The Metropolitan Water District of Southern California

Agenda

The mission of the Metropolitan Water District of Southern California is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

EOT Committee
D. Erdman, Chair
M. Camacho, Vice Chair
D. Alvarez
G. Bryant
B. Dennstedt
S. Faessel
L. Fong-Sakai
R. Lefevre
J. McMillan
C. Miller
J. Morris
M. Petersen
G. Peterson
K. Seckel
T. Smith

Engineering, Operations, and Technology Committee - Final - Revised 1

Meeting with Board of Directors *

May 13, 2024

9:00 a.m.

Monday, May 13, 2024 Meeting Schedule

09:00 a.m. EOT
11:00 a.m. LEG
12:30 p.m. Break
01:00 p.m. Legal
02:30 p.m. OWS

Agendas, live streaming, meeting schedules, and other board materials are available here: https://mwdh2o.legistar.com/Calendar.aspx. If you have technical difficulties with the live streaming page, a listen-only phone line is available at 1-877-853-5257; enter meeting ID: 862 4397 5848. Members of the public may present their comments to the Board on matters within their jurisdiction as listed on the agenda via in-person or teleconference. To participate via teleconference 1-833-548-0276 and enter meeting ID: 815 2066 4276 or click https://us06web.zoom.us/j/81520664276pwd=a1RTQWh6V3h3ckFhNmdsUWpKR1c2Zz09

MWD Headquarters Building • 700 N. Alameda Street • Los Angeles, CA 90012
Teleconference Locations:
525 Via La Selva • Redondo Beach, CA 90277
Cedars Sinai Medical Center • 8700 Beverly Blvd • Los Angeles, CA 90048
Conference Room • 1545 Victory Blvd. 2nd Floor • Glendale, CA 91201

* The Metropolitan Water District's meeting of this Committee is noticed as a joint committee meeting with the Board of Directors for the purpose of compliance with the Brown Act. Members of the Board who are not assigned to this Committee may participate as members of the Board, whether or not a quorum of the Board is present. In order to preserve the function of the committee as advisory to the Board, members of the Board who are not assigned to this Committee will not vote on matters before this Committee.

1. Opportunity for members of the public to address the committee on matters within the committee's jurisdiction (As required by Gov. Code Section 54954.3(a))

**** CONSENT CALENDAR ITEMS -- ACTION ****

2. CONSENT CALENDAR OTHER ITEMS - ACTION

A. Approval of the Minutes of the Engineering, Operations, and Technology Committee for April 8, 2024 (Copies have been submitted to each Director, any additions, corrections, or omissions) **21-3306**

Attachments: 05132024 EOT 2A (04082024) Minutes

3. CONSENT CALENDAR ITEMS - ACTION

7-1 Authorize an increase of $2.35 million to an agreement with HDR Engineering Inc. for a new not-to-exceed total amount of $5.15 million for final design services for erosion control improvements along the Colorado River Aqueduct; the General Manager has determined the proposed action is exempt or otherwise not subject to CEQA **21-3331**

Attachments: 05142024 EOT 7-1 B-L
05132024 EOT 7-1 Presentation

7-2 Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include upgrades to the flocculation system at the Joseph Jensen Water Treatment Plant; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **21-3332**

Attachments: 05142024 EOT 7-2 B-L
05132024 EOT 7-2 Presentation

**** END OF CONSENT CALENDAR ITEMS ****

4. OTHER BOARD ITEMS - ACTION

8-1 Award a $24,912,000 construction contract to J.F. Shea Construction Inc. for urgent rehabilitation of prestressed concrete cylinder pipe portions of the Allen-McColloch Pipeline; and authorize an increase of $250,000 to an agreement with Helix Environmental Planning Inc. for a new not-to-exceed amount of $2,500,000; authorize an amendment to Metropolitan's Project Labor Agreement to add the subject project to the list of covered projects; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. [REVISED SUBJECT 5/1/2024] **21-3333**

Attachments: 05142024 EOT 8-1 B-L (Revised)
05132024 EOT 8-1 Presentation

5. BOARD INFORMATION ITEMS

NONE

6. COMMITTEE ITEMS

a. Development of Building Information Modeling project design technologies at Metropolitan **21-3334**

Attachments: 05132024 EOT 6a Presentation

b. State Water Project Resilience Update **21-3335**

Attachments: 05132024 EOT 6b Presentation

c. Quarterly Cybersecurity Update [Conference with Metropolitan Director of Information Technology Services, Jacob Margolis, or designated agents on threats to public services or facilities; to be heard in closed session pursuant to Gov. Code Section 54957(a)] **21-3336**

Attachments: 05132024 EOT 6c Open Session Presentation

7. MANAGEMENT ANNOUNCEMENTS AND HIGHLIGHTS

a. Engineering Services activities
Information Technology activities
Water System Operations activities **21-3309**

Attachments: 05132024 EOT 7a ESG Monthly Activities Report
05132024 EOT 7a IT Monthly Activities Report
05132024 EOT 7a WSO Monthly Activities Report
05132024 EOT 7a Presentation

8. SUBCOMMITTEE REPORTS AND DISCUSSION

a. Discuss and provide direction to Subcommittee on Pure Water Southern California and Regional Conveyance **21-3310**

9. FOLLOW-UP ITEMS

NONE

10. FUTURE AGENDA ITEMS

11. ADJOURNMENT

NOTE: This committee reviews items and makes a recommendation for final action to the full Board of Directors. Final action will be taken by the Board of Directors. Committee agendas may be obtained on Metropolitan's Web site https://mwdh2o.legistar.com/Calendar.aspx. This committee will not take any final action that is binding on the Board, even when a quorum of the Board is present.

Writings relating to open session agenda items distributed to Directors less than 72 hours prior to a regular meeting are available for public inspection at Metropolitan's Headquarters Building and on Metropolitan's Web site https://mwdh2o.legistar.com/Calendar.aspx.

Requests for a disability-related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting should be made to the Board Executive Secretary in advance of the meeting to ensure availability of the requested service or accommodation.

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

MINUTES

ENGINEERING, OPERATIONS & TECHNOLOGY COMMITTEE

April 8, 2024

Chair Erdman called the meeting to order at 9:02 a.m.

Members present: Directors Alvarez, Bryant, Camacho (entered after roll call), Dennstedt, Erdman, Gualtieri, Lefevre (teleconference posted location), McMillan (entered after roll call), Miller, Morris, Petersen, Peterson, Seckel, and Smith.

Members absent: Directors Faessel and Fong-Sakai

Other board members present: Directors Abdo, Ackerman, Armstrong (AB 2449 "just cause"), Dick, Gray (teleconference posted location) and Ortega.

Director Armstrong indicated he is participating under AB 2449 "just cause" regarding illness. Director Armstrong appeared by audio and on camera.

Committee staff present: Bednarski, Carter, Chapman, Eckstrom, Hagekhalil, Kuo-Britton, Parsons, S. Perez, Upadhyay, and Wheeler

1. OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE COMMITTEE ON MATTERS WITHIN THE COMMITTEE'S JURISDICTION (As required by Gov. Code Section 54954.3(a))

None

Director Camacho entered the meeting.

CONSENT CALENDAR ITEMS – ACTION

2. CONSENT CALENDAR OTHER ITEMS – ACTION

A. Approval of the Minutes of the Engineering, Operations, and Technology Committee for March 11, 2024 (Copies have been submitted to each Director, any additions, corrections, or omissions)

Director McMillan entered the meeting.

3. CONSENT CALENDAR OTHER ITEMS – ACTION

Directors Erdman and Miller recused themselves on Item 7-1 as they both own stock in the vendor Agilent Technologies. Director Erdman and Miller left the meeting during 7-1 discussion.

7-1 Subject: Certify the Final Program Environmental Impact Report for the F.E. Weymouth Water Treatment Plant and La Verne Site Improvements Program and take related CEQA actions; and award three procurement contracts to furnish water quality equipment for Metropolitan's Water Quality Laboratory: (1) a $1,512,882 contract to Agilent Technologies to furnish two gas chromatograph-mass spectrometer units and two gas chromatograph-mass spectrometry/solid phase microextraction units; (2) a $726,432 contract to SCIEX to furnish one liquid chromatograph-mass spectrometer unit; and (3) a $665,441 contract to Thermo Fisher Scientific to furnish four ion chromatograph

Presented by: Steve Burkhead, Team Manager-Program Management, Engineering Services Group
Paul Rochelle, Section Manager-Water Quality, Treatment Water Quality Group

Motion:

a. Certify that the Final PEIR for upcoming projects at the Weymouth plant has been completed in compliance with CEQA and the State CEQA Guidelines; certify that the Board has reviewed and considered the information presented in the Final PEIR; certify that the Final PEIR reflects Metropolitan's independent judgment and analysis; and adopt the Findings, the Statement of Overriding Considerations, and the Mitigation Monitoring and Reporting Program.

b. Award three procurement contracts to furnish water quality compliance laboratory equipment for Metropolitan's Water Quality Laboratory, as follows:
(1) A $1,512,882 contract to Agilent Technologies to furnish two GC-MS units and two GC-MS/solid phase microextraction units.
(2) A $726,432 contract to SCIEX to furnish one LC-MS unit.
(3) A $665,441 contract to Thermo Fisher Scientific to furnish four ion chromatography units.

The following Directors provided comments or asked questions:

1. Dick

Staff responded to the Directors questions and comments.

Directors Erdman and Miller entered the 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

Presented by: Cathy Chau, Pr. Engineer, Engineering Services Group

Motion: 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.

The following Directors provided comments or asked questions:

1. Miller
2. Bryant
3. Smith
4. Erdman

Staff responded to the Directors questions and comments.

7-3 Subject: Authorize an increase of $1,100,000 to an agreement with HDR Engineering Inc. for a new not-to-exceed total amount of $1,735,000 for final design services to replace the 2.4 kV power line that serves the Black Metal Mountain Communications Site; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Presented by: Santiago Ocampo, Engineer, Engineering Services Group

Motion: Authorize an increase to an existing agreement with HDR Engineering Inc. for a new not-to-exceed amount of $1,735,000 for design services for the Black Metal Mountain 2.4 kV Electrical Power Upgrades project.

The following Directors provided comments or asked questions:

1. Smith
2. Erdman
3. Dennstedt

Staff responded to the Directors questions and comments.

7-4 Subject: Award a $295,562 contract to The Kepler Group Inc. to implement security system improvements at the Gene Pumping Plant; the General Manager has determined that this proposed action is exempt or otherwise not subject to CEQA

Presented by: Cathy Lou, Engineer, Engineering Services Group

Motion: Award a $295,562 contract to The Kepler Group Inc. to implement security improvements at the Gene Pumping Plant.

Director Lefevre left the meeting.

Vice Chair Camacho conducted consent roll call vote.

After completion of the presentations, Director Morris made a motion seconded by Director Bryant to approve item 2A, 7-1, 7-2, 7-3, and 7-4.

The vote was:

Ayes:	Directors Alvarez, Bryant, Camacho, Dennstedt, Erdman, Gualtieri, McMillan, Miller, Morris, Petersen, Peterson, Seckel, and Smith.
Noes:	None
Abstentions:	None
Not Voting:	Directors Erdman and Miller on item 7-1
Absent:	Directors Faessel, Lefevre, and Fong-Sakai

The motion for Items 2A, 7-2, 7-3, and 7-4 passed by a vote of 13 ayes, 0 noes, 0 abstentions, and 3 absent.

The motion for Item 7-1 passed by vote of 11 ayes, 0 noes, 0 abstentions, 2 not voting and 3 absent.

**** END OF CONSENT CALENDAR ITEMS ****

4. OTHER BOARD ITEMS – ACTION

8-1 Subject: Appropriate $636.48 million for projects identified in the Capital Investment Plan for Fiscal Years 2024/25 and 2025/26 and authorize the General Manager to initiate or proceed with work on capital projects identified in the Capital Investment Plan for Fiscal Years 2024/25 and 2025/26; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Presented by: Tom Campbell, Unit Manager, Engineering Services Group
James Hong, Team Manager-Capital Investment Plan, Engineering Services Group

Motion: a. Appropriate $636.48 million for projects identified in the CIP Appendix for FYs 2024/25 and 2025/26; and

b. Authorize the General Manager to initiate or continue work on the capital projects described in the CIP Appendix for FYs 2024/25 and 2025/26, subject to any limits on the General Manager's authority and CEQA requirements.

The following Directors provided comments or asked questions:

1. Miller
2. Erdman
3. Dennstedt
4. Alvarez
5. Peterson
6. Seckel
7. Gualtieri

Staff responded to the Directors questions and comments.

Director Petersen left the meeting.
Director Lefevre entered the meeting.

After completion of the presentation, Director Morris made a motion seconded by Director Peterson to approve item 8-1.

The vote was:

Ayes:	Directors Alvarez, Bryant, Camacho, Dennstedt, Erdman, Gualtieri, Lefevre, McMillan, Miller, Morris, Peterson, Seckel, and Smith.
Noes:	None
Abstentions:	None
Absent:	Directors Faessel, Fong-Sakai and Petersen

The motion for Item 8-1 passed by a vote of 13 ayes, 0 noes, 0 abstentions, and 3 absent.

5. BOARD INFORMATION ITEMS

None

6. COMMITTEE ITEMS

a. Subject: Update on Rehabilitation of the Colorado River Aqueduct

Presented by: Silvia Perez, Assistant Group Manager, Conveyance & Distribution Group
Ish Singh, Team Manager-Program Management, Engineering Services Group

Ms. Perez reported on the following:

- Major Components of the CRA
- CRA Conveyance System is 242 total miles
- CRA is the primary source during limited SWP supplies
- CRA Shutdowns and Maintenance Activities
- Tunnel, Canal & Siphon Cleaning
- High Voltage Equipment Testing
- Power Line Maintenance and Repairs
- Maintenance of Diversion Dikes
- CRA Quagga Mussel Control

Mr. Singh reported on the following:

- CRA Reliability Program initiated in 2002
- Maintain CRA System & identify long-term rehabilitation needs
- Completed projects – New Radial Gate, New Steel Power Pole, Coupling Assembly and Iron Mountain Reservoir & Canal Liner Replacement
- Projects in Construction – New Slab over CRA and New Overhead Crane – expected completion in 2024
- Projects in Design – Water Treatment System Replacement – expected to be completed in 2025 and the Flow Monitoring Stations – expected completion 2024 –
- Other Design projects include Discharge Structure, Wastewater Line, Generator Building, Electrical Building and CRA Transformers
- Total Planned Expenditures FY2024/25 – 2034/35 $560 million

The following Directors provided comments or asked questions.

1. Smith
2. Erdman

Staff responded to the Directors questions and comments.

b. Subject: Update on Desert Housing Community Planning

Presented by: Gonzalo Barriga, Chief Safety Security Officer, Office of the General Manager
Scott Jordan, Consultant from Zivatos

Mr. Barriga reported on the following:

- Housing is provided to district staff due to remoteness and timely response to emergencies.
- 109 total houses in CRA system (69 refurbished)
- Temporary lodging & kitchen facilities provided for short term assignments
- Preliminary design for replacement of single-family residence plans completed September 2022
- Community planner hired summer of 2023
- Create a financially resilient & socially sustainable 75-year desert village strategy and safe and healthy villages
- Maintain housing for all current employees

Mr. Jordan reported on the following:

- Baseline Condition: Hinds 15 single family homes, Eagle 20 single family homes, Iron Mtn. 33 single family homes and Gene 37 single family homes – four Villages with single family homes & various amenities
- Community Input – 54 total participants (82% participation level)
- Maintain housing for current employees
- Consolidating villages and testing new housing models
- Single family homes at all 4 sites $212M - Two Villages $113M & Three Villages $142M
- Draft Report in April 2024
- Continue discussions with Executive Management and Labor Unions
- Final Report in May 2024
- Present final findings to the Board Summer of 2024

The following Directors provided comments or asked questions.

