THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

BOARD ACTION

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

11/9/2021 Board Meeting

7-4

Subject

Adopt the CEQA determination that the proposed action has been previously addressed in the certified 2015 Final EIR and related CEQA documents; and award a $6,044,896.76 procurement contract to Northwest Pipe Company for steel pipe to rehabilitate a portion of the Etiwanda Pipeline

Executive Summary

Internal inspections of the Etiwanda Pipeline have identified that approximately 40 percent of the cement mortar lining in the northern portion of the pipeline has fallen off or become delaminated from the steel pipe cylinder. A three-stage approach to relining the pipeline was implemented, with Stage 1 completed in December 2014 and Stage 2 in March 2017. Installation of steel liner pipe is required to rehabilitate the remaining portions of the pipeline under Stage 3 of this project. To achieve the planned construction schedule of mid-2022, staff recommends awarding a procurement contract for 1,300 feet of steel liner pipe at this time. This procurement contract award will ensure the timely fabrication and delivery of the pipe for the upcoming construction contract to rehabilitate the final section of the Etiwanda Pipeline.

Details

Background

The Etiwanda Pipeline, constructed in 1993, conveys untreated water from the Rialto Pipeline to the Upper Feeder by way of the Etiwanda Power Plant. The northern reach of this 6.4 mile-long, 144-inch diameter pipeline, conveys high-pressure water approximately 5.4 miles to the Etiwanda Power Plant. From the power plant, the southern portion of the line continues for one mile to an interconnection with the Upper Feeder. The pipeline is located within the cities of Fontana and Rancho Cucamonga.

The Etiwanda Pipeline allows Metropolitan to generate power from the high-pressure flows available in the northern portion of the line. Under peak flow conditions, annual revenues from the Etiwanda Power Plant have reached $8.3 million. The Etiwanda Pipeline also provides flexibility in conveying untreated water from the East Branch of the State Water Project to the F. E. Weymouth Water Treatment Plant.

During an internal inspection conducted in 2008, staff discovered that approximately 40 percent of the northern portion of the line has missing or delaminated mortar lining. The mortar lining provides a protective barrier to the steel pipe sections and effectively eliminates internal corrosion of the steel. At the present time, the structural integrity of the pipeline remains sound; however, the loss of mortar lining has exposed the pipeline to accelerated rates of corrosion to the interior portions of the steel pipe.

Staff and third-party pipeline experts conducted extensive investigations into the cause of the lining damage. The primary cause is believed to be the daily internal pressure fluctuation within the pipeline resulting from power generation at the Etiwanda Power Plant. This fluctuation of internal pressure likely produced stress cracking in the mortar lining. In addition, the seasonal variation in availability of State Water Project supplies resulted in prolonged periods when the pipeline was removed from service, creating drying and shrinkage cracks which exacerbated the situation. For this application, staff determined that the most reliable, cost-effective approach was removal of the mortar coating, rehabilitation of the steel pipe cylinder where needed, and application of a polyurethane lining.

In 2009, Metropolitan initiated a three-stage approach to relining the Etiwanda Pipeline. The first stage of relining construction, covering a 2,800-foot portion of the pipeline, was completed in December 2014. In June 2015, Metropolitan's Board authorized final design of the remaining two stages of relining, certified the final EIR for the project, and adopted a Mitigation Monitoring and Reporting Program (MMRP) for the work. The second stage of relining construction, covering an additional 13,200-foot portion of the pipeline, was completed in March 2017. The third and final stage also has a total length of approximately 13,200 feet. While the earlier relining efforts were able to proceed with only moderate weld repairs of the steel pipeline itself, inspections have shown that the third stage has significant corrosion and will require the installation of approximately 1,300 feet of new internal steel pipe in addition to polyurethane lining of the entire length.

