



Engineering & Operations Committee

Rainbow Tunnel Concrete Liner Rehabilitation

Item 7-3

November 7, 2022

Rainbow Tunnel Concrete Liner Rehabilitation

Current Action

- 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

Distribution System



Rainbow Tunnel Concrete Liner Rehabilitation

Background

- Rainbow Tunnel
 - Tunnel section of San Diego Pipeline #1
 - Concrete-lined horseshoe tunnel
 - 77 years old
 - 4,700 feet long
 - 6-foot inside height



Rainbow Tunnel Survey Imagery

Rainbow Tunnel Concrete Liner Rehabilitation

Background

- Inspections in 2020 & 2021 identified locations of concrete degradation in the tunnel liner
 - Structural analysis of tunnel showed tunnel structurally sound
 - Several locations identified as potential leak locations
 - Sealed from the surface of the tunnel liner – Met Forces
 - 10 locations of significant concrete degradation identified
 - Require complete localized liner replacement



Rainbow Tunnel Concrete Liner Rehabilitation

Alternatives Considered

- Complete tunnel relining
 - Require 4 to 6-month shutdown
 - Current limit – 10 days
- Selected Alternative
 - Completed localized concrete liner rehabilitation
 - Utilizes two upcoming 10-day shutdowns
 - Jan/Feb 2023 & Feb/March 2023
 - Extends service life of current liner

Rainbow Tunnel Concrete Liner Rehabilitation

Scope of Work

- Contractor
 - Complete replacement of concrete liner at ten locations
 - Grout curtain injection
 - Temporary ventilation
 - Surface preparation at tunnel access
- Metropolitan
 - Shutdown support & continuing inspections
 - Grading & preparation of staging area
 - Submittal review, construction inspection, & project management

Bid Results

Specifications No. 2038

Bids Received	October 4, 2022
No. of Bidders	2
Lowest Responsible Bidder	Howard Ridley Company, Inc.
Low Bid	\$1,228,607.10
Other Bid	\$799,490*
Engineer's Estimate	\$1,340,000
SBE Participation**	100%

*Bid deemed non-responsive

**SBE (Small Business Enterprise) participation level set at 25%

Allocation of Funds

Rainbow Tunnel Concrete Liner Rehabilitation

Metropolitan Labor

Owners Costs (Proj. Mgmt., Contract Admin., Envir. Support)	\$ 125,000
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Construction Inspection & Support	202,000
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Force Construction	320,000
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Submittals Review, Tech. Support, Record Dwgs.	155,000
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Materials & Incidentals	15,000
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Contracts

Howard Ridley Company, Inc.	1,228,607.10
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Remaining Budget	254,392.90
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Total	\$ 2,300,000
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Project Schedule



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.
- Option #2
 - Do not proceed with the project at this time.

Staff Recommendation

- Option #1

