Paula, CA
Ruen Drilling, Inc., Clark Fork, ID
Staib Backhoe and Excavation, Inc., San Dimas, CA
Subsurface Surveys & Associates, Inc., Carlsbad, AZ
Tonon USA, Austin, TX
Woodward Drilling Company, Woodland, CA

Distribution System



Aerial Photo of Valve Structure Locations