1. Smith
2. Dennstedt
3. Seckel
4. Camacho
5. Armstrong
6. Dick

Staff responded to the Directors questions and comments.

7. MANAGEMENT ANNOUNCEMENTS AND HIGHLIGHTS

a. Subject: Engineering Services
Information Technology
Water System Operations Activities
Presented by: Deven Upadhyay, Executive Officer/Assistant General Manager-Water Resources
Shane Chapman, Assistant General Manager Operations

Mr. Upadhyay reported on the following:

- Thanked all the employees involved in the CRA shutdown.

Mr. Chapman reported on the following:

- There is a potential leak on the Santa Monica Feeder in Beverly Hills that staff are currently working on. Traffic on Santa Monica boulevard will be impacted.

8. SUBCOMMITTEE REPORTS AND DISCUSSION

a. Report from Subcommittee on Pure Water Southern California and Regional Conveyance

Nothing to report.

b. Discuss and provide direction to Subcommittee on Pure Water Southern California and Regional Conveyance

Nothing to report.

9. FOLLOW-UP ITEMS

NONE

10. FUTURE AGENDA ITEMS

NONE

11. ADJOURNMENT

The next meeting will be on May 13, 2024.

Meeting adjourned at 11:34 a.m.

Dennis Erdman
Chair

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

5/14/2024 Board Meeting

7-1

Subject

Authorize an increase of $2.35 million to an agreement with HDR Engineering Inc. for a new not-to-exceed total amount of $5.15 million for final design services for erosion control improvements along the Colorado River Aqueduct; the General Manager has determined the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

Over the 83-year service life of the Colorado River Aqueduct (CRA), the original stormwater management features have deteriorated, and now strong storms are more frequently causing severe erosion over the aqueduct's underground cut-and-cover conduits. Once exposed, the unreinforced conduits are vulnerable to structural damage from rock and debris flows and potential undermining of the conduit foundation. Specific sites along the aqueduct have been identified where recurring erosion damage occurs during storm events. This project constructs erosion control features at 23 conduit locations along the CRA, which are vulnerable to damage during storm events.

This action authorizes an increase to an existing agreement with HDR Engineering Inc. (HDR) for final design services for erosion control improvements along the CRA system. This project will maintain the overall reliability of water delivery through the CRA to Metropolitan's service area. 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

Authorize an increase of $2.35 million to an agreement with HDR Engineering Inc. for a new not-to-exceed amount of $5.15 million for final design of erosion control structures along the CRA system.

Fiscal Impact: Expenditure of $4.3 million in capital funds. Approximately $20,000 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.
Business Analysis: This option will enhance the reliability of the CRA and reduce the risk of damage during storm events and unplanned outages.

Option #2

Do not proceed with this project at this time.
Fiscal Impact: None
Business Analysis: This option would forego an opportunity to reduce the risk of damage to the CRA conveyance system.

Alternatives Considered

Alternatives considered for completing final design activities for the CRA Conduit Erosion Control Improvements project included assessing the availability and capability of in-house Metropolitan staff to conduct this work. Metropolitan's staffing 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.

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 to complete the subject project. This approach will allow for the completion of not only this program, but also other budgeted capital projects within their current schedules.

Applicable 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

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

By Minute Item 52733, dated March 8, 2022, the Board authorized an increase to an agreement with HDR Engineering Inc. for preliminary design of CRA Erosion Control Improvements.

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 is exempt from CEQA because it involves only feasibility or planning studies for possible future actions which the Board has not approved, adopted, or funded. (Public Resources Code Section 21080.21; State CEQA Guidelines Section 15262.) In addition, the proposed action is exempt from CEQA because it consists of basic data collection, research, experimental management, and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource. These may be strictly for information-gathering purposes or as part of a study leading to an action that a public agency has not yet approved, adopted, or funded. (State CEQA Guidelines Section 15306.)

CEQA determination for Option #2:

None required

Details and Background

Background

The CRA is a 242-mile-long conveyance system that transports water from the Colorado River to Lake Mathews. It consists of five pumping plants, 124 miles of tunnels, siphons, and reservoirs, 64 miles of canals, and 55 miles of cut-and-cover conduits. The aqueduct was constructed in the late 1930s and was placed into service in 1941.

Along the 55 miles of cut-and-cover conduits, selected locations allow stormwater flows to cross the aqueduct. Originally, a series of berms and diversion devices channeled storm flows safely over the aqueduct at these crossings. The diversion and flood control devices have deteriorated over time, and now heavy storm events often cause severe erosion, exposing the aqueduct conduits. Once exposed, the unreinforced conduits are vulnerable to structural damage from rock and debris flows and potential undermining of the conduit foundation.

In October 2018, major storms caused extensive erosion over the cut-and-cover conduits at 36 sites along a nine-mile stretch of the CRA west of the Hinds Pumping Plant. The storms also damaged patrol roads, earthen berms, and drainage channels. Metropolitan forces made short-term repairs to patrol roads and restored ground cover over the cut-and-cover conduit. Due to the extent of the damage, Metropolitan's Board awarded a construction contract in April 2019 to re-establish the original berms and drains that historically served to channel storm flows across the CRA conduit. In light of the 2018 storm event, Metropolitan's Board authorized preliminary design for erosion control structures along the CRA. Twenty-three areas along a 55-mile stretch of the aqueduct were identified with a history of recurring erosion damage during storm events. Preliminary design for

the erosion control improvements is complete, and staff recommends proceeding to final design. 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 CRA Reliability Program.

CRA Conduit Erosion Control Improvements – Final Design

Planned work includes constructing permanent erosion protection features such as riprap revetment blankets, grade control structures, concrete slabs, berm improvements, and sheet pile cutoff walls at 23 conduit locations that are vulnerable to erosion during storm events. The recommended improvements are designed to minimize the need for significant maintenance following future storm events and are configured to prevent potential inundation of facilities in the vicinity, including bridges, local roads, and utility lines.

Planned final design activities will include: (1) preparing drawings and specifications, which will include the design of permanent erosion protection features as mentioned above; (2) preparing the environmental documentation and seeking board adoption of the CEQA determination, as necessary; (3) obtaining environmental permits with jurisdictional agencies; (4) developing the engineer's cost estimate; (5) conducting a constructability review workshop; and (6) advertising and receiving competitive bids. Biological and habitat surveys of the 23 impacted areas will be conducted. Staff will evaluate the project's potential environmental impacts and prepare the appropriate environmental documentation.

A total of $4.3 million is required for this work. Allocated funds for professional services include $2.35 million for the final design activities by HDR as described below; $75,000 for a constructability review; $220,000 for geotechnical investigations; $50,000 for a topographic survey that will capture the latest site terrain since various storms have affected the region recently; and $240,000 for preparation of environmental documentation and providing support of permitting efforts with multiple jurisdictional agencies. Specialty firms will prepare the environmental documentation, conduct the constructability review, geotechnical investigations, and topographic surveys under contracts planned to be executed under the General Manager's Administrative Code authority to award contracts of $250,000 or less. Allocated funds for Metropolitan staff activities include $485,000 for technical oversight and review of the consultant's work; $116,000 for support and review of environmental documentation and permits coordination with various regulatory agencies; $577,000 for project management, bidding and advertising, and project controls; and $187,000 for remaining budget. **Attachment 1** provides the allocation of the required funds.

As described above, the final design will be performed by HDR and Metropolitan staff. Engineering Services' performance metric target range for final design with a construction cost of more than $3 million is 9 to 12 percent. For this project, the performance metric goal for final design is 7.1 percent of the total construction cost. The total estimated cost for design is $2.835 million, which includes $2.35 million for HDR and $485,000 for Metropolitan staff design and consultant review. The estimated cost of construction for the CRA Conduit Erosion Control Improvements project is anticipated to range from $40 million to $45 million.

Engineering Services (HDR Engineering Inc.) – Amendment of Existing Agreement

HDR Engineering Inc. (HDR) was selected for this project through a competitive process via Request for Proposals No. 1286. In March 2022, Metropolitan's Board authorized an agreement with HDR for preliminary design of the CRA Conduit Erosion Control Improvements. HDR has completed preliminary design and is recommended to provide engineering services for final design. The planned activities include: (1) development of final design drawings and specifications as detailed above; (2) technical assistance through bidding; (3) participation in a constructability review workshop; and (4) preparation of an engineer's cost estimate. HDR completed preliminary design for this project.

This action authorizes an increase of $2.35 million to the existing agreement with HDR for a new not-to-exceed amount of $5.15 million to provide engineering design services for the CRA Conduit Erosion Control Improvements. For this agreement, Metropolitan has established a Small Business Enterprise participation level of 25 percent. HDR has agreed to meet this level of participation. The planned subconsultants for this work are listed in **Attachment 2**.

Project Milestone

January 2026 - Completion of final design & advertisement for construction bids

4/18/2024

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

4/29/2024

Adel Hagekhalil *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Planned Subconsultants

Attachment 3 – Location Map

Ref# es12696398

Allocation of Funds for CRA Conduit Erosion Control Improvements

	Current Board Action (May 2024)
Labor	
Studies & Investigations	$ -
Final Design	485,000
Owner Costs (Program mgmt., envir. support)	691,000
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	2,000
Professional/Technical Services	
HDR Engineering, Inc	2,350,000
Environmental Consultant	240,000
Geotechnical Investigations	220,000
Topographic Survey	50,000
Constructability Review	75,000
Contracts	-
Remaining Budget	187,000
Total	**$ 4,300,000**

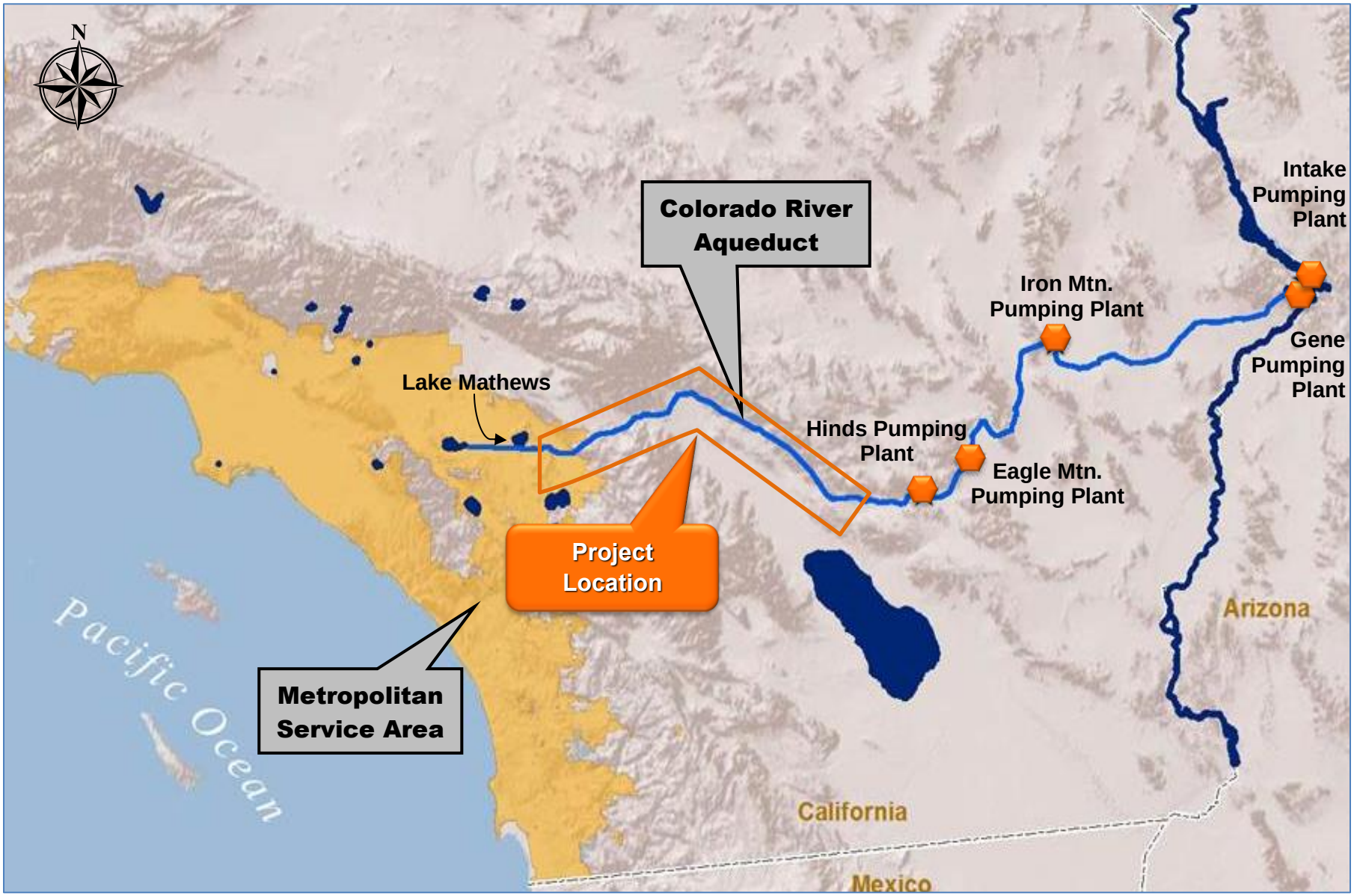
The total amount expended to date is approximately $3.2 million. The total estimated cost to complete the CRA Conduit Erosion Control Improvements, including the amount appropriated to date, funds allocated for the work described in this action, and future construction costs, is anticipated to range from $48 million to $60 million.

The Metropolitan Water District of Southern California

Subconsultants for Agreement with HDR Engineering Inc.

Subconsultant and Location	Service Category; Specialty
CWE Corp. Fullerton, California	Civil Engineering
WEST Consultants Inc. San Diego, California	Hydrology
DRP Engineering Inc. Alhambra, California	Environmental Engineering
C-Below Corona, California	Utility Potholing
Aurora Industrial Hygiene San Diego, California	Industrial Hygiene Consultant

Location Map



Engineering, Operations, & Technology Committee

Colorado River Aqueduct Erosion Control Improvements

Item 7-1

May 13, 2024

Item 7-1
CRA Erosion Control Improvements

Subject

Authorize an increase of $2.35 million to an agreement with HDR Engineering Inc. for a new not-to-exceed total amount of $5.15 million for final design services for erosion control improvements along the Colorado River Aqueduct (CRA)

Purpose

Enhance resiliency of the CRA conveyance system to storm events

Recommendation and Fiscal Impact

Authorize an increase to an existing agreement for final design services for erosion control improvements along the CRA

Fiscal impact of $4.3 M

Budgeted

Location Map

Background

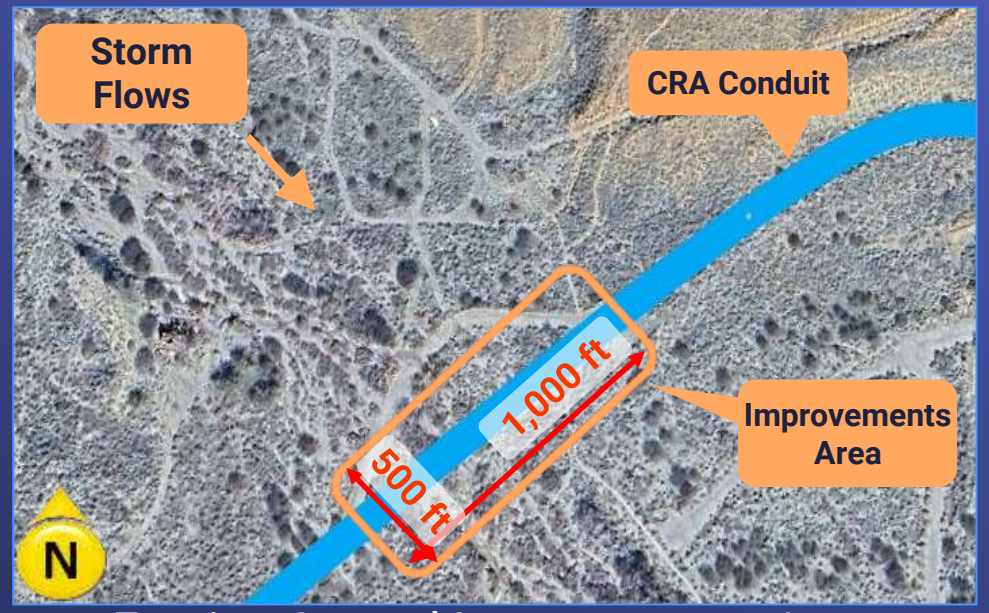
- Original berm & diversion devices protecting conduits have deteriorated
- High-intensity, sediment-laden storm runoff erodes soil & exposes cut-and-cover conduit
- Exposed conduits are vulnerable to structural damage from large debris and/or vehicles

CRA Conduit Exposure from Storm (Oct. 2018)

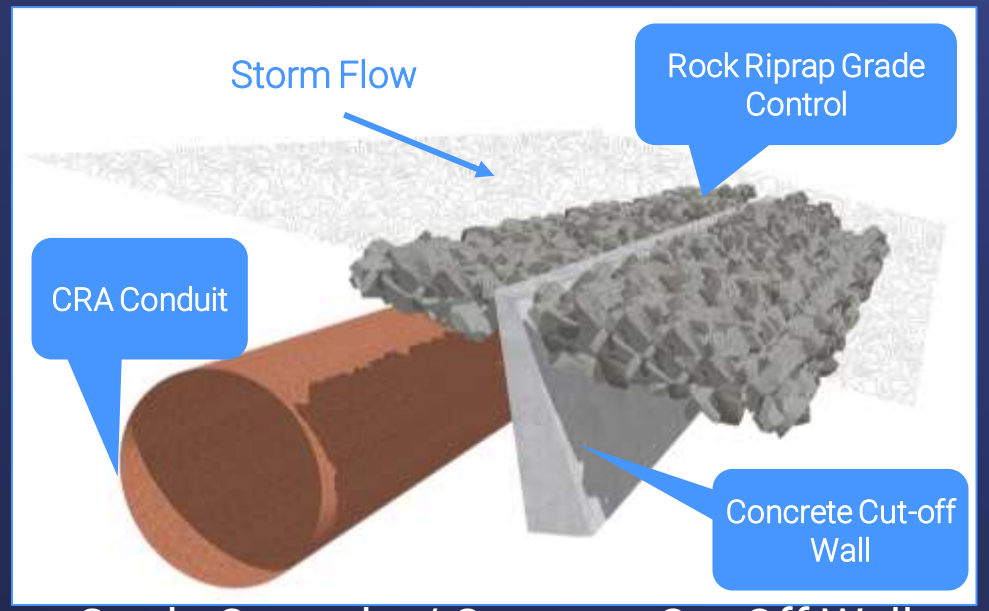
CRA Exposure from Hurricane Hilary (Aug. 2023)

Planned Work

- Install permanent erosion protection features at 23 locations
  - Grade control structures
  - Concrete cut-off walls
  - Concrete slabs
  - Rock riprap revetment blankets
  - Berm improvements



Erosion Control Improvements Area



Grade Control w/ Concrete Cut-Off Wall

CRA Erosion Control Improvements

Alternatives Considered

- Alternative Considered – Utilize in-house Metropolitan staff to conduct final design activities
  - Limited availability of staff to conduct work
- Selected Alternative – Use consultant to develop final design
  - Metropolitan staff to provide technical input and oversight

HDR Engineering Inc. - Agreement Amendment

CRA Erosion Control Improvements

- Competitively selected under RFP 1286
  - Completed preliminary design
- Scope of Work
  - Develop final design drawings & specifications
  - Prepare cost estimate
  - Participate in constructability review
  - Technical assistance during permitting & bidding
- Amendment amount: $2,350,000
- New NTE amount: $5,150,000
- SBE participation level: 25%

CRA Erosion Control Improvements

Metropolitan – Scope of Work

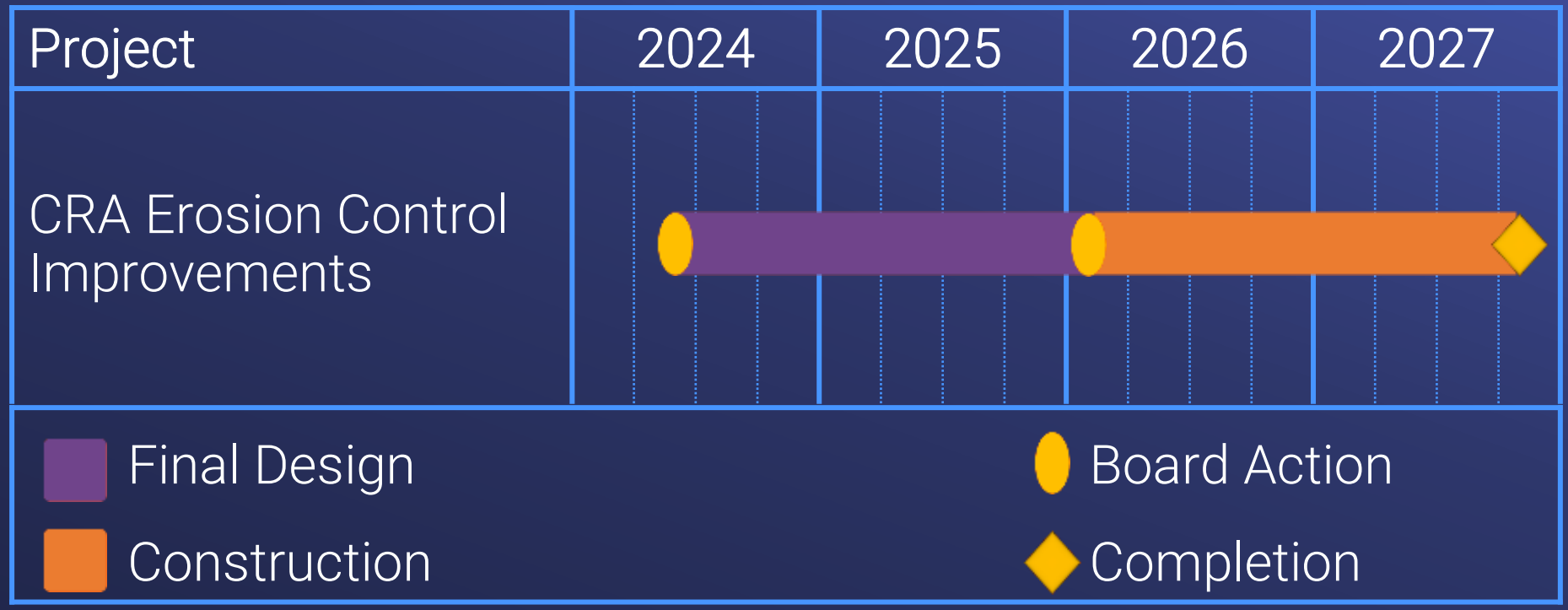
- Provide technical oversight
- Conduct additional topographic surveys & geotechnical investigations support
- Coordinate permitting process with local jurisdictions
- Prepare environmental documentation
- Conduct constructability review
- Perform project management & project controls

Allocation of Funds

CRA Erosion Control Improvements

Metropolitan Labor	
Final Design	$ 485,000
Owner Costs (Proj. Mgmt., Contract Admin., Envir. Support)	691,000
Materials & Incidentals	2,000
Professional/Technical Services	
HDR Engineering Inc.	2,350,000
Environmental Consultant	240,000
Geotechnical Investigations	220,000
Topographic Survey	50,000
Constructability Review	75,000
Remaining Budget	187,000
Total	$ 4,300,000

Project Schedule



Board Options

- Option #1

  Authorize an increase of $2.35 million to an agreement with HDR Engineering Inc. for a new not-to-exceed amount of $5.15 million for final design of erosion control structures along the CRA system.

- Option #2

  Do not proceed with this project at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Board Action

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

5/14/2024 Board Meeting

7-2

Subject

Amend the Capital Investment Plan for fiscal years 2022/23 and 2023/2024 to include upgrades to the flocculation system at the Joseph Jensen Water Treatment Plant; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

California experienced multiple atmospheric rivers in late 2022 and early 2023 and one of the wettest three-week periods on record in January 2023, which caused a mudslide into Castaic Lake and impacted the turbidity levels of water entering the Joseph Jensen Water Treatment Plant (Jensen plant). The sudden increase in turbidity levels led to damage to critical components of the flocculation equipment in several basins as the equipment drive assemblies were forced to operate outside of their normal ranges for an extended time. Staff performed interim repairs to bring the basins back to service and investigated the root cause of the damage. The evaluation conducted by staff, with the support of a specialized vendor, concluded that upgrades to the equipment are needed to handle extended turbidity spikes like the one described above, which will likely become more common due to climate change.

This action amends the Capital Investment Plan (CIP) for fiscal years 2022/23 and 2023/24 to include upgrades to the Jensen plant's flocculation system. See **Attachment 1** for the Allocation of Funds and **Attachment 2** for the Location Map.

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

Staff Recommendation: Option #1

Option #1

Amend the Capital Investment Plan for fiscal years 2022/23 and 2023/24 to include upgrades to the flocculation system at the Joseph Jensen Water Treatment Plant.

Fiscal Impact: Expenditure of $460,000 in capital funds. It is not anticipated that the addition of the project listed above to the CIP will increase CIP expenditures in the current biennium beyond those that have been previously appropriated by the Board. Approximately $50,000 will be incurred in the current biennium and has been previously appropriated. The remaining funds from this action are accounted for and appropriated under the next biennial budget.

Business Analysis: This option will enhance the reliability and operating efficiency of the Jensen plant.

Option #2

Do not proceed with this project at this time.

Fiscal Impact: None

Business Analysis: This option would forgo an opportunity to reduce the risk of damage to the Jensen plant's flocculation system. Flocculation basins will be removed from service if flocculation equipment fails during a high-influent turbidity event until repairs are completed.

Alternatives Considered

Staff considered implementing flocculation equipment upgrades under a minor capital project. This option would target upgrades for equipment with the highest likelihood of failure. However, after completion of a root cause analysis for the failed equipment, it was determined that partial upgrade strategies would not reduce the risk of repeated failures of the flocculation system. Staff has concluded that the recent high-turbidity event most likely damaged rotating flocculation equipment that is not yet exhibiting signs of failure, and a comprehensive upgrade plan must include this equipment to prevent its failure in the near future. Staff determined that the current approach to upgrade the plant's flocculator system is the most effective approach to sustain operations during unexpected weather events. Consequently, it is recommended that this project be added to the CIP in the current biennium.

Applicable Policy

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

Related Board Actions

By Minute Item 51598, dated May 14, 2019, the Board awarded a contract for the rehabilitation of eight flocculators in Module Nos. 2 and 3 at the Jensen plant.

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 to amend the Capital Investment Plan to include upgrades to the flocculation system at the Jensen plant is not defined as a project under CEQA because it involves the creation of government funding mechanisms or other government fiscal activities that do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment. (State CEQA Guidelines Section 15378(b)(4)).

CEQA determination for Option #2:

None required

Details and Background

Background

The Jensen plant was placed into service in 1972 and treats raw water from the West Branch of the California State Water Project (SWP), which flows through a series of reservoirs in the Sierra Pelona Mountains, the last of which includes Castaic Lake with a storage capacity of 324,000 acre-feet.

Flocculation, sedimentation, and filtration are important unit processes within a conventional surface water treatment plant. Modules No. 2 and 3 at the Jensen plant contain a total of eight flocculation/sedimentation basins designed in the early 1990s to accommodate a wide range of source water quality from the West Branch of the SWP. The flocculation portion of each basin contains six flocculators comprised of horizontal rotating shafts with paddle arms, which slowly mix the coagulation chemicals to promote the formation of larger particles that settle out in the sedimentation basins.

The Jensen plant's flocculators treat a wide range of flows and influent water quality conditions on a continuous basis. As influent source water turbidity and other water quality parameters fluctuate seasonally, operational adjustments are made to meet settled water treatment goals and maintain a high plant efficiency. Examples of adjustments include modifications to coagulant chemical feed rates and the introduction of additional coagulant aids. For additional chemicals to effectively reduce turbidity and other parameters, the speed of rotating flocculation equipment must be increased, and sufficient time must be allotted for the particles to combine and

settle. When the required rotating speed of the flocculation equipment exceeds maximum design targets, failures typically include shaft and bearing misalignment, breaking of shear pins, and ultimately failure of rotating equipment supports evidenced by cracked grout and concrete foundations, and in some cases cracked and sheared anchor bolts, which hold equipment in place.

The Jensen flocculation equipment was designed to meet anticipated water quality conditions at the plant and has served the Jensen plant without issue since the original construction in the 1990s. In recent years, mechanical components of the flocculation equipment were refurbished to extend their service life. However, the design criteria for the flocculation system was not upgraded at that time to treat water with very high-turbidity spikes for an extended period.

In recent years, there has been an increased frequency and strength of rain events in the vicinity of the SWP and the Jensen plant. These events have impacted the range of source water quality from the West Branch of the SWP and stressed the design limits of Jensen's treatment capabilities beyond their original design criteria. In November 2022, source waters contaminated by an unprecedented mudslide at Castaic Lake reached the Jensen plant. The elevated levels of suspended materials in the water entering the plant led to damage to critical components of the flocculation equipment. Subsequent mudslides in January and March 2023 in the Castaic water shed again elevated turbidity levels entering the plant, which further strained the equipment. Basin outages were required to perform temporary repairs.

Staff recommends moving forward with upgrades to the Jensen flocculation system at this time to enhance operational resiliency during increasingly frequent water quality extremes in the Jensen plant's source water affecting plant operations.

In April 2022, the Board appropriated funds and authorized the General Manager to initiate or proceed with work on all capital projects identified in the CIP, subject to any limits on the General Manager's authority and CEQA requirements. Board authorization is required to commence work on new projects that were not originally included in the board-authorized CIP. This action amends the CIP to include the Jensen Flocculator System Upgrades project. It is not anticipated that the addition of this project to the CIP will increase CIP expenditures in the current biennium beyond the amount appropriated by the Board. Funds required for work to be performed pursuant to the subject projects after fiscal year 2023/24 will be budgeted within the Capital Investment Plan Appropriation for Fiscal Years 2024/25 and 2025/26. 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 Treatment Plant Reliability Program.

Jensen Flocculator System Upgrades – Design

Planned improvements include structural reinforcement for rotating equipment and anchorage; verification and alignment of flocculator shafts, bearings, and related equipment; and inspection and replacement of worn or damaged flocculator components. Planned design activities include conducting field surveys, design of long-term upgrades to extend the lifespan of existing equipment; preparation of drawings and specifications for construction of these upgrades; and project management. Metropolitan staff will perform all work.

A total of $460,000 is allocated for this work. Allocated funds include $28,000 for field investigations; $288,000 for design activities as described above; $82,000 for shutdown planning, project controls, and project management; and $62,000 for remaining budget.

Engineering Services' performance metric target range for final design of projects with a construction cost of less than $3 million is 9 to 15 percent. For this project, the performance metric goal for final design is approximately 13.7 percent of the total construction cost. The estimated cost of construction to upgrade the Jensen plant flocculator system is anticipated to range from $2.1 million to $2.4 million.

Project Milestone

April 2025 – Completion of design of upgrades to the Jensen flocculator system

4/18/2024

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

4/29/2024

Adel Hagekhalil *Date*
General Manager

Attachment 1 – Allocation of Funds

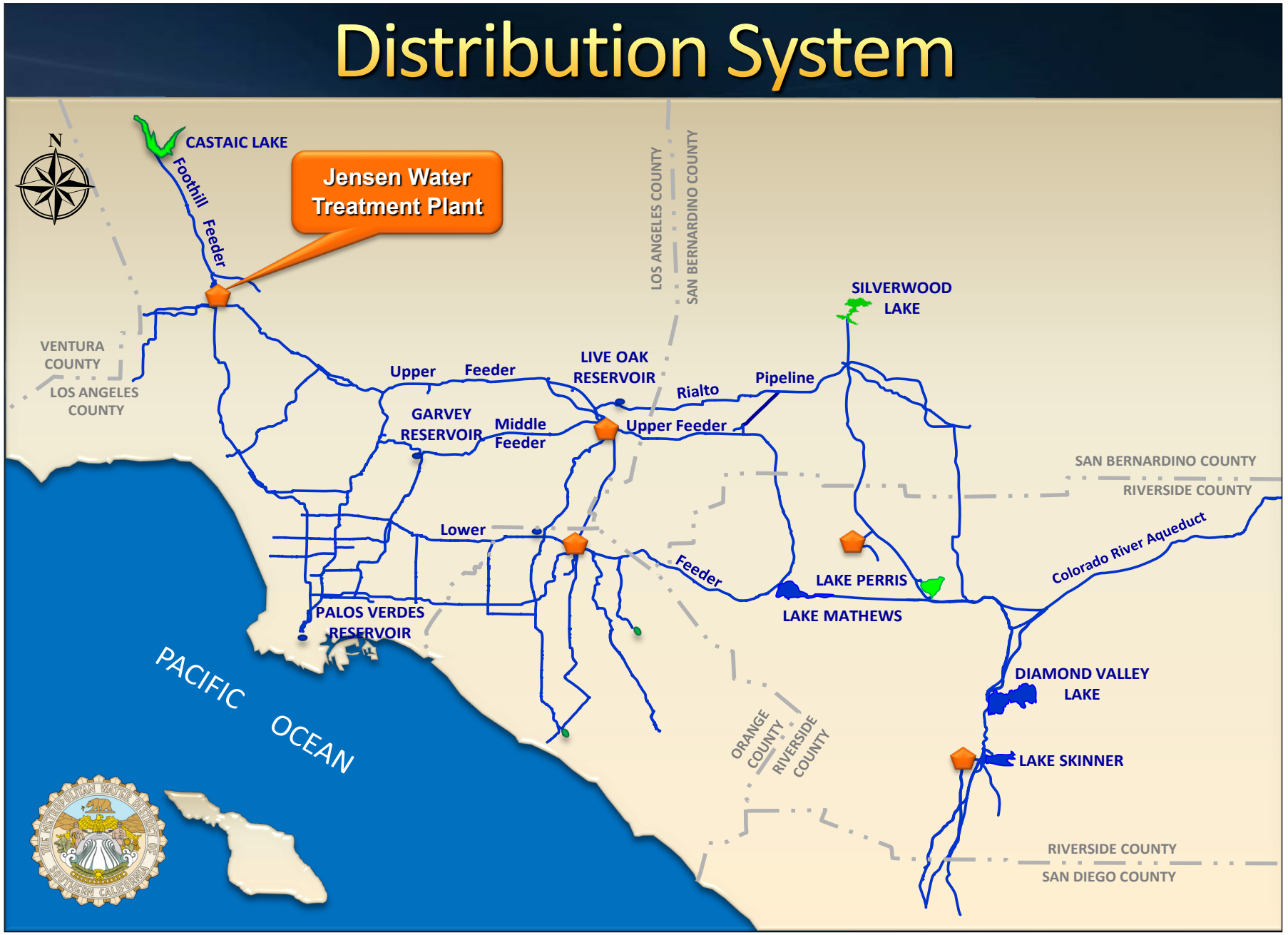
Attachment 2 – Location Map

Ref# es12699345

Allocation of Funds for Jensen Flocculator System Upgrades

	Current Board Action (May 2024)
Labor	
Studies & Investigations	$ 28,000
Final Design	288,000
Owner Costs (Program mgmt., shutdown planning)	82,000
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
Remaining Budget	62,000
Total	**$ 460,000**

This is the initial allocation of funds for the Jensen Flocculator System Upgrades project. The total estimated cost to complete the project, including the funds allocated for the work described in this action, and future construction costs, is anticipated to range from $2.8 million to $3.4 million.


Distribution System
N
CASTAIC LAKE
Foothill Feeder
Jensen Water Treatment Plant
LOS ANGELES COUNTY
SAN BERNARDINO COUNTY
SILVERWOOD LAKE
VENTURA COUNTY
LOS ANGELES COUNTY
Upper Feeder
LIVE OAK RESERVOIR
Rialto Pipeline
GARVEY RESERVOIR
Middle Feeder
Upper Feeder
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
Lower Feeder
Colorado River Aqueduct
LAKE PERRIS
LAKE MATHEWS
PALOS VERDES RESERVOIR
PACIFIC OCEAN
DIAMOND VALLEY LAKE
ORANGE COUNTY
RIVERSIDE COUNTY
LAKE SKINNER
RIVERSIDE COUNTY
SAN DIEGO COUNTY

Engineering, Operations, & Technology Committee

Jensen Flocculation Upgrades

Item 7-2

May 13, 2024

Item 7-2
Jensen Flocculation Upgrades

Subject

Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include upgrades to the flocculation system at the Joseph Jensen Water Treatment Plant

Purpose

Upgrade the flocculation system to handle extended turbidity spikes and unfavorable water quality conditions, which are expected to become more common due to climate change

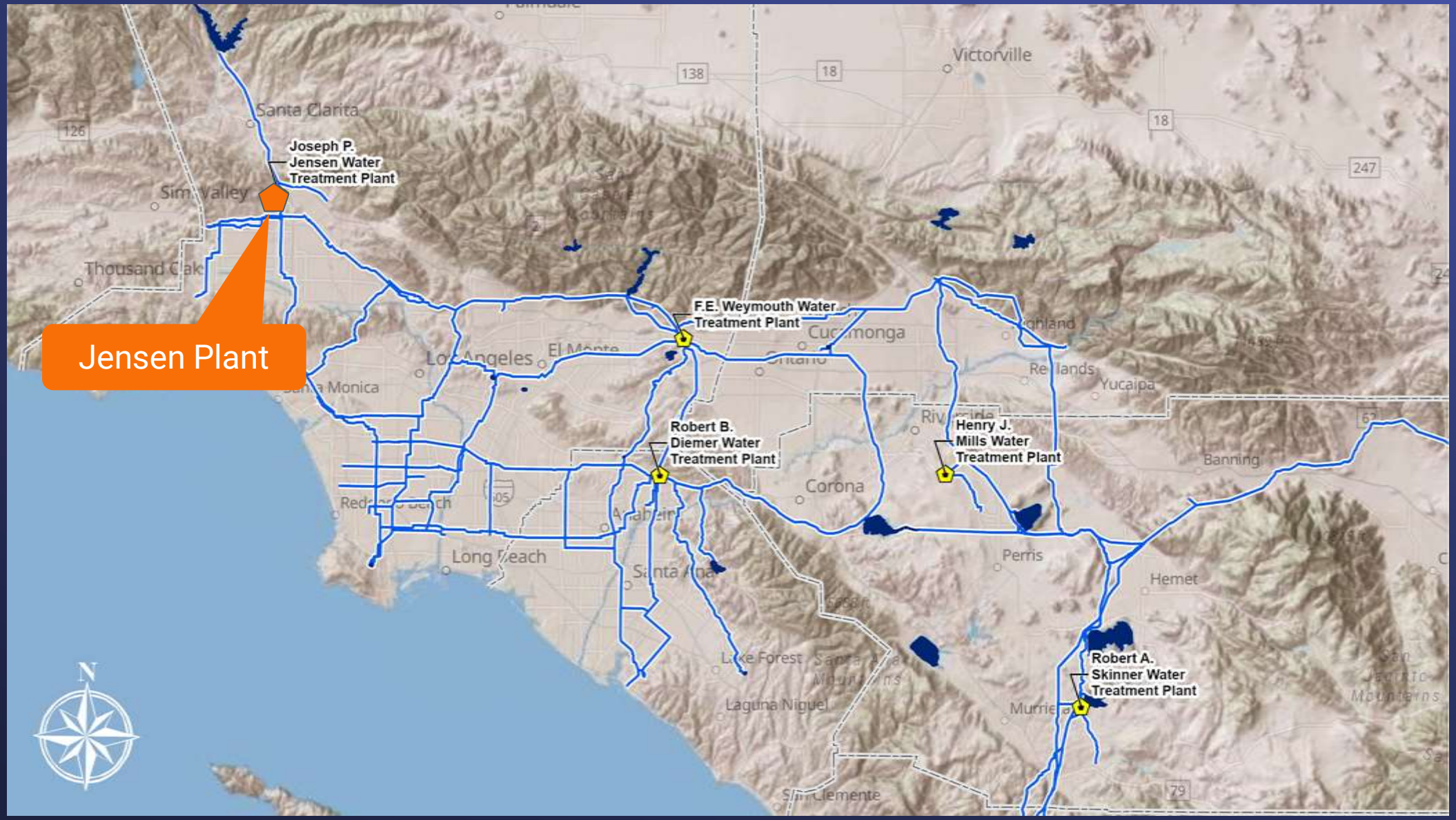
Recommendation and Fiscal Impact

Amend the Capital Investment Plan to include the upgrades to the flocculation system

Fiscal Impact of $460,000

Not Budgeted

Location Map

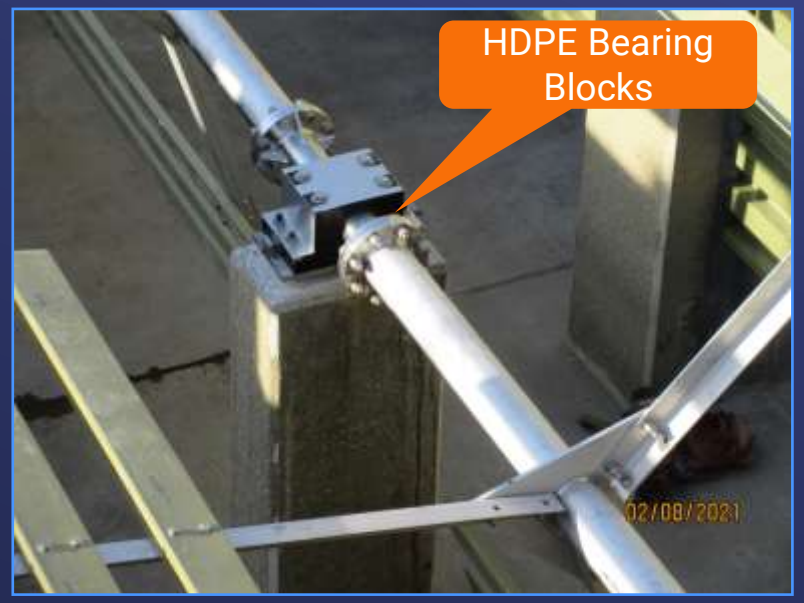


Jensen Flocculation Upgrades

Background

- Flocculator Basin
  - Six flocculator shafts per basin
- Equipment refurbished in 2020
  - Rotating equipment upgraded to stainless steel & fiber reinforced polymer (FRP) for extended life

Flocculator shafts and paddle wheels

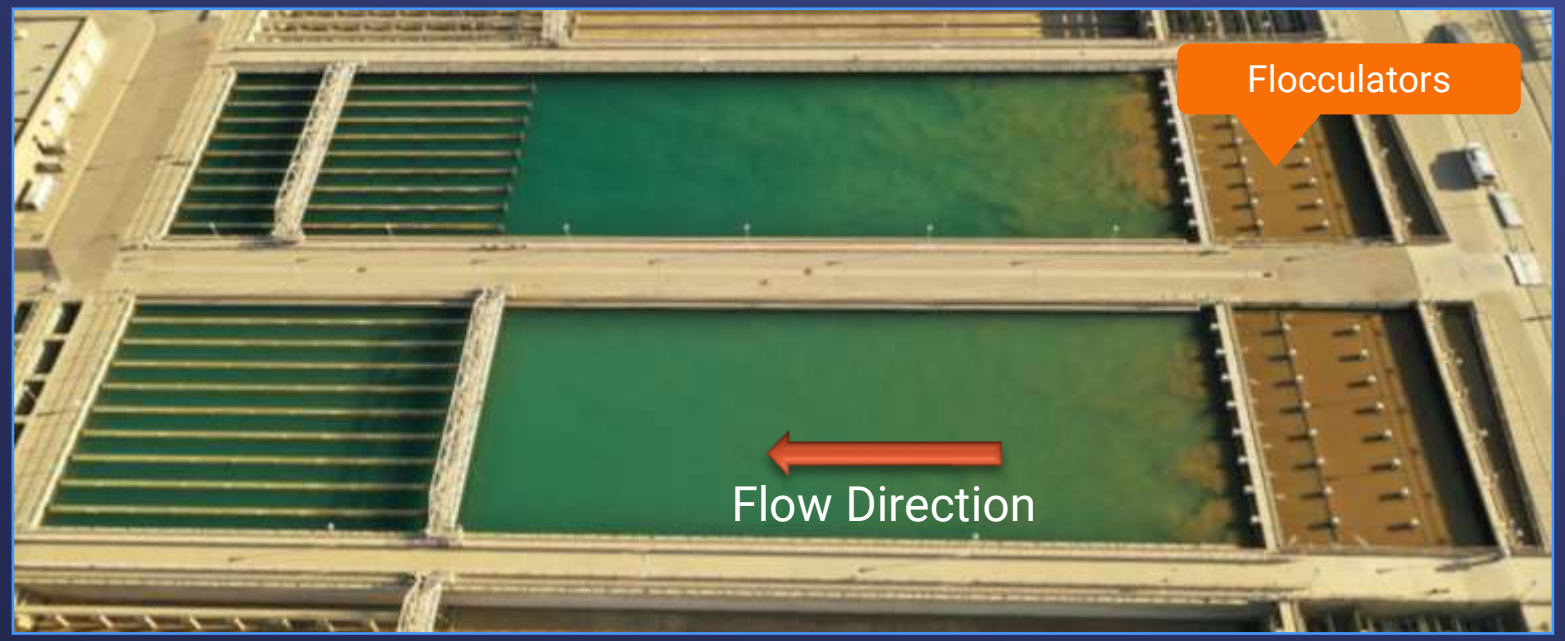


Flocculator Bearing Block

Background – Climate Impact

- Late 2022 through early 2023 – extreme climate conditions
- Debris flow from watershed runoff – highest turbidity event recorded
- All treated water quality requirements met

Castaic Lake – Jan. 2023



Jensen Basin – Feb. 2023

Background – Impacts to Flocculation System

- Critical damage to equipment anchorage
- Necessary repairs completed Aug 2023
  - Partial anchorage repairs & shaft alignment in two basins
- Similar upgrades required at other flocculator shafts for long term resiliency

