



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

8/21/2018 Board Meeting

8-3

Subject

Adopt CEQA determination and appropriate \$7 million; and award \$5,416,000 contract to Kiewit Infrastructure West Company to repair the internal lining within yard piping at Hiram W. Wadsworth Pumping Plant (Appropriation No. 15480)

Executive Summary

This action awards a construction contract to repair damaged epoxy lining within the pipelines that interconnect several facilities near Hiram W. Wadsworth Pumping Plant at Diamond Valley Lake (DVL).

Timing and Urgency

Internal inspections of the yard piping in the vicinity of Wadsworth Pumping Plant have identified that portions of the internal epoxy lining have failed within several reaches of the pipelines. While the structural integrity of the piping remains sound at present, failure of the epoxy lining exposes the steel pipe walls to accelerated rates of corrosion and eventual leakage. In order to minimize corrosion damage and maintain reliable operation, staff recommends proceeding with repairs 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 2018/19.

Details

Background

DVL is Southern California's largest surface water reservoir, with a maximum storage capacity of 810,000 acre-feet. DVL was completed in 2000 and is located south of the city of Hemet in Riverside County.

The yard piping system at Wadsworth Pumping Plant, which is located west of DVL's Owen Dam, connects the pump/turbine units within the pumphouse to the adjacent pressure control structure, the Eastside Pipeline, and the pumping plant forebay. This piping network is designed for multiple flow configurations that allow power generation and filling or withdrawal from DVL. The yard piping consists of a 144-inch-diameter main conduit with 54-inch-diameter manifold pipes at the pumping plant; a 144-inch-diameter main conduit with 66-inch-diameter manifold pipes at the pressure control structure; and a lake outlet conduit that varies in diameter from 90 to 192 inches. The outlet conduit is used to discharge water into the forebay when the reservoir's water elevation is low. The yard piping system has a combined length of approximately 2,200 feet and was constructed with a 60-mil-thick epoxy lining to prevent corrosion of the steel cylinder. Mortar lining was not used for this piping due to the fluctuating pressure and recurring dry conditions within the pipe.

Recent internal inspections of the yard piping have identified that portions of the internal epoxy lining have failed within several reaches of the pipe. The lining failures include delamination of the top coat from the primary coat, disbondment of the primary coat from the steel surface, and blistering. Where the primary coat has failed, rust and pitting are evident. The structural integrity of the pipe remains sound at present. However, over time, the

continued loss of epoxy lining will accelerate the corrosion and could lead to eventual leakage. In September 2016, Metropolitan's Board authorized design to repair the lining within the yard piping at DVL. Design has been completed, and staff recommends proceeding with construction at this time.

Wadsworth Pumping Plant Yard Piping Repairs – Construction (\$7,000,000)

The scope of the construction contract includes removal of the existing epoxy lining within 2,200 feet of steel pipe ranging in diameter from 54 inches to 192 inches, and the application of new polyurethane lining. The repairs involve unique constructability challenges including tight shutdown constraints, erection of scaffolding at multiple locations within the pipe where slopes are steep, and precise control of dust and moisture. Construction will primarily be performed within a single 30-day shutdown period planned for January 2019. Metropolitan force activities will include establishment of clearances, dewatering of the pipeline, and return of the line to service. Security services will also be provided to control site access on a 24-hour basis during the shutdown period.

Award of Construction Contract (Kiewit Infrastructure West Company)

Specifications No. 1906 for yard piping lining repairs at Wadsworth Pumping Plant was advertised for bids on June 11, 2018. As shown in **Attachment 2**, three bids were received and opened on July 17, 2018. The low bid from Kiewit Infrastructure West Company in the amount of \$5,416,000 complies with the requirements of the specifications. The two other bids were \$5,945,000 and \$6,210,510, while the engineer's estimate was \$5.1 million. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 15 percent of the bid amount. Kiewit Infrastructure West Company has agreed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**.

This action appropriates \$7 million and awards a \$5,416,000 contract to Kiewit Infrastructure West Company to repair the lining within the yard piping at Wadsworth Pumping Plant. In addition to the amount of the contract, the requested funds include \$360,000 for the Metropolitan force activities described above; \$637,000 for construction inspection; \$154,000 for submittals review, responding to contractor requests for information, and preparation of record drawings; \$140,000 for project management and contract administration; and \$293,000 for remaining budget.

Metropolitan staff will perform inspection of the construction. For this project, the anticipated cost of inspection is approximately 11.7 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction greater than \$3 million is 9 to 12 percent. The total cost of construction for this project is \$5,776,000, which includes the amount of the contract (\$5,416,000) and Metropolitan force activities (\$360,000).

The total cost to complete the lining repairs within the yard piping at Wadsworth Pumping Plant, including the amount appropriated to date and current funds requested, is approximately \$7.46 million.

This project is included within capital Appropriation No. 15480, the Conveyance and Distribution System Rehabilitation Appropriation – FY 2012/13 Through FY 2018/19, which was initiated in fiscal year 2012/13. With this action, the total funding for Appropriation No. 15480 will increase from \$69.4 million to \$76.4 million.

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2018/19 capital expenditure plan. See **Attachment 1** for the Financial Statement, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the listing of Subcontractors for Low Bidder, and **Attachment 4** for the Location Map.

