



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

4/9/2024 Board Meeting

7-2

Subject

Authorize an agreement with HDR Engineering Inc. for a not-to-exceed amount of \$3 million for final design to rehabilitate a portion of the Sepulveda Feeder; and adopt the CEQA determination that the Sepulveda Feeder rehabilitation project was previously addressed in the certified 2017 Final Programmatic Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program

Executive Summary

Metropolitan's Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation Program was initiated to implement a comprehensive long-term plan for the rehabilitation of Metropolitan's at-risk PCCP lines. The Sepulveda Feeder is one of five priority lines slated for rehabilitation under the program. Design activities are currently underway to rehabilitate PCCP portions of the feeder's Southern Section, which extends south of the Venice Pressure Control Structure (PCS). The feeder's Northern Section, which extends north of the Venice PCS to the Jensen plant, was originally planned to be rehabilitated under this program in the early- to mid-2030s, after the South Reach is completely relined. However, the completion of a portion of the Northern Section and the addition of a sectionalizing valve will enable continued water deliveries to the west service area from either the Jensen plant (SWP supplies) or the Greg Avenue Pump Station (CRA or SWP East Branch supplies) while the bulk of the Northern Section is being rehabilitated in multiple shutdowns. Proceeding with the design of this pipeline reach rehabilitation will provide Metropolitan the flexibility to reline other portions of the Sepulveda Feeder when needed.

This action authorizes a new agreement with HDR Engineering Inc. to provide final design services for the initial pipeline reach rehabilitation contract on the Northern Section of the Sepulveda Feeder. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the List of Subconsultants, and **Attachment 3** for the Location Map.

Proposed Action(s)/Recommendation(s) and Options

Staff Recommendation: Option #1

Option #1

Adopt the CEQA determination that final design of the Sepulveda Feeder rehabilitation project is within the scope of the certified 2017 Programmatic Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program and authorize a new agreement with HDR Engineering Inc. for a not-to-exceed amount of \$3 million for final design to rehabilitate PCCP portions of the Sepulveda Feeder.

Fiscal Impact: Expenditure of \$4.6 million in capital funds. Approximately \$50,000 in capital funds will be incurred in the current biennium and have been previously authorized. The remaining capital expenditures will be funded from the next Capital Investment Plan (CIP) budget following board approval of the budget.

Business Analysis: This option will advance Metropolitan's long-term plan to rehabilitate PCCP portions of the Sepulveda Feeder. This option will also ensure that completion of Stage 2 of the Sepulveda Feeder Pump Stations project would not be delayed by the needed rehabilitation of the Sepulveda Feeder.

Option #2

Do not proceed with this project at this time.

Fiscal Impact: None

Business Analysis: This option would forego an opportunity to enhance reliability and extend the service life of PCCP portions of the Sepulveda Feeder, potentially increasing the risk of pipeline failures due to PCCP deterioration. This option could also result in delays to the operation of Stage 2 of the Sepulveda Feeder Pump Stations project.

Alternatives Considered

Alternatives considered for completing design activities for the Sepulveda Feeder PCCP Rehabilitation included using in-house Metropolitan staff to conduct this work. The PCCP Rehabilitation Program's strategy for utilizing consultants and in-house Metropolitan staff has been: (1) to assess current work assignments for in-house staff to determine the potential availability of staff to conduct this work; and (2) for long-term rehabilitation projects, when resource needs exceed available in-house staffing or require specialized technical expertise, typically staff uses project-specific professional services agreements in order to provide a concentrated engineering effort over an extended duration.

This strategy relies on the assumption that in-house engineering staff will handle the baseload of work on capital projects, while professional services agreements are selectively utilized to handle projects above this baseload or where specialized needs are required. This strategy allows Metropolitan's staff to be strategically utilized on projects to best maintain key engineering competencies and to address projects with special needs or issues. After assessing the current workload for in-house staff and the relative priority of this project, staff recommends the use of a professional services agreement for the subject project. This approach will allow for the completion of not only this project, but also other budgeted capital projects within their current schedules and ensure that the work is conducted in the most efficient manner possible.