Anchorage failure at Basin 10

Structural reinforcement at bearing completed at Basin 10

Jensen Flocculation Upgrades

Planned Work

- Structural reinforcement for rotating equipment anchorage
- Alignment of shafts & bearings
- Replacement of worn or damaged components

Jensen
Flocculation
Upgrades

Alternatives Considered

- Implement flocculation equipment upgrades under a minor capital project
  - Upgrades for equipment with highest likelihood of failure
  - Analysis concluded this would not enhance long-term resiliency
- Selected Alternative – comprehensive flocculator upgrades
  - Strengthens anchorage & fixes shaft alignment for all flocculators
  - Complete upgrade plan to prevent unplanned basin outages

Jensen
Flocculation
Upgrades

Scope of Work

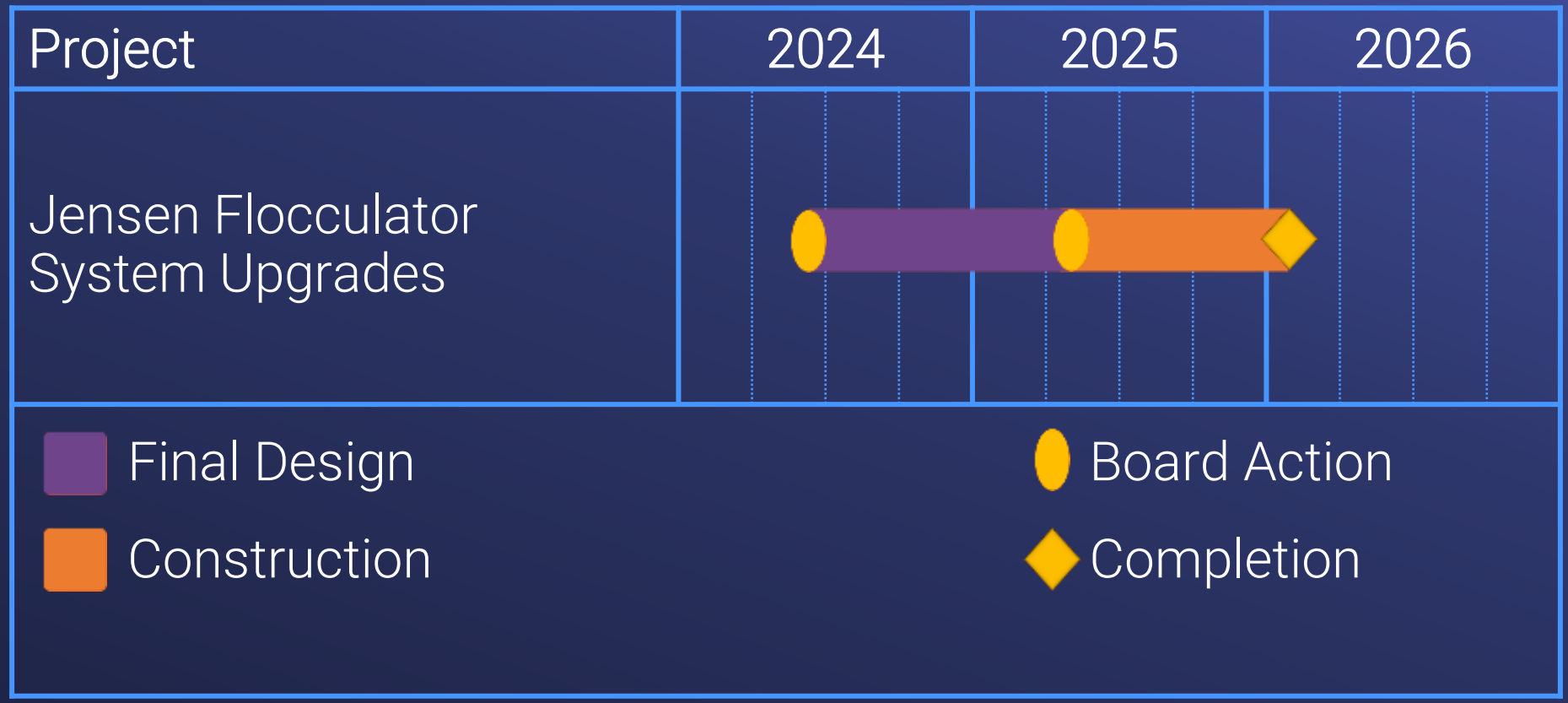
- Field investigations
- Develop final design drawings & specifications
- Prepare cost estimate
- Prepare environmental documentation

Allocation of Funds

Jensen Flocculator System Upgrades

Metropolitan Labor	
Studies & Investigations	$ 28,000
Final Design	288,000
Owner Costs (Proj. Mgmt., Contract Admin., Envir. Support)	82,000
Remaining Budget	62,000
Total	$ 460,000

Project Schedule



Board Options

- Option #1

  Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include upgrades to the flocculation system at the Joseph Jensen Water Treatment Plant.

- Option #2

  Do not proceed with this project at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Board Action

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

5/14/2024 Board Meeting

Revised 8-1

Subject

Award a $24,912,000 construction contract to J.F. Shea Construction Inc. for urgent rehabilitation of prestressed concrete cylinder pipe portions of the Allen-McColloch Pipeline; ~~and~~ authorize an increase of $250,000 to an agreement with Helix Environmental Planning Inc. for a new not-to-exceed amount of $2,500,000; and authorize an amendment to Metropolitan's Project Labor Agreement to add the subject project to the list of covered projects; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

The Allen-McColloch Pipeline (AMP) extends 25 miles, delivering treated water from the Diemer plant in Yorba Linda to south Orange County. Constructed in the late 1970s, the AMP consists of approximately 8.7 miles of prestressed concrete cylinder pipe (PCCP), with the remainder mainly consisting of welded steel pipe. A recent electromagnetic inspection of the PCCP portions of the AMP identified significant wire breaks, warranting urgent rehabilitation. A February 2024 board action authorized Stage 1 of a two-stage effort to rehabilitate distressed PCCP segments of the AMP. Stage 1 rehabilitated nearly one mile of PCCP in April 2024 and allowed the northernmost 23 miles of the AMP to be returned to service. Staff recommends proceeding with Stage 2 construction activities to rehabilitate approximately 2.4 miles of the PCCP portions of the AMP.

This action recommends the award of a $24,912,000 construction contract to J.F. Shea Construction Inc. to rehabilitate approximately 2.4 miles of PCCP portions of the AMP during a June to December 2024 shutdown. This action also authorizes an amendment to an agreement with Helix Environmental Planning Inc. for environmental support during construction and an amendment to Metropolitan's Project Labor Agreement (PLA) to add the AMP Urgent PCCP Rehabilitation Stage 2 Project to the list of covered projects. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the Subcontractors for Low Bidder, and **Attachment 4** for the Location Map. ~~This action also amends an existing agreement for environmental planning support for the rehabilitation of the AMP.~~

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

Staff Recommendation: Option #1

Option #1

a. Award a $24,912,000 contract to J.F. Shea Construction Inc. to rehabilitate approximately 2.4 miles of PCCP portions of the Allen-McColloch Pipeline.

b. Authorize an increase of $250,000 to an agreement with Helix Environmental Planning Inc. for a new not-to-exceed amount of $2,500,000.

~~b.~~c. Amend Metropolitan's Project Labor Agreement to include the Allen-McColloch Urgent PCCP Rehabilitation Stage 2 Project.

Fiscal Impact: Expenditures of $31,900,000 in capital funds. Approximately $200,000 will be incurred in the current biennium and have been previously authorized. The remaining funds for this action are accounted for in the Capital Investment Plan (CIP) budget for the next biennium.
Business Analysis: This option will protect Metropolitan's assets, enhance delivery reliability to member agencies, and complete rehabilitation of distressed PCCP pipe segments on the AMP in a timely manner.

Option #2

Do not award a construction contract to rehabilitate the AMP, and do not amend an agreement for environmental planning support at this time.
Fiscal Impact: None
Business Analysis: This option would forgo an opportunity to enhance reliability and extend the service life of the AMP. This option could lead to higher repair costs, more extensive repairs, and unplanned shutdowns.

Alternatives Considered

Staff considered rehabilitating only the distressed PCCP segments in the southern portion of the AMP, not the entire 2.4-mile reach. This option would focus on the rehabilitation of 18 distressed pipe segments for which the number of wire breaks currently exceeds the urgent rehabilitation threshold of 20 wire breaks. However, in the past, the AMP has required several urgent repairs to its PCCP segments. Due to the shorter-than-expected service life of its PCCP segments, all PCCP within the AMP will need to be lined with new steel liner pipe or replaced at some time.

The selected option will completely rehabilitate the southernmost PCCP portions of the AMP by relining with new steel liners. This approach was chosen after consultation with the Municipal Water District of Orange County and its member agencies. These discussions determined that the southern reach of the AMP could be shut down for a longer duration by utilizing alternative water delivery sources during the extended shutdown.
This alternative is a cost-effective approach that manages the risks associated with the AMP, minimizes the service interruption to member agencies, and furthers Metropolitan's program goal of rehabilitating all PCCP within the AMP. This option ensures that this will be the last shutdown needed for PCCP rehabilitation of the southern three miles of the AMP.

Applicable 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

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

By Minute Item 52778, dated April 12, 2022, the Board appropriated a total of $600 million for projects identified in the CIP for Fiscal Years 2022/23 and 2023/24.

By Minute Item 53004, dated October 11, 2022, the Board authorized the General Manager to sign a PLA with the trade councils of Los Angeles, Orange, Riverside, San Bernardino, San Diego Counties, and the Tri-Counties and the signatory unions.

By Minute Item 53533, dated February 12, 2024, the Board authorized an increase in change order authority for three existing contracts to conduct urgent rehabilitation of the AMP.

Summary of Outreach Completed

Metropolitan has partnered extensively with the Municipal Water District of Orange County (MWDOC) in developing its shutdown and rehabilitation strategy. In addition, Metropolitan staff have met with City of Lake Forest, City of Mission Viejo, and Orange County Flood Control District officials and initiated the permitting process with those agencies; met with local home-owners associations to provide information about the project and solicit input; and distributed flyers to neighborhoods impacted by Stage 1 work and will do the same with Stage 2 work communities.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action involves the repair of an existing pipeline to prevent or mitigate an emergency. Accordingly, the proposed action qualifies for a statutory emergency exemption. (Public Resources Code Section 21080(b)(4)); State CEQA Guidelines Section 15269.

CEQA determination for Option #2:

None required

Details and Background

Background

The AMP is a 25-mile-long pipeline constructed in the late 1970s that conveys treated water from the Diemer plant in Yorba Linda to southern Orange County. The northernmost 15.9-mile portion of the AMP consists of welded steel pipe, the next 8.7-mile portion consists of PCCP that varies in diameter from 78 inches to 54 inches, and the southernmost 0.4-mile portion consists of pre-tensioned concrete pipe. Metropolitan acquired the AMP from the MWDOC in 1985. The AMP delivers water to MWDOC and its retail agencies.

Over the last several decades, water agencies throughout the United States and several other countries have found that, under certain conditions, PCCP lines have a reduced service life and elevated risk of failure as compared with other types of pipes. PCCP failures can be catastrophic and can occur without forewarning, compromising system reliability and resulting in significant costs due to interruption of service, unplanned major repairs, and potential damages to third-party properties. In response to this risk, Metropolitan initiated a comprehensive program in September 2011 to inspect, manage, and rehabilitate its 163 miles of PCCP lines spanning across 27 pipelines. This program is focused on rehabilitating five priority feeders comprising approximately 100 miles of PCCP while inspecting all PCCP pipelines on a regular basis.

The AMP is one of the five priority pipelines and is inspected on a routine basis. In November 2023, an electromagnetic inspection was conducted on the PCCP portions of the AMP, the fifth inspection of this pipeline since 2000. In December 2023, Metropolitan received an inspection report that identified 81 new distressed pipe segments; 44 pipe segments had 20 or more wire breaks, with one pipe segment having 130 wire breaks. Staff evaluated the potential risks due to the prestressing wire breaks and concluded that the distressed PCCP segments must be rehabilitated as soon as possible. To mitigate the immediate risks to the AMP, its operating pressure was immediately lowered in early December 2023. The reduced pressure will be in effect until the distressed portions of the pipeline are rehabilitated.

In February 2024, Metropolitan's Board authorized a two-stage approach to address the AMP's distressed pipe segments. Under Stage 1, change orders to existing construction contracts are being utilized to rehabilitate approximately 4,500 feet of PCCP segments, including relining approximately 2,100 feet of PCCP upstream of OC-88 Pump Station (OC-88), installing a temporary bulkhead just downstream of OC-88, and relining approximately 2,400 feet downstream of that bulkhead. The work upstream of the temporary bulkhead was completed during a three-week shutdown this April, and the work downstream of the bulkhead is in progress.

Stage 1 addresses all critically distressed PCCP pipe segments upstream of OC-88 and a portion of the PCCP downstream of that point. The temporary bulkhead installed near OC-88 allowed Metropolitan to restore service to the upstream service connections after a relatively short three-week shutdown. The bulkhead also allows for OC-88, the single largest service connection along the AMP, to remain in service and allows the extended outage of the lower portion of AMP.

Stage 2 will rehabilitate approximately 2.4 miles of PCCP segments, which will complete the rehabilitation of the pipe downstream of OC-88. Final design for Stage 2 is complete, and staff recommends proceeding with construction at this time.

Allen-McColloch Pipeline Urgent PCCP Rehabilitation Stage 2 – Construction

This project will reline approximately 12,700 feet of PCCP, including approximately 8,250 feet of existing 66-inch internal diameter PCCP with new 60-inch outer diameter cement-mortar lined steel pipe, and approximately 4,450 feet of existing 54-inch internal diameter PCCP with new 48-inch diameter outer diameter cement-mortar lined welded steel pipe. Contract work includes installation of temporary traffic controls; excavation and construction of 11 temporary liner installation portals; installation, welding, and grouting of the new steel liner and closure pieces at the portals; backfill and compaction of excavations; resurfacing and removal of temporary traffic controls and restoration of street surfaces per local agency requirements; removal of the temporary bulkhead; and disinfection of the rehabilitated portion of the pipeline. Metropolitan forces will shut down the pipeline prior to removal of the temporary bulkhead and restore water deliveries to all service connections along the AMP.

A total of $31.9 million is allocated for this work. In addition to the amount of the contract described below, other funds to be allocated include $2,528,000 for construction management and inspection; $1,588,000 for Metropolitan force construction activities as described above; $899,000 for submittals review, technical support during construction, responding to requests for information, and preparation of record drawings; $847,000 for contract administration, environmental monitoring, and project management; $293,000 for appraisals and fees for property leases and acquisition of temporary construction easements; and $833,000 for remaining budget. Brown and Caldwell will provide specialized engineering support under an existing board-authorized agreement. **Attachment 1** provides the allocation of the required funds.

Award of Construction Contract (J.F. Shea Construction Inc.)

Specification No. 2108 for the construction of Allen-McColloch Pipeline Urgent PCCP Rehabilitation was advertised to prequalified contractors for bids on March 25, 2024. As shown in **Attachment 2**, two bids were received and opened on April 12, 2024. The low bid from J.F. Shea Construction Inc. in the amount of $24,912,000 complies with the requirements of the specifications. The other bid was in the amount of $34,407,000, while the engineer's estimate for this project was $25.8 million. For this contract, Metropolitan established a Small Business Enterprise participation level of at least five percent of the total bid amount. J.F. Shea Construction Inc. has agreed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**.