Project Milestone

March 2019 – Completion of construction of lining repairs within the yard piping at Wadsworth Pumping Plant

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

By Minute Item 50582, dated September 13, 2016, the Board authorized final design of lining repairs for the yard piping at Wadsworth Pumping Plant.

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. In particular, the proposed action consists of awarding a construction contract and modifying existing public facilities with negligible or no expansion of use beyond that existing at the time of the lead agency's determination. In addition, the proposed action will not have a significant effect on the physical environment. Accordingly, the proposed action qualifies as a Class 1 Categorical Exemption (Section 15301 of the State CEQA Guidelines).

The CEQA determination is: Determine that the proposed action is categorically exempt under Class 1, Section 15301 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 exempt, and

- a. Appropriate \$7 million; and
- b. Award \$5,416,000 contract to Kiewit Infrastructure West Company to repair the lining within the yard piping at Wadsworth Pumping Plant.

Fiscal Impact: \$7 million of capital funds under Appropriation No. 15480

Business Analysis: This option will protect Metropolitan's assets and reduce the risk of costly emergency repairs.

Option #2

Do not proceed with the lining repairs at this time.

Fiscal Impact: None

Business Analysis: Under this option, staff would continue to monitor the condition of the lining and the extent of pipe corrosion. This option would forego an opportunity to enhance reliability of the pumping plant and reduce the risk of costly urgent repairs.

Staff Recommendation

Option #1



Michael J. Rojas
Interim Manager/Chief Engineer
Engineering Services

8/3/2018

Date



Jeffrey Kightlinger
General Manager

8/6/2018

Date

Attachment 1 – Financial Statement

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Ref# es12662947

Financial Statement for Conveyance and Distribution System Rehabilitation Appropriation – FY 2012/13 Through FY 2017/18

A breakdown of Board Action No. 40 for Appropriation No. 15480¹ is as follows:

	Previous Total Appropriated Amount (Apr. 2018)	Current Board Action No. 40 (Aug. 2018)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 3,810,504	\$ -	\$ 3,810,504
Final Design	10,186,915	-	10,186,915
Owner Costs (Program mgmt.)	5,566,279	140,000	5,706,279
Submittals Review & Record Drwgs.	1,270,000	154,000	1,424,000
Construction Inspection & Support	3,843,000	637,000	4,480,000
Metropolitan Force Construction	4,877,000	360,000	5,237,000
Materials & Supplies	3,305,000	-	3,305,000
Incidental Expenses	322,000	-	322,000
Professional/Technical Services	5,277,000	-	5,277,000
Right-of-Way	330,000	-	330,000
Equipment Use	5,000	-	5,000
Contracts	26,804,611	-	26,804,611
Kiewit Infrastructure West Co.	-	5,416,000	5,416,000
Remaining Budget	3,802,691 ²	293,000	4,095,691
Total	\$ 69,400,000	\$ 7,000,000	\$ 76,400,000

Funding Request

Appropriation Name:	Conveyance and Distribution System Rehabilitation – FY 2012/13 Through FY 2017/18		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15480	Board Action No.:	40
Requested Amount:	\$ 7,000,000	Budget Page No.:	240
Total Appropriated Amount:	\$ 76,400,000	Total Appropriation Estimate:	\$ 335,454,000

¹ The total amount expended to date to repair the lining within the yard piping at Wadsworth Pumping Plant is approximately \$460,000. The total estimated cost to complete this project, including the amount appropriated to date and current funds requested, is \$7.46 million.

² Includes previous reallocation of \$230,000 from Remaining Budget for the electrical upgrade of 15 structures within the Orange County region for design modifications due to interfering utilities; \$175,000 from Remaining Budget for the Wadsworth Pumping Plant yard piping lining repairs to address additional damaged areas of lining that were identified during a follow-up inspection; and \$110,000 from Remaining Budget to the Casa Loma Siphon Barrel No. 1 repairs for subsidence investigations that were more extensive than originally identified.

The Metropolitan Water District of Southern California

Abstract of Bids Received on July 17, 2018 at 2:00 P.M.

**Specifications No. 1906
Wadsworth Pumping Plant Yard Piping Repairs**

The project consists of removing the existing epoxy lining and applying polyurethane lining inside approximately 2,200 feet of steel pipe ranging in diameter from 54 inches to 192 inches.

Engineer's estimate: \$5,100,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
Kiewit Infrastructure West Co. Santa Fe Spring, CA	\$5,416,000	\$820,000	15.14	Yes
Mladen Buntich Construction Co, Inc. Upland, CA	\$5,945,000	-	-	-
J. F. Shea Construction Inc. Walnut, CA	\$6,210,510	-	-	-

¹ Small Business Enterprise (SBE) participation level was established at 15 percent for this contract.

The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

**Specifications No. 1906
Wadsworth Pumping Plant Yard Piping Repairs**

Low bidder: Kiewit Infrastructure West Company

Subcontractor and Location
F. D. Thomas, Sacramento, CA
Inplant Sales, LLC, Garden Grove, CA
Dean's Certified Welding, Temecula, CA
The Devaul Paint Company, Santa Ana, CA
Oasis Fuels, Inc., Long Beach, CA

Distribution System

