



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

11/8/2022 Board Meeting

7-3

Subject

Award a \$1,228,607.10 contract to Howard Ridley Company, Inc. for the rehabilitation of the concrete liner at ten locations within the Rainbow Tunnel segment of San Diego Pipeline No. 1; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

The Rainbow Tunnel is a horseshoe-shaped tunnel segment of San Diego Pipeline No. 1 that conveys treated water from the Robert A. Skinner Water Treatment plant (Skinner plant) south to member agencies in Riverside and San Diego Counties. Staff has identified ten locations along the tunnel where the concrete liner is showing signs of degradation and needs replacement. This action awards a contract to replace the degraded concrete at ten locations within the Rainbow Tunnel.

Details

The San Diego Pipelines Nos. 1 and 2 carry treated water from the Skinner plant to member agencies in Riverside and San Diego Counties. The parallel pipelines were constructed in 1945, range in diameter from 48-inches to 72-inches, and are comprised of multiple materials, including steel, precast concrete, and tunnel segments. The pipelines merge twice, once in a horseshoe-shaped tunnel segment known as Rainbow Tunnel. This tunnel segment is approximately 4,700 feet long with a height of six feet.

Recent inspections of the Rainbow Tunnel have identified areas of cracking and spalling of the existing concrete liner, which leads to the potential for water intrusion. A structural integrity investigation of the tunnel using ground penetrating radar was performed to further study areas of concern. The test revealed that the tunnel was in good condition from a structural standpoint; however, voids in the soil behind the seven-inch-thick liner were observed in ten locations. The method of repair for these locations includes the injection of grout behind the tunnel liner to stabilize the soil and prevent water intrusion, followed by the removal and replacement of the distressed concrete liner. Rehabilitation of the tunnel segment at these ten locations within the Rainbow Tunnel will rehabilitate the degraded concrete liner and reduce the risk of water quality impacts or an unplanned shutdown in the future.

Final design for the concrete liner rehabilitation at the ten locations within Rainbow Tunnel has been completed, and staff recommends proceeding with awarding a contract for this work.

In accordance with the April 2022 action on the biennial budget for fiscal years 2022/23 and 2023/24, the General Manager will authorize staff to proceed with the actions described below. Based on the current Capital Investment Plan (CIP) expenditure forecast, funds for the work to be performed pursuant to this action during the current biennium are available 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.

Rainbow Tunnel Concrete Liner Rehabilitation – Construction

The scope of the construction contract consists of rehabilitating the concrete tunnel liner at ten locations within the San Diego Pipeline No. 1 Rainbow Tunnel. The planned work will include grout wall injection, surface preparation, temporary ventilation, and concrete removal and replacement. Metropolitan forces will dewater the

tunnel, establish clearances, and return the system to service. This work will be conducted during two upcoming ten-day shutdowns of San Diego Pipeline Nos. 1 and 2 that are scheduled for January/February 2023 and February/March 2023.

A total of \$2,300,000 is allocated for this work. In addition to the contract amount, allocated funds for work by Metropolitan staff include: \$202,000 for construction management and inspection; \$335,000 for Metropolitan force shutdown activities; \$155,000 for submittals review, responding to requests for information, and preparation of record drawings; \$125,000 for contract administration, environmental monitoring support, and project management; and \$254,392.90 for remaining budget. **Attachment 1** provides the allocation of the required funds. The total estimated cost to complete the work, including the amount appropriated to date and funds allocated for the work described in this action, is \$2.9 million.

Award of Construction Contract (Howard Ridley Company, Inc.)

Specifications No. 2038 for the construction of the Rainbow Tunnel Concrete Liner Rehabilitation was advertised on August 31, 2022. As shown in **Attachment 2**, two bids were received and opened on October 4, 2022. The bid from Harrison Western was deemed to be non-responsive as they did not have a California contractor's license. The bid from Howard Ridley Company, Inc. in the amount of \$1,228,607.10 complies with the requirements of the specifications. The engineer's estimate for this project was \$1,340,000. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 25 percent of the bid amount. Howard Ridley Company, Inc. is an SBE firm, and thus achieves 100 percent participation. The subcontractors for this contract are listed in **Attachment 3**.