Applicable Policy

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

Related Board Action(s)/Future Action(s)

By Minute Item 50699, dated January 10, 2017, the Board certified the Final PEIR for the PCCP Rehabilitation Program and approved the program for the Second Lower Feeder, Sepulveda Feeder, Calabasas Feeder, Rialto Pipeline, and AMP for the purposes of CEQA.

By Minute Item 52790, dated April 12, 2022, the Board appropriated a total of \$600 million for projects identified in the Capital Investment Plan for Fiscal Years 2022/23 and 2023/24.

By Minute Item 52936, dated August 15, 2022, the Board authorized engineering and environmental services for Sepulveda Feeder PCCP Rehabilitation.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The environmental effects from the design of the proposed project were evaluated in the Prestressed Concrete Cylinder Pipe Rehabilitation Program Final Programmatic Environmental Impact Report (SCH No. 2014121055), which was certified by the Board on January 10, 2017. The Board also approved the Findings of Fact (Findings), the Statement of Overriding Considerations, the Mitigation Monitoring and Reporting Program, and the Program itself. The current actions authorize an increase to the maximum amount payable for an existing agreement and enter into new agreements related to the existing projects, and do not result in any changes to the approved program itself. 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

Details and Background

Background

In September 2011, Metropolitan's Board authorized the initiation of the PCCP Rehabilitation Program to develop and implement a comprehensive, long-term plan for the replacement or relining of Metropolitan's at-risk PCCP lines. Metropolitan's strategy for maintaining PCCP reliability consists of four coordinated elements: (1) continued assessment and monitoring of PCCP lines; (2) monitoring of stray currents and installation of cathodic protection; (3) near-term repair of distressed PCCP segments; and (4) long-term rehabilitation.

Assessments of Metropolitan's 27 PCCP pipelines led to five being identified as priority lines to be addressed under the PCCP Rehabilitation Program. These priority lines include: (1) the Allen-McColloch Pipeline; (2) the Calabasas Feeder; (3) the Rialto Pipeline; (4) the Second Lower Feeder; and (5) the Sepulveda Feeder. A proactive, long-term program to rehabilitate these five lines and monitor and assess the remaining 22 PCCP pipelines has been incorporated into Metropolitan's Capital Investment Plan.

In January 2017, Metropolitan's Board certified the Final Programmatic Environmental Impact Report (Final PEIR) for the PCCP Rehabilitation Program in compliance with the California Environmental Quality Act (CEQA). The inclusion of all five lines within a single programmatic CEQA document provides flexibility to adjust construction sequencing by enabling the rehabilitation of specific reaches of PCCP to move forward based on the most up-to-date condition assessments, operational needs, and project priorities.

In January 2018, Metropolitan's Board authorized preliminary design for the Sepulveda Feeder PCCP Rehabilitation project. The 42-mile-long Sepulveda Feeder conveys treated water from the Jensen plant in Granada Hills southward through the San Fernando Valley, across the Santa Monica Mountains, and south to an intertie with the Second Lower Feeder in the City of Torrance, into the portion of Metropolitan's system referred to as the Central Pool. Approximately 36 miles of the Sepulveda Feeder consist of PCCP. A general preliminary design of the entire Sepulveda Feeder was completed in 2020, and a detailed preliminary design for the more at-risk Southern Section (Sepulveda Feeder south of Venice PCS) was completed in 2021. Final designs on two reaches within the Southern Section are currently underway. The first construction contract to reline a portion of the Southern Section is anticipated to be presented to the Board for award in late 2024 or early 2025.

In February 2022, Metropolitan's Board authorized preliminary investigations for the West Area Water Supply Reliability Improvements. This project evaluates the potential to develop two new pump stations on the Sepulveda Feeder (Sepulveda Feeder Pump Stations) at the Venice PCS and the Sepulveda Canyon PCS. These pump stations would enable delivery of Colorado River Aqueduct (CRA) and Diamond Valley Lake water from the Central Pool northward along the Sepulveda Feeder to the State Water Project-dependent west service area. A hydraulic analysis revealed that the distressed PCCP portions of the Sepulveda Feeder will accommodate the initial 30 cubic feet per second (cfs) output of the Sepulveda Feeder Pump Stations.

In August 2022, Metropolitan's Board authorized preliminary design of the northern 20-mile reach of the Sepulveda Feeder, including both steel and PCCP portions of the pipe and appurtenances, to determine what rehabilitations or enhancements would be needed to rehabilitate the Northern Section of the Sepulveda Feeder. This work identified the need for approximately five construction contracts to rehabilitate PCCP portions of the Northern Section, approximately 19.5 miles in total. The most efficient and cost-effective approach to this rehabilitation includes installation of a new sectionalizing valve near the northern end of the Northern Section, and then begin relining from north to south during multiple shutdowns. The proposed sectionalizing valve will enable continued water deliveries to the west service area from either the Jensen plant (SWP supplies) or the Greg Avenue Pump Station (CRA or SWP East Branch supplies) while the bulk of the Northern Section is being rehabilitated in multiple shutdowns. Commencing work to reline the Northern Section of the feeder at this time also facilitates the future construction of the proposed Sepulveda Pump Stations Stage 2 project, which will require the PCCP portion of the feeder to be relined before the Stage 2 project becomes operational.

Metropolitan plans to use coiled steel cans to rehabilitate the PCCP portion of the Sepulveda Feeder. During preliminary design, the wall thicknesses of the steel cans were determined based on the design operating pressure for the current gravity-flow system and industry-standard liner handling criteria. Recently, a hydraulic analysis for the proposed Sepulveda Pump Stations Stage 2 with a flow of 160 cfs has been completed. Based on the expected operating and transient pressures in this system, the thickness needed to rehabilitate the pipeline for gravity flow is also adequate for the pumped flow conditions. As steel handles pressure transients better than distressed PCCP, steel lining is required to operate a pumped system at 160 cfs, but the steel plate does not need to be thicker than the thickness required for current operation.

At this time, staff recommends proceeding with final design activities for the first of the Northern Section construction packages, referred to as Reach 9 of the Sepulveda Feeder, so that the initial construction contract may proceed as early as the 2026/2027 shutdown season. Final design for the second and subsequent construction packages in the North Reach will be the subject of future board actions. 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 PCCP Rehabilitation Program as part of the CIP for fiscal years 2022/23 and 2023/24.

Sepulveda Feeder PCCP Rehabilitation (Reach 9) – Final Design

The initial North Reach rehabilitation project extends 3.8 miles along Havenhurst Avenue from about State Route 118 to just north of the Van Nuys Airport in the city of Los Angeles, and includes installation of a 54-inch diameter sectionalizing valve and relining approximately 19,600 feet of PCCP with a new steel liner. The new steel liner sections will accommodate full internal and external pressures, including the maximum pressure conditions from normal gravity flows as well as pumped flow conditions that will result from the operation of Stage 2 of the Sepulveda Feeder Pump Stations project. The work also includes enlarging two existing maintenance holes and constructing five additional ones for safer staff egress, and relocation of four air release and vacuum valves from below grade to above grade to reduce the risk of cross-contamination of the pipeline's potable water supply.

HDR Engineering Inc. (HDR) will perform final design as described in the section below, and Helix Environment Planning Inc. (Helix) will perform environmental studies under an existing board-authorized agreement. The planned activities by Metropolitan staff include: (1) review of the consultant designs; (2) topographic survey and mapping; (3) development of valve procurement contract documents; (4) right-of-way activities; (5) public outreach; and (6) shutdown planning, permitting, and project management.

A total of \$4.6 million is required for this work. Allocated funds include \$3,000,000 for technical activities by HDR; \$150,000 for environmental studies by Helix; \$90,000 for topographic survey and mapping; \$554,000 for development of valve procurement contract documents and technical oversight by Metropolitan staff; \$704,000 for shutdown planning, permitting, right-of-way activities, value engineering, and project management; and \$102,000 for remaining budget. Value engineering will be performed by a specialty firm under a contract planned to be executed under the General Manager's Administrative Code authority to award contracts of \$250,000 or less.

As described above, the design will be performed by specialized consultants. Engineering Services' performance metric target range for final design with construction greater than \$3 million is 9 to 12 percent. For this project, the performance metric goal for final design is 3.0 percent of the total construction costs. The design cost for this project, which includes the consultant agreement (\$3,000,000) and Metropolitan design activities (\$644,000), is \$3.644 million. The total cost of construction for the initial North Reach of the Sepulveda Feeder and installation of the recommended sectionalizing valve is estimated to range from \$120 million to \$150 million. **Attachment 1** provides the allocation of the required funds. The total estimated cost to complete design of this reach of the Sepulveda Feeder is \$4.6 million.

Final Design Services (HDR Engineering Inc.) – New Agreement

HDR is recommended to provide engineering services for final design of the northern portion of the Sepulveda Feeder. HDR was selected through a competitive process via Request for Proposals No. 1168 based on the firm's experience with PCCP and with large-diameter pipelines, and specifically for their expertise in traffic control in

dense urban settings and experience in permitting with multiple local agencies. The planned activities for the design of the Sepulveda Feeder include: (1) preparation of final traffic control plans; (2) coordination of permits with local agencies; (3) preparation of construction drawings and technical specifications for one bid package; and (4) development of construction cost estimates. The estimated cost for these services is \$3,000,000.

This action authorizes a new agreement with HDR Engineering Inc. for a not-to-exceed amount of \$3 million to provide engineering design services to rehabilitate PCCP portions of the Sepulveda Feeder. For this agreement, Metropolitan has established an SBE participation level of 25 percent. HDR has agreed to meet this level of participation. See **Attachment 2** for a listing of subconsultants.

Project Milestone

July 2025 – Completion of design for rehabilitation of Sepulveda Feeder Reach 9

 _____ John V. Bednarski Manager/Chief Engineer Engineering Services	3/22/2024 Date
 _____ Adel Hagekhalil General Manager	3/26/2024 Date

Attachment 1 – Allocation of Funds

Attachment 2 – List of Subconsultants

Attachment 3 – Location Map

Ref# es12694927

Allocation of Funds for Sepulveda Feeder PCCP Rehabilitation

	Current Board Action (Apr. 2024)
Labor	
Studies & Investigations	\$ -
Final Design	644,000
Owner Costs (Program mgmt., envir. monitoring)	649,000
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	55,000
Professional/Technical Services	
HDR Engineering Inc.	3,000,000
Helix Environmental Planning Inc.	150,000
Right-of-Way	-
Equipment Use	-
Contracts	-
Remaining Budget	102,000
Total	\$ 4,600,000

The total amount expended to date for Sepulveda Feeder PCCP Rehabilitation is approximately \$14.62 million. The total estimated cost to rehabilitate the initial north reach of the Sepulveda Feeder North, including the amount appropriated to date, funds allocated for the work described in this action, and future construction costs, is anticipated to range from \$160 million to \$180 million.

The Metropolitan Water District of Southern California
Subconsultants for Agreement with HDR Engineering Inc.
Sepulveda Feeder PCCP Rehabilitation

Subconsultant and Location	Service Category; Specialty
Aurora Industrial Hygiene Signal Hill, CA	Engineering Support Services (Certified Asbestos Consultant; asbestos testing)
Brierley Associates Corp. Denver, CO	Engineering (Tunnelling)
C Below Inc. Chino, CA	Engineering (Subsurface exploration)
CDM Smith Inc. Boston, MA	Engineering (Pipeline design and estimation services)
Cotton, Shires & Associates Inc. Thousand Oaks, CA	Engineering (Geotechnical and Laboratory Services)
DRP Engineering Inc. Alhambra, CA	Engineering Support Services (Computer aided drafting and design services)
KOA Corporation Monterey Park, CA	Engineering (Traffic control engineering)
Scott Foster Engineering Inc. La Canada Flintridge, CA	Engineering (Hydraulic modeling)
SC Solutions Sunnyvale, CA	Engineering (Structural modeling)