This action awards a $24,912,000 contract to J.F. Shea Construction Inc. for the construction of the AMP Urgent Rehabilitation – Stage 2. As described above, Metropolitan staff will perform construction management and inspection. Engineering Services' performance metric target range for construction management and inspection of projects with construction greater than $3 million is 9 to 12 percent. For this project, the performance metric goal for inspection is 7.8 percent of the total construction cost ($32,500,000), which includes the construction contract ($24,912,000), Metropolitan force construction ($1,588,000), and previously allocated funds for steel pipe procurement ($6,000,000). The total estimated cost to complete the rehabilitation of Stages 1 and 2 of the AMP, including the amount appropriated to date and this current board action, is $67 million.

Environmental Planning Support (Helix Environmental Planning Inc.) – Amendment to Existing Agreement

This action authorizes an increase of $250,000 to an existing agreement with Helix Environmental Planning Inc. (Helix) for a new not-to-exceed total of $2.5 million. This existing multi-year environmental planning agreement, authorized by Metropolitan's Board in August 2017, provides dedicated support to Metropolitan's PCCP rehabilitation program. Helix was selected through a competitive process via Request for Proposals No. 1157 based on its extensive experience with CEQA compliance and environmental clearances, its specific experience with pipeline projects through urban areas, and its experience with projects in environmentally sensitive locations. This work is highly specialized, and Metropolitan has insufficient technical staff in-house to perform this work.

Helix will prepare environmental documentation and perform the monitoring necessary to comply with environmental regulations for construction of the AMP Stage 2 project. The increase in the Helix agreement supplements the existing agreement capacity to cover costs for the construction phase of the AMP Stage 2 project.

This action authorizes a $250,000 amendment to an agreement with Helix Environmental Planning Inc. for a new amount not to exceed $2.5 million for environmental support for the rehabilitation of the AMP.
The subconsultants planned for this agreement are Rincon Associates Inc. and Linscott, Law & Greenspan Engineers.

Project Labor Agreement Amendment

In October 2022, Metropolitan's Board authorized a PLA with the trade councils of Los Angeles, Orange, Riverside, San Bernardino, San Diego Counties, Tri-Counties, and the signatory unions. It approved its use as a bid condition for select construction contracts within the CIP. The PLA currently includes a list of ~~33~~ 34 covered projects and provides a ~~stream-lined~~streamlined process for adding projects to the PLA within the 5-year term of the PLA, contingent upon board approval. Based on the anticipated cost of construction, complexity of construction, and anticipated number of trades involved in construction, staff recommends adding the AMP Urgent PCCP Rehabilitation Stage 2 Project to the PLA's list of covered projects. Following board approval of this amendment to the covered projects list, staff will seek similar approval by the signatory unions in accordance with the amendment procedures of the PLA.

Summary

The urgent work on the AMP, recommended in this action, will rehabilitate approximately 2.4 miles of PCCP segments, which will complete the rehabilitation of the pipe downstream of OC-88. The recommended activities effectively accelerate Metropolitan's overall planned activities to rehabilitate the PCCP portions of the AMP ahead of the schedule that is currently shown in the current CIP Appendix. This action also authorizes an amendment to Metropolitan's Project Labor Agreement to add the AMP Urgent PCCP Rehabilitation Stage 2 Project to the list of covered projects. Planned CIP expenditures for Metropolitan's overall PCCP program for the upcoming biennium will be adjusted accordingly upon board approval of the recommended urgent relining work on the AMP.

Project Milestone

February 2025 – Completion of construction

5/1/2024
John V. Bednarski *Date*
Manager/Chief Engineer
Engineering Services

5/1/2024
Adel Hagekhalil *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Ref# es12702380

Allocation of Funds for Allen-McColloch Pipeline Urgent PCCP Rehabilitation

	Current Board Action (May 2024)
Labor	
Studies & Investigations	$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	669,000
Submittals Review & Record Drwgs.	770,000
Construction Inspection & Support	2,518,000
Metropolitan Force Construction	1,438,000
Materials & Supplies	110,000
Incidental Expenses	52,000
Professional/Technical Services	
Helix Environmental	250,000
Brown and Caldwell	129,000
Public outreach	50,000
Hazardous materials testing	20,000
Right-of-Way	149,000
Equipment Use	-
Contracts	-
J.F. Shea Construction Inc.	24,912,000
Remaining Budget	833,000
Total	**$ 31,900,000**

The amount expended to date to rehabilitate prestressed concrete cylinder pipe (PCCP) portions of the Allen-McColloch Pipeline is $10.5 million. The total estimated cost to complete Stages 1 and 2, Urgent PCCP Rehabilitation of the Allen-McColloch Pipeline, including the funds allocated for the work described in this action, is $67 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on April 12, 2024, at 2:00 P.M.

Specifications No. 2108

Allen-McColloch Pipeline Urgent PCCP Rehabilitation

The work consists of rehabilitating approximately 12,700 feet of PCCP, including approximately 8,250 feet of existing 66-inch internal diameter PCCP with new 60-inch outer diameter, cement-mortar lined steel pipe, and approximately 4,450 feet of existing 54-inch internal diameter PCCP with new 48-inch diameter outer diameter, cement-mortar lined welded steel pipe. The work includes installation of temporary traffic controls; excavation and construction of 11 temporary liner installation portals; installation, welding, and grouting of the new steel liner and closure pieces at the portals; removal of a temporary bulkhead; cleaning and disinfection of the pipeline; backfill and compaction of excavations; resurfacing and removal of temporary traffic controls and restoration of street surfaces per local agency requirements; and removal of the temporary bulkhead.

Engineer's estimate: $25.8 million

Bidder and Location	Total	SBE $	SBE %	Met SBE[1]
J.F. Shea Construction Inc Walnut, CA	**$ 24,912,000**	**$3,415,850**	**14**	**Yes**
Kiewit Infrastructure West Co. Santa Fe Springs, CA	$ 34,407,000	-	-	-

[1] Small Business Enterprise (SBE) participation level established at five percent for this contract.

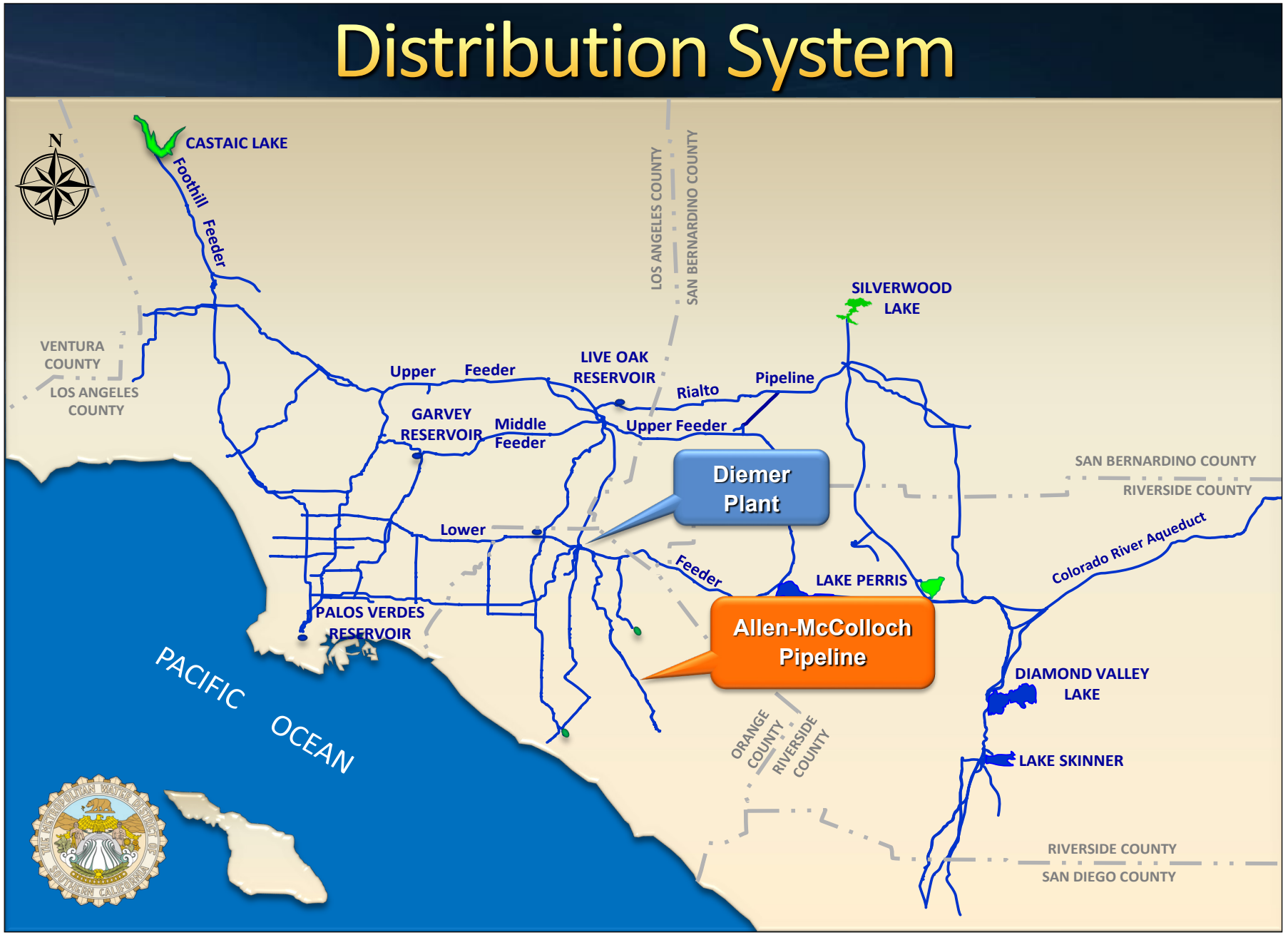
The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

Specifications No. 2108
Allen-McColloch Pipeline Urgent PCCP Rehabilitation

Low bidder: J. F. Shea Construction Inc.

Subcontractor and Location	Service Category, Specialty
Dean's Certified Welding Temecula, CA	Welding
Cell-Crete Monrovia, CA	Grout
Capital Industrial Huntington Beach, CA	Paint
Penhall Anaheim, CA	Saw cutting
Environmental Construction Group Signal Hill, CA	Abatement
Onyx Paving Anaheim, CA	AC Paving


Distribution System
N
CASTAIC LAKE
Foothill Feeder
VENTURA COUNTY
LOS ANGELES COUNTY
LOS ANGELES COUNTY
SAN BERNARDINO COUNTY
SILVERWOOD LAKE
Upper Feeder
LIVE OAK RESERVOIR
Rialto Pipeline
GARVEY RESERVOIR
Middle Feeder
Upper Feeder
Diemer Plant
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
Lower Feeder
Colorado River Aqueduct
LAKE PERRIS
PALOS VERDES RESERVOIR
Allen-McColloch Pipeline
PACIFIC OCEAN
DIAMOND VALLEY LAKE
ORANGE COUNTY
RIVERSIDE COUNTY
LAKE SKINNER
RIVERSIDE COUNTY
SAN DIEGO COUNTY

Engineering, Operations, & Technology Committee

Allen-McColloch Pipeline Urgent PCCP Rehabilitation Stage 2

Item 8-1

May 13, 2024

Item 8-1
Allen-McColloch Pipeline Urgent PCCP Rehab Stage 2

Subject

Award a $24,912,000 construction contract to J.F. Shea Construction Inc. for urgent rehabilitation of prestressed concrete cylinder pipe portions of the Allen-McColloch Pipeline; authorize an increase of $250,000 to an agreement with Helix Environmental Planning Inc. for a new not-to-exceed amount of $2,500,000; and authorize an amendment to Metropolitan's Project Labor Agreement to add the subject project to the list of covered projects

Purpose

This action rehabilitates approximately 2.4 miles of the Allen-McColloch Pipeline (AMP)

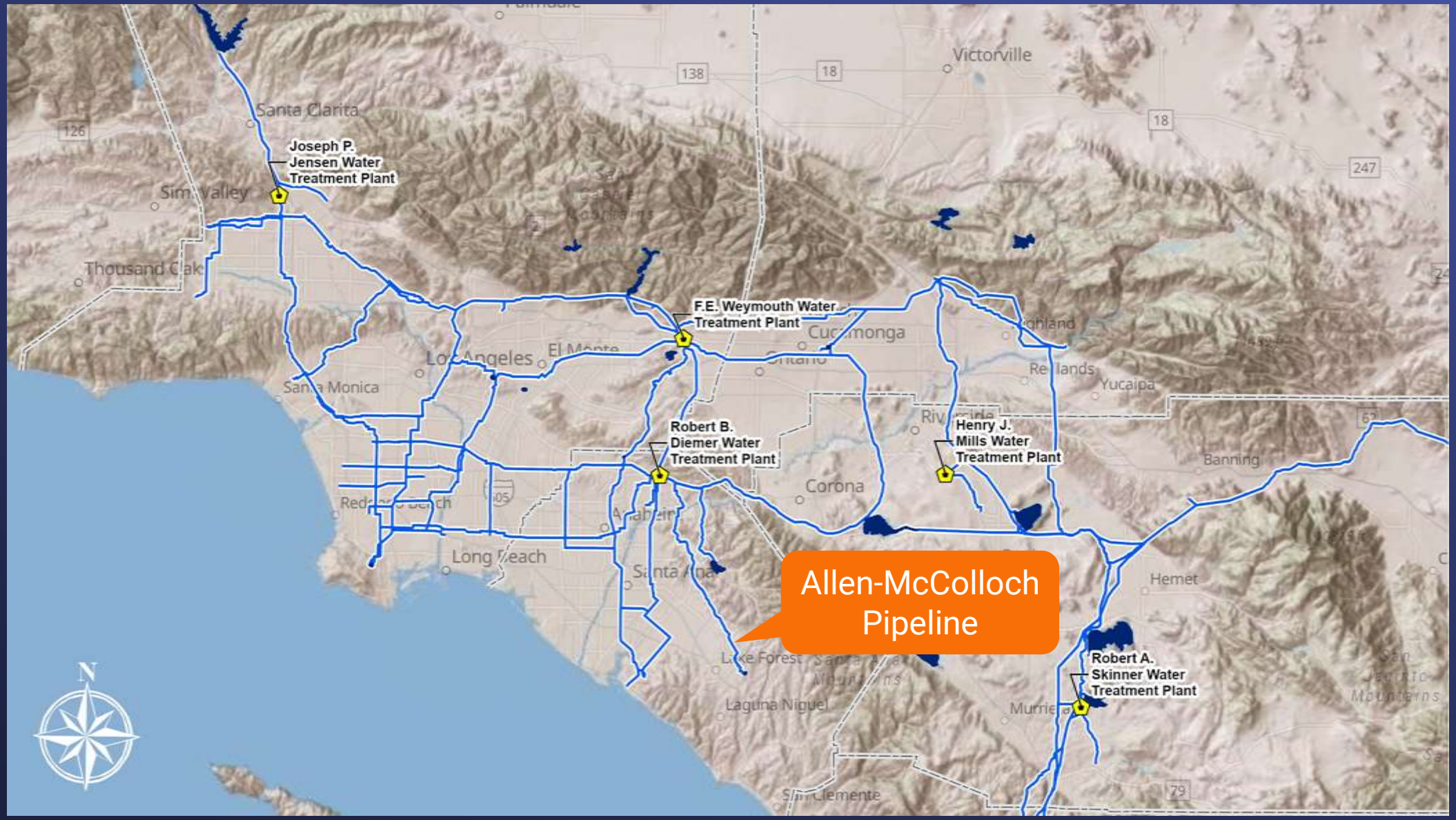
Recommendation and Fiscal Impact

Award a construction contract for the PCCP rehabilitation of the AMP and authorize an increase to an agreement for environmental support

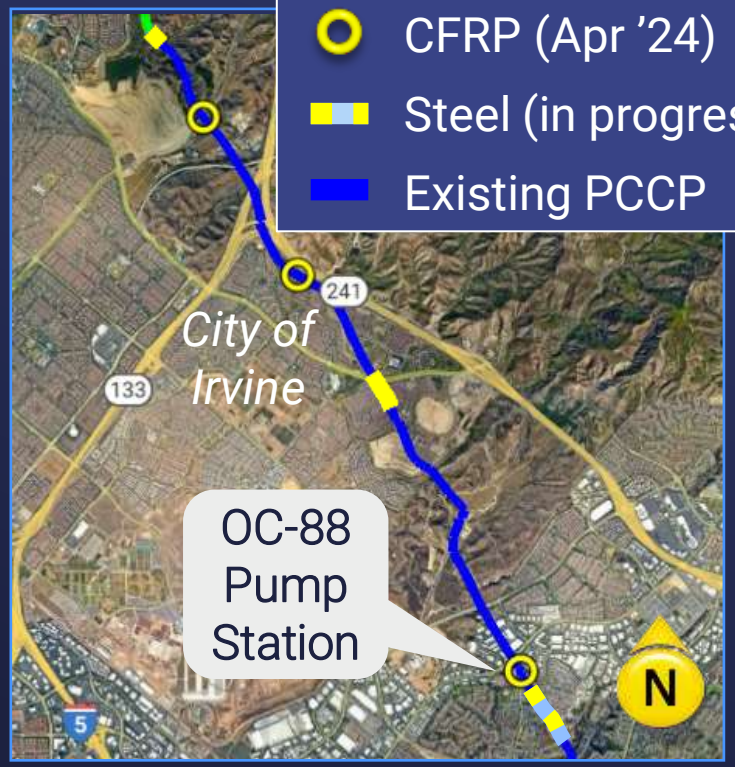
Fiscal Impact of $31.9 million

Budgeted

Location Map



AMP Urgent PCCP Rehab Recap



AMP Stage 1 overview

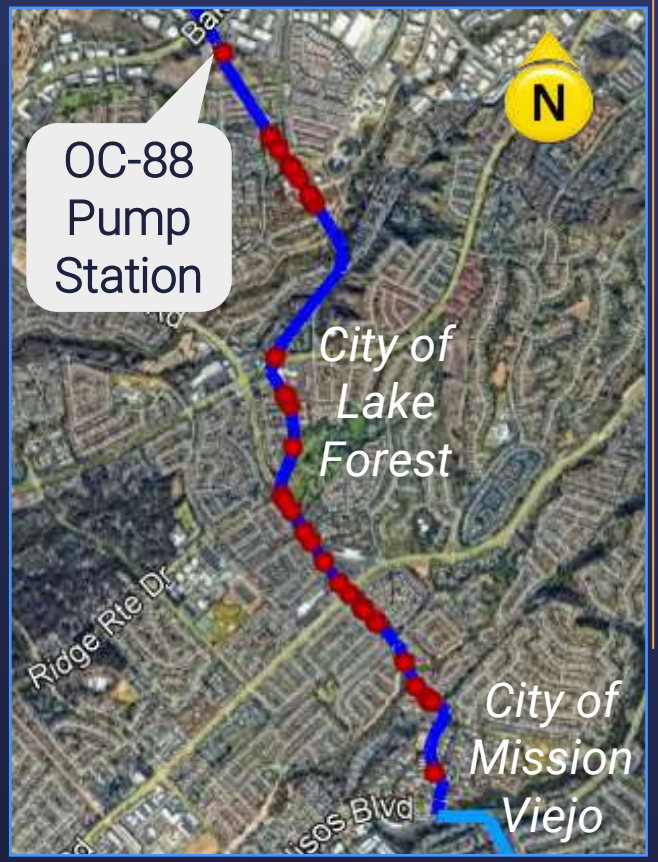

Jan '24: Pressure reducing line


Feb '24: Pipe fabrication


Apr '24: Stage 1 steel liner install


Apr '24: Stage 1 CFRP install

AMP Urgent PCCP Rehab - Stage 2 Alternatives



Distressed segments – Stage 2

Initial Option

Rehabilitate only distressed pipe segments

- Focus on 18 pipe segments with 20 to 130 wire breaks
- Does not address shorter than expected service life of AMP PCCP

Selected Option

Complete steel relining of all PCCP downstream of OC-88

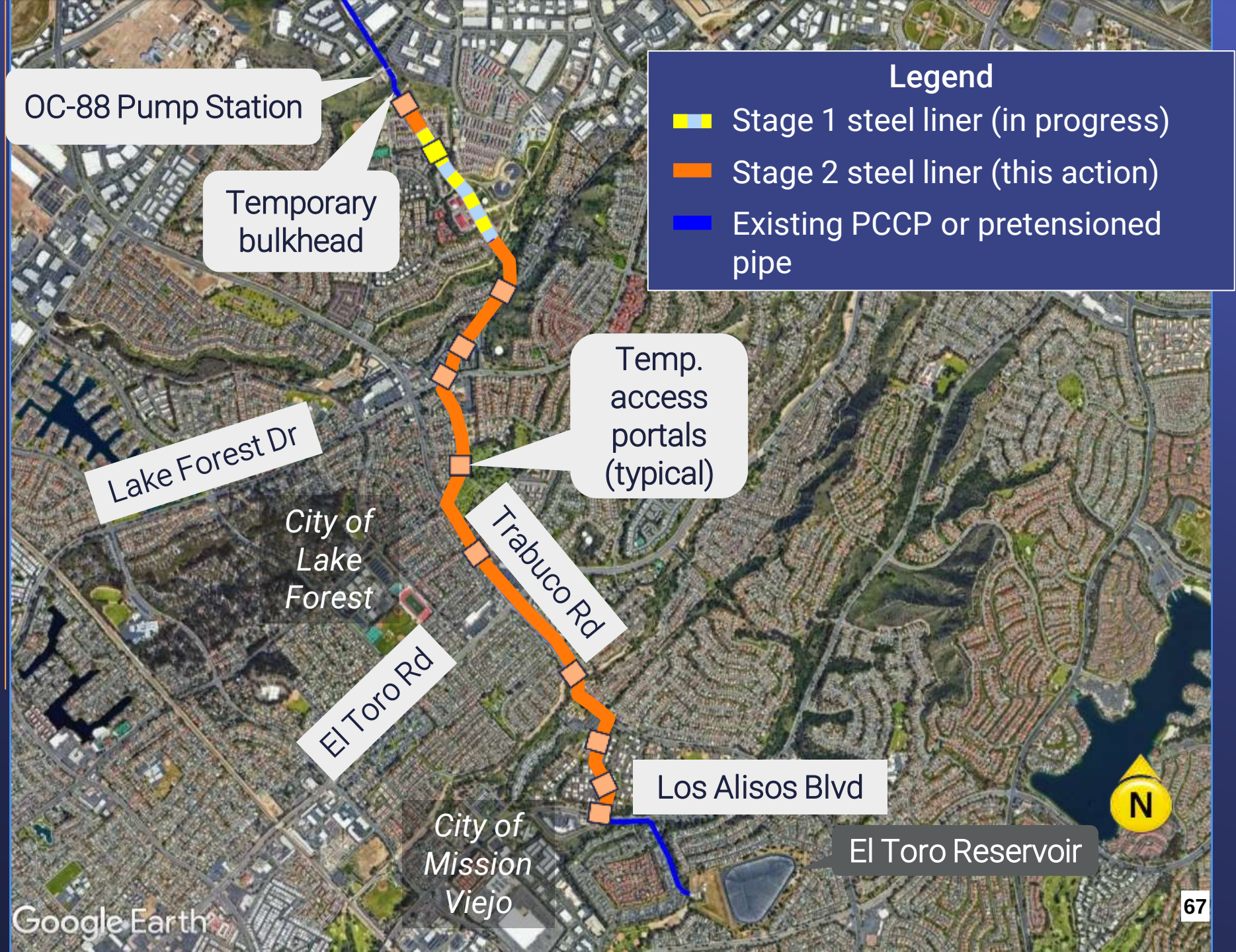
- Approach selected after consultation with MWDOC
- Efficient and cost-effective
- Minimizes service interruptions and reduces risks of PCCP failure

AMP Urgent PCCP Rehab. - Stage 2
Scope of Work

Reline 12,700 ft of PCCP:

- Temp. traffic controls
- Temp. portals (11)
- Installation, welding & grouting of new liner
- Backfill & compaction
- Restoration of streets & disturbed areas

May 13, 2024



AMP Urgent PCCP Rehabilitation

Stage 2

Metropolitan Scope of Work

- Shutdown & return to service
- Construction management & inspection
- Contract administration, engineering support
- Environmental monitoring, public outreach & project management

Liner fab inspections

Pipeline dewatering during shutdown

Bid Results
Specifications No. 2108*

Bids Received	April 12, 2024
No. of Bidders	2
Lowest Responsible Bidder	J.F. Shea Construction Inc.
Low Bid	$24,912,000
Other Bid	$34,407,000
Engineer's Estimate	$25,800,000
SBE Participation**	14%

*Contract included in PLA
**SBE (Small Business Enterprise) participation level set at 5%

AMP Urgent PCCP Rehabilitation Stage 2

Helix Environmental Planning Inc.– Agreement Amendment

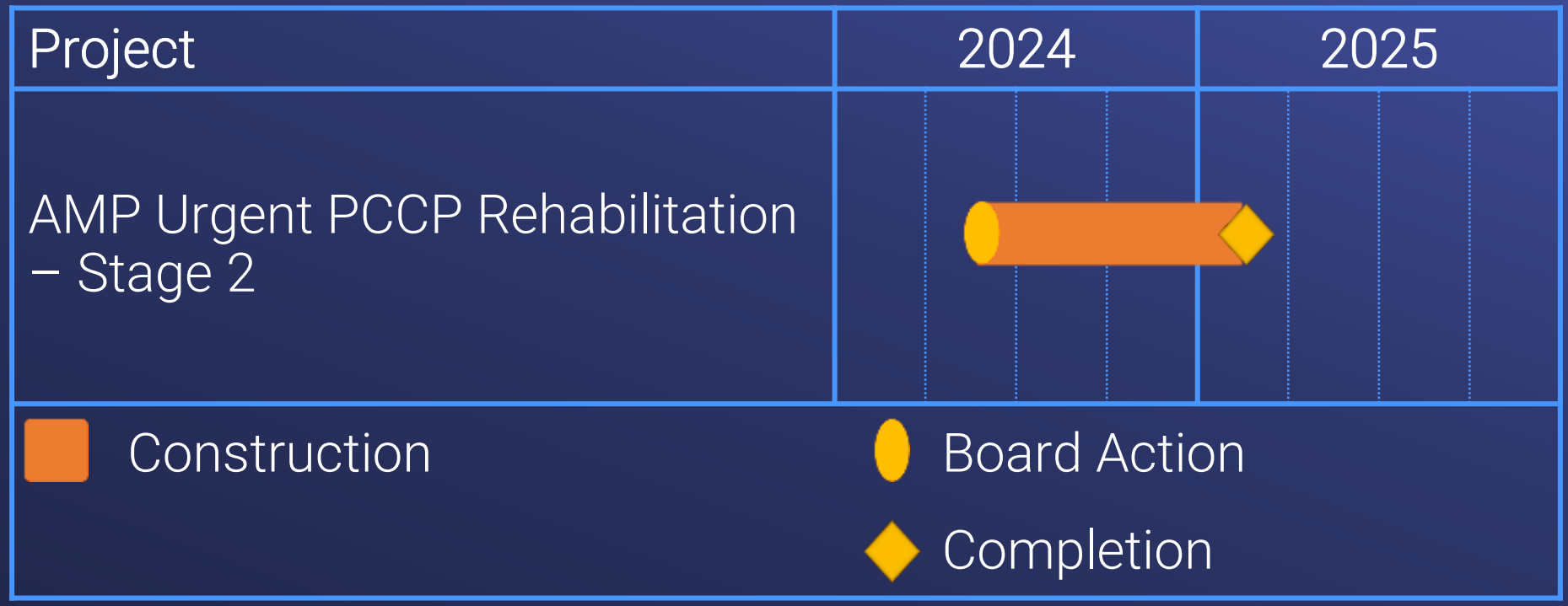
- Selected via RFP No. 1157
- Perform monitoring during construction
- Prepare environmental documentation to comply with environmental regulations
- Increase of $250,000 for a new NTE amount of $2.5 M

Allocation of Funds

Allen-McColloch Pipeline Urgent PCCP Rehabilitation – Stage 2

Metropolitan Labor	
Owner Costs (Proj. Mgmt., Contract Admin., Envir. Support)	$ 669,000
Construction Inspection & Support	2,518,000
Force Construction	1,438,000
Submittals Review, Tech. Support, Record Dwgs.	770,000
Materials & Incidentals	162,000
Professional/Technical Services	449,000
Right-of-Way	149,000
Contracts	
J.F. Shea Construction Inc.	24,912,000
Remaining Budget	833,000
	Total $ 31,900,000

Project Schedule



Board Options

- Option #1
  a. Award a $24,912,000 contract to J.F. Shea Construction Inc. to rehabilitate approximately 2.4 miles of PCCP portions of the Allen-McColloch Pipeline.
  b. Authorize an increase of $250,000 to an agreement with Helix Environmental Planning Inc. for a new not-to-exceed amount of $2,500,000.
  c. Amend Metropolitan's Project Labor Agreement to include the Allen-McColloch Urgent PCCP Rehabilitation Stage 2 Project.