As described above, Metropolitan staff will perform construction management and inspection. The total cost of construction for this project is \$1,563,607.10 which includes the amount of the contract and Metropolitan force activities. Engineering Services' performance metric goal for inspection of projects with construction less than \$3 million is 12.9 percent. For this project, the performance metric for inspection is 15 percent of the total construction cost.

Alternatives Considered

Staff considered several alternatives for the rehabilitation of the Rainbow Tunnel, including a complete relining of the tunnel using a steel liner system and concrete liner. However, this alternative would require a four-to-six-month shutdown and range in cost from \$10 million to \$15 million. The selected alternative will complete the rehabilitation of the tunnel within two ten-day shutdowns and extends the service life of the current concrete liner in the tunnel. Due to member agency service connection demands downstream of the Rainbow Tunnel, staff limits the duration of the tunnel shutdown to ten days.

Summary

This action awards a \$1,228,607.10 contract to Howard Ridley Company, Inc. to rehabilitate the concrete liner of the Rainbow Tunnel at ten locations. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the Listing of Subcontractors for the Low Bidder, and **Attachment 4** for the Location Map.

Project Milestone

March 2023 – Completion of construction

Policy

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

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 52778, dated April 12, 2022, the Board appropriated a total of \$600 million for projects identified in the Capital Investment Plan for Fiscal Years 2022/2023 and 2023/2024.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action involves operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use and no possibility of significantly impacting the physical environment. In addition, the proposed action includes the replacement and reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have the same purpose and capacity as the structure replaced. Accordingly, the proposed action qualifies under Class 1 and Class 2 Categorical Exemptions (Sections 15301 and 15302 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Award a \$1,228,607.10 contract to Howard Ridley Company, Inc. to rehabilitate the concrete liner of the Rainbow Tunnel at ten locations.

Fiscal Impact: Expenditure of \$2.3 million in capital funds. All funds will be incurred in the current biennium and have been previously authorized.

Business Analysis: This option will complete the needed rehabilitation of the damaged lining of the Rainbow Tunnel, which will protect Metropolitan's assets and reduce the risk of costly emergency repairs.

Option #2



Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: This option would forgo an opportunity to enhance reliability and extend the service life of the Rainbow Tunnel, and could lead to higher costs, more extensive repairs, and unplanned shutdowns.

Staff Recommendation

Option #1

 _____ John V. Bednarski Chief Engineer/Manager Engineering Services	10/17/2022 _____ Date
 _____ Adel Hagekhalil General Manager	10/19/2022 _____ Date

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Allocation of Funds for Rainbow Tunnel Concrete Liner Rehabilitation

	Current Board Action (Nov. 2022)
Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	125,000
Submittals Review & Record Drwgs.	155,000
Construction Inspection & Support	202,000
Metropolitan Force Construction	320,000
Materials & Supplies	-
Incidental Expenses	15,000
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
Howard Ridley Company, Inc.	1,228,607.10
Remaining Budget	254,392.90
Total	\$ 2,300,000

The total amount expended to date for rehabilitation of the Rainbow Tunnel concrete liner is approximately \$615,000. The total estimated cost to complete the work, including the amount appropriated to date, and funds allocated for the work described in this action is \$2.9 million.

The Metropolitan Water District of Southern California**Abstract of Bids Received on October 4, 2022, at 2:00 P.M.****Specifications No. 2038
Rainbow Tunnel Concrete Liner Rehabilitation**

The work consists of localized concrete tunnel liner rehabilitation at ten locations within the San Diego Pipeline No. 1 Rainbow Tunnel including grout injection behind the tunnel liner, surface preparation, temporary ventilation, and concrete removal and replacement.

Engineer's estimate: \$1,340,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
Harrison Western Lakewood, CO	\$799,490 ²	-	-	-
Howard Ridley Company, Inc. Chino, CA	\$1,228,607.10	\$1,228,607.10	100%	Yes

1 Small Business Enterprise (SBE) participation level established at 25% for this contract.

2 Non-responsive bid

The Metropolitan Water District of Southern California**Subcontractors for Low Bidder****Specifications No. 2038****Rainbow Tunnel Concrete Liner Rehabilitation**

Low bidder: Howard Ridley Company, Inc.

Subcontractor and Location
Slater Waterproofing Montclair, CA