Design activities for the Stage 3 relining contract is scheduled to be completed in early 2022. Staff recommends moving forward with pipe procurement at this time in order to receive delivery of the new steel liner in time for installation during a planned 2022 shutdown of the pipeline. Construction will involve installing the steel liner that is the subject of this board action and will be awarded under a future board action in 2022.

In accordance with the April 2020 action on the biennial budget for Fiscal Years 2020/21 and 2021/22, the General Manager will authorize staff to proceed with the procurement of steel liner pipe to rehabilitate a portion of the Etiwanda Pipeline, pending board award of the procurement contract described below. Based on the current CIP expenditure forecast, funds for the work to be performed pursuant to the subject contracts during the current biennium are available within the Capital Investment Plan Appropriation for Fiscal Years 2020/21 and 2021/22 (Appropriation No. 15521). Funds required for work to be performed pursuant to the subject contract after Fiscal Year 2021/22 will be budgeted within the Capital Investment Plan Appropriation for Fiscal Years 2022/23 and 2023/24. This project has been reviewed in accordance with Metropolitan's CIP prioritization criteria and was approved by Metropolitan's CIP evaluation team to be included in the Distribution System Reliability Program.

Etiwanda Pipeline Relining, Stage 3 – Procurement

The scope of the procurement contract includes furnishing 1,300 feet of 136-inch to 145-inch-diameter welded steel pipe, associated fittings, and accessories.

A total of $6,800,000 is required to perform this work. In addition to the amount of the contract, the allocated funds include $259,000 for factory fabrication inspection and functional testing; $67,000 for Metropolitan force to receive, offload, and place steel pipe for storage at the Etiwanda Reservoir; $64,000 for submittals review, technical support, and responding to manufacturer requests for information; $95,000 for contract administration and project management; and $270,103.24 for remaining budget.

Attachment 1 provides the allocation of required funds. The total estimated cost to complete Stage 3 of the Etiwanda Pipeline Relining, including the amount appropriated to date, funds allocated for the work described in this action, and all future actions, is expected to range between $28.5 million and $30.0 million. Approximately $275,000 has been expended to date on Stage 3 of the Etiwanda Pipeline Relining.

Award of Procurement Contract (Northwest Pipe Company)

Specifications No. 2011 for furnishing 1,300 feet of welded steel pipe and fittings to rehabilitate a portion of the Etiwanda Pipeline was advertised for bids on September 9, 2021. As shown in **Attachment 2**, two bids were received and opened on October 13, 2021. Due to the specialized nature and the limited number of pipe fabricators, no Small Business Enterprise participation level was established for this contract. The bid from Northwest Pipe Company in the amount of $6,044,896.76, complies with the requirements of the specifications. This amount includes all sales and use taxes imposed by the State of California. The budgetary estimate for this material, based on a survey of vendors, ranged from $3.2 million to $3.6 million. Staff investigated the difference between the budgetary range estimate and the low bid. The key differences are attributed to increased costs for steel due to global shortages and supply chain issues, compounded by high demand for pipe in the country, which limited contractor bids. Proceeding with a contract at this time will enable completion of the final stage of the Etiwanda Pipeline rehabilitation with minimal operational impacts, despite a prolonged shutdown, as a result of an anticipated low State Water Project allocation.

This action awards a $6,044,896.76 procurement contract to Northwest Pipe Company to furnish 1,300 feet of welded steel pipe and fittings to rehabilitate a portion of the Etiwanda Pipeline.

Alternatives Considered

During planning and design of this project, staff considered rehabilitating the deteriorated, thinner-walled portions of the Etiwanda Pipeline with multiple steel plates welded to the pipeline. This approach would reinforce the pipeline, but heat from welding numerous steel plates to the pipe would likely damage the pipe's exterior coating. Also, placing and welding heavy steel plates would be more difficult and take more time to construct than installing full sections of steel pipe, resulting in a longer shutdown period and higher costs. The installation of welded steel pipe was selected as the recommended means to protect the Etiwanda Pipeline, since it is a proven method to reliably, efficiently, and cost-effectively rehabilitate damaged portions of pipeline.