- Option #2

  Do not award a construction contract to rehabilitate the AMP and do not amend an agreement for environmental planning support at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

Engineering, Operations, & Technology Committee

Development of Building Information Modeling Project Design Technologies at Metropolitan

Item 6a

May 13, 2024

Item 6a
Building Information Modeling

Subject

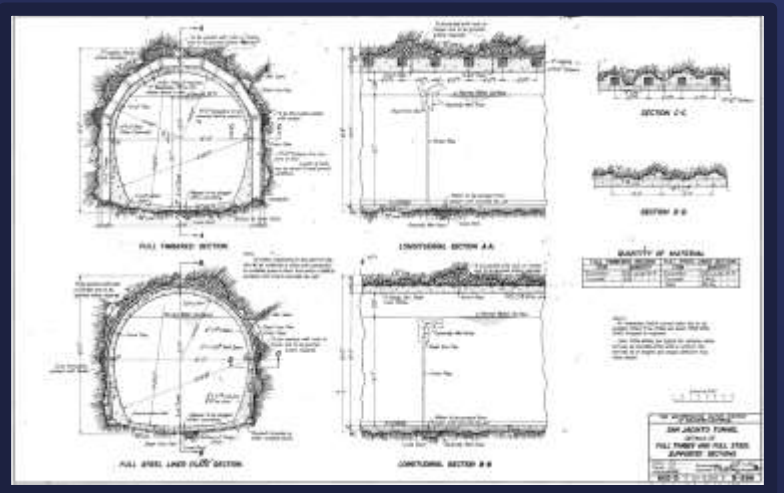
Development of Building Information Modeling (BIM) design technologies at Metropolitan

Purpose

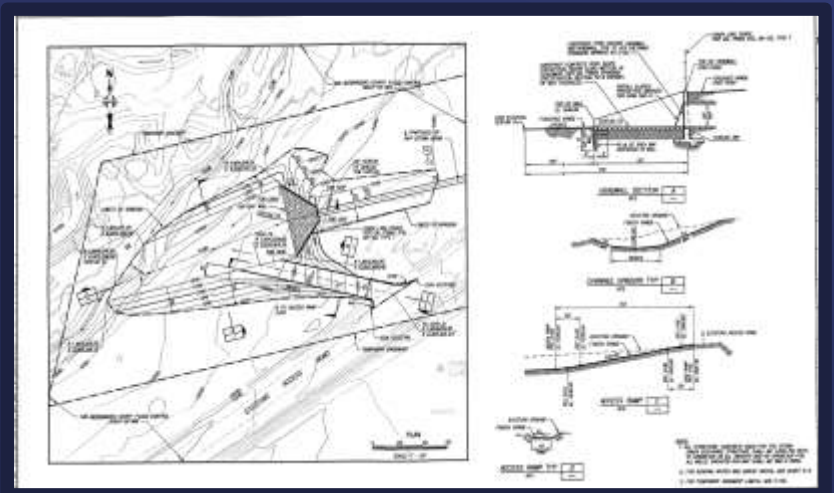
Informational: Provide update on Metropolitan Engineering Services Group's Building Information Modeling Initiative

Technological Advances in Engineering Design

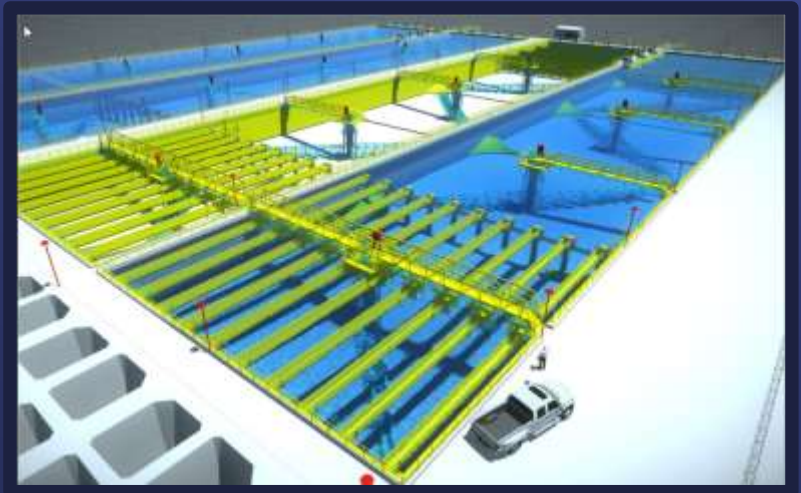
1930 → 1989 → 2020-Present → BIM → Digital Twins



Manual 2D Drafting



2D Digital CAD Designs

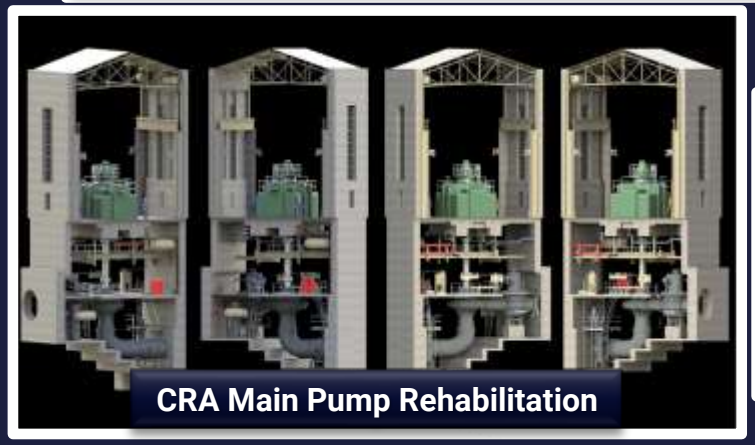


3D Modeling Design Visualization
Advanced Survey Technologies

Current Applications of Building Information Modeling (BIM) at Metropolitan


Grace F. Napolitano
Pure Water Southern California Innovation Center


Greg Avenue Pressure Control Structure


CRA Main Pump Rehabilitation


Gene Wash Reservoir Dam


Palos Verdes Reservoir


Yorba Linda Power Plant


CRA Pumping Plants Transformers

What is Building Information Modeling (BIM)

Building Information Modeling (BIM)

- New technologies
- Data rich
- 3D Modeling
- Business practice
- Process & tools
- Collaboration platforms
- Integration of systems
- Supports Progressive Design Build projects

Building Information Modeling (BIM)
Shifting the Paradigm

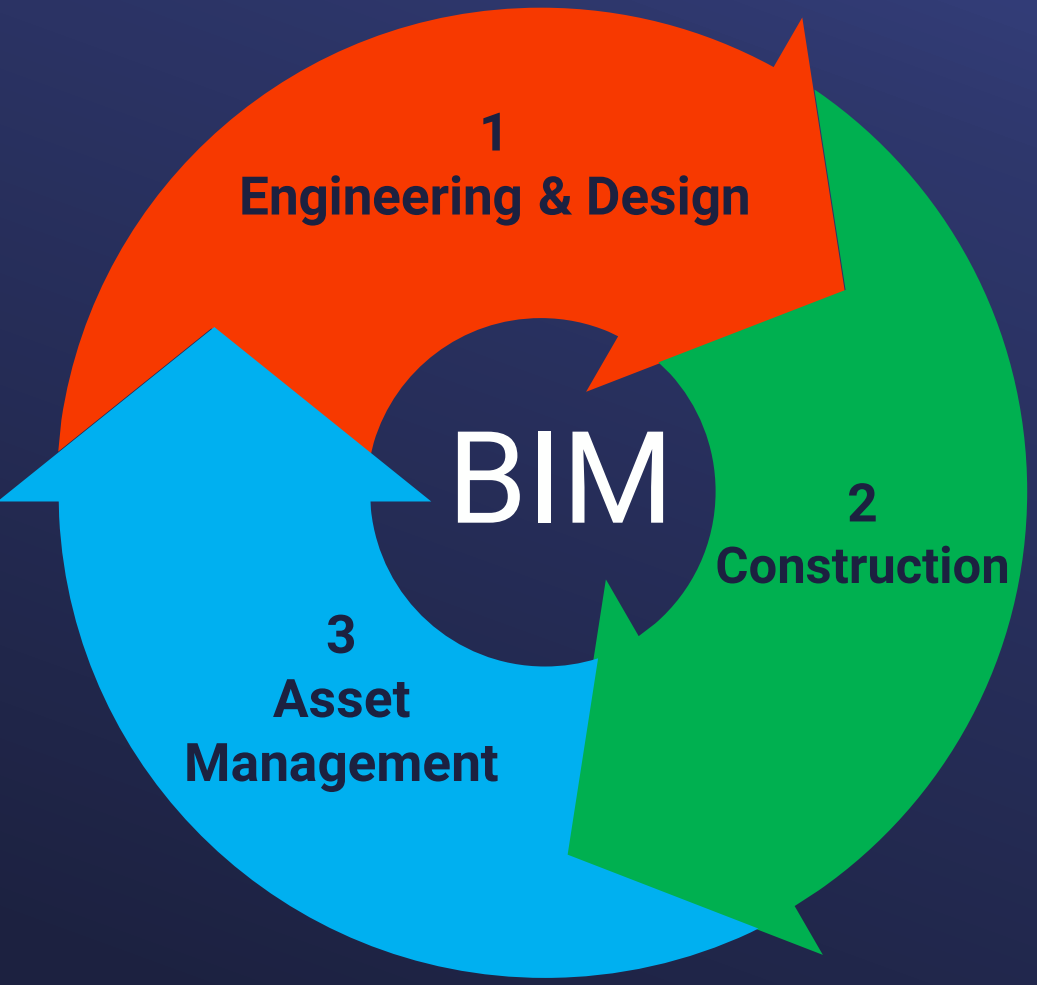
- Industry in advancing
- Innovation
- New technologies
- Transformation
- Rethinking business practices
- Methodologies enhancing collaboration
- Staying competitive
- Progressing skill sets

Industry Trends

Building Information Modeling (BIM)

- 2020 Industry Research
- Knowledge sharing with water agencies
  - United States
  - United Kingdom
  - Australia
  - Brazil

BIM Infrastructure Lifecycle Management



1 - Engineering & Design

- Better information management
- 3D design reviews
- Informed decisions
- Costs
- Reduce risks

2 - Construction

- Better information management
- Virtual planning & scheduling
- Constructability
- As-Built information

3 - Asset Management

- Better Information Management
- Effective collection of asset information
- Dashboards
- Improve lifecycle management of infrastructure
- Decommissioning planning
- Emergency Plans

Engineering Services Group's BIM Initiative

Building Information Modeling (BIM)

Building Information Modeling (BIM)

Traditional 2D Design

Future - Digital Twin

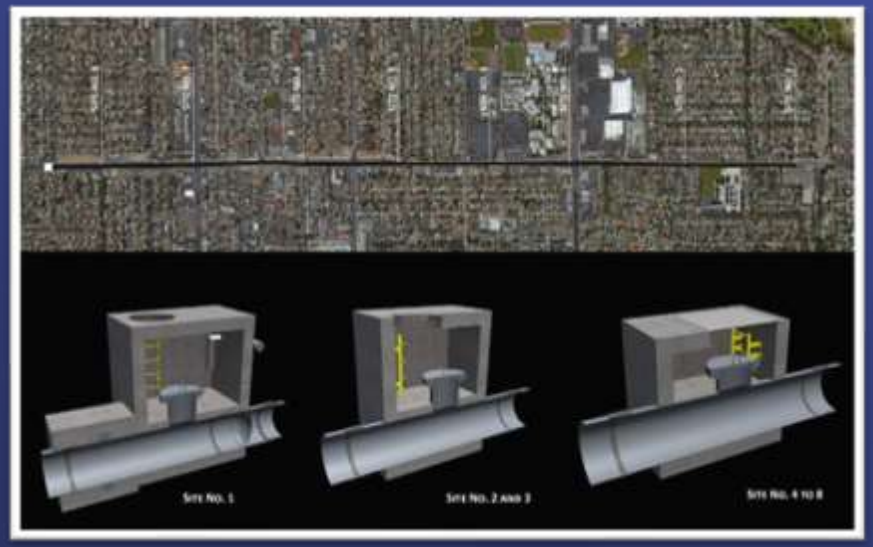
Building Information Modeling (BIM)

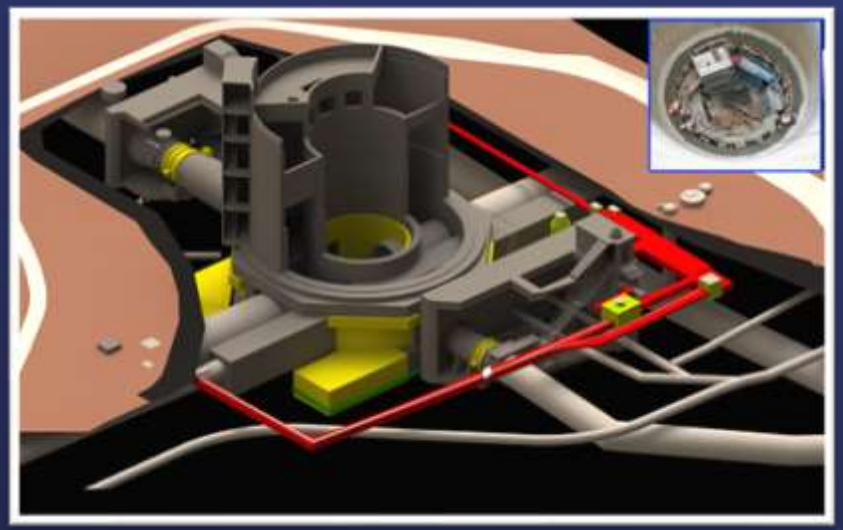
Infrastructure Digital Twin

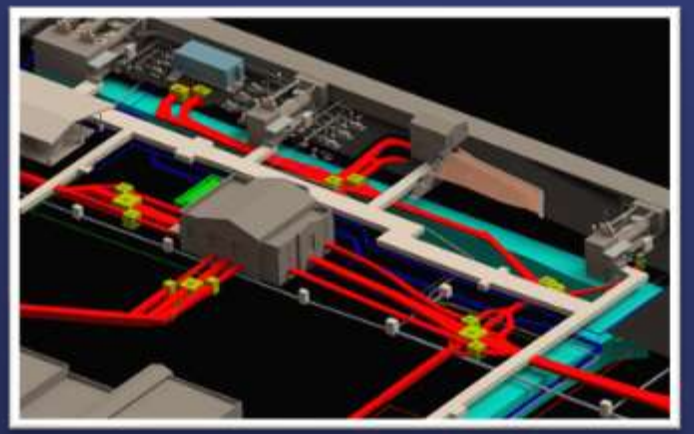
- Digital facilities
- Virtual environments
- Data rich
- Access to information
- Efficiency
- Safety
- Maintenance
- Simulation
- Analyze
- Training resource

Next Steps

- Pure Water Southern California Program
- Sepulveda Feeder Pump Stations Project
- Deploying BIM software
- Establishing new protocols and guidance documents
- Training








THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
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Engineering, Operations & Technology Committee

State Water Project Resilience Update

Item 6b

May 13, 2024

Item 6b
SWP Resilience Update

Subject

Update on Department of Water Resources' (DWR's) State Water Project (SWP) resilience efforts

Purpose

Respond to board questions regarding SWP facilities including DWR's seismic resilience program, Sisk Dam activities, and East Branch operations

Next Steps

Continue collaboration and consultation with DWR on resilience efforts

SWP Resilience Update

Requests by the Board from February 2024

- Update on DWR's seismic resilience program
- Update on Sisk Dam current activities and future proposals
- Update on role of Pearblossom Pumping Plant on East Branch capacity limitations and Metropolitan operations

DWR's Seismic Resilience Program

Primary Measures to Enhance SWP Seismic Resilience

- Pre-event mitigation
  - Perform initial evaluations (walkdowns) to identify vulnerabilities and prioritize retrofit efforts
  - Conduct detailed assessments/retrofit design
  - Implement planned retrofits
- Preparation for post-event response
  - Upgrade monitoring system to ensure effective deployment of resources
  - Organize emergency response and conduct frequent exercises

Edmonston Pumping Plant

DWR Seismic Resilience Program

SWP Seismic Network

DWR uses data to evaluate the effectiveness/value of each seismic station before replacing instruments and prior to building new stations.

DWR Seismic Monitoring along SWP

- Operates 105 active seismic stations
  - Replacement of obsolete instruments started in 2021
- Replaced 51 stations, with remaining stations to be replaced over next 6 years
- Updated 17 seismic stations and constructed 7 new stations as part of the California Earthquake Early Warning System
- Maintains 13 seismic switches along the SWP
  - Automatically activated
  - Protects infrastructure

Seismic Modernization Programs for Southern California Reservoirs

Pyramid Lake

Low-level outlet tower with potential vulnerability

Detailed evaluation underway

Castaic Lake

Tower bridge retrofit completed 2022

High- and low-level outlet tower risk mitigation

Design ongoing for tower debris mitigation

Lake Perris

Dam retrofit completed 2018

Studies ongoing on new emergency release facility

DWR Performs Seismic Walkdowns on SWP Facilities

- Seismic walkdowns originated in 2014 as part of the Oroville Dam Safety Recommendations
- Recently Completed Seismic Walkdowns
  - Oroville Flood Control Outlet (2022)
  - Hyatt Powerplant (2023)
- Ongoing Seismic Walkdowns
  - Pearblossom Pumping Plant
  - Devil Canyon Powerplant
- Planned Seismic Walkdowns
  - Edmonston Pumping Plant

Hyatt Powerplant
Seismic