Staff also considered having the contractor fabricate and install the steel liner as part of their overall construction contract. A thorough analysis of the overall project schedule indicated that the steel pipe fabrication would increase the contract length and impact shutdown logistics. The recommended action allows Metropolitan to procure the steel pipe in a timely manner and complete the project in late-2022.

Summary

This action awards a procurement contract to Northwest Pipe Company, in an amount not to exceed $6,044,896.76 to furnish 1,300 feet of welded steel pipe and fittings to rehabilitate a portion of the Etiwanda Pipeline. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, and **Attachment 3** for the Location Map.

Project Milestones

April 2022 – Board award of steel pipe installation contract

May 2022 – Delivery of steel pipe

Policy

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 8140: Competitive Procurement

By Minute Item 50154, dated June 9, 2015, the Board authorized final design to rehabilitate the Etiwanda Pipeline.

By Minute Item 51963, dated April 14, 2020, the Board appropriated a total of $500 million for projects identified in the Capital Investment Plan for Fiscal Years 2020/21 and 2021/22.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The environmental effects of the funding, design, construction and operation of the proposed project were evaluated in the Etiwanda Pipeline North Relining Project Final Environmental Impact Report (SCH No. 2014081047), which was certified by the Board on June 9, 2015. The Board also adopted the Findings of Fact (Findings), the Statement of Overriding Considerations, the MMRP, and the project itself. The procurement contract would not result in significant adverse impacts beyond those impacts already disclosed in the Final EIR. Hence, the previous environmental documentation acted on by the Board in conjunction with the proposed action fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act on the proposed action.

CEQA determination for Option #2:

None required

Board Options

Option #1

Award a $6,044,896.76 contract to Northwest Pipe Company to furnish 1,300 feet of welded steel pipe and fittings to rehabilitate a portion of the Etiwanda Pipeline.

Fiscal Impact: Expenditure of $6.8 million in capital funds. Approximately $2,500,000 will be incurred in the current fiscal year and has been previously authorized.
Business Analysis: This option will improve the operational reliability of the Etiwanda Pipeline.

Option #2

Do not proceed with this project at this time.
Fiscal Impact: None
Business Analysis: This option will forego an opportunity to improve the operational reliability of the Etiwanda Pipeline, which may lead to costly urgent repairs.

Staff Recommendation

Option #1

10/14/2021

John V. Bednarski *Date*
Manager/Chief Engineer
Engineering Services

10/25/2021

Adel Hagekhalil *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Location Map

Ref# es12682815

Allocation of Funds for Etiwanda Pipeline Relining Stage 3

	Current Board Action (Nov. 2021)
Labor	
Studies & Investigations	$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	95,000
Submittals Review & Record Drwgs.	64,000
Fabrication Inspection & Support	259,000
Metropolitan Force Construction	67,000
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
Equipment Use	-
Contracts	-
Northwest Pipe Company	6,044,896.76
Remaining Budget	270,103.24
Total	**$ 6,800,000**

The total amount expended to date for Phase 3 relining of the Etiwanda Pipeline is approximately $275,000. The total estimated cost to complete this project, including the amount appropriated to date, funds allocated for the work described in this action, and future construction costs are anticipated to range from $28.5 million to $30.0 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on October 13, 2021 at 2:00 P.M.

Specifications No. 2011

Etiwanda Pipeline Relining, Stage 3

The work consists of furnishing 1,300 feet of 136-inch to 145-inch diameter steel pipe to rehabilitate a portion of the Etiwanda Pipeline.

Budgetary estimate: $3.2 million to $3.6 million

Bidder and Location	Total[1]
Northwest Pipe Company Adelanto, Ca	$6,044,896.76
TPG Pressure, Inc. dba Thompson Pipe Group Pressure Grand Prairie, TX	$12,072,944.00

[1] A SBE (Small Business Enterprise) participation level was not established for this contract.

Distribution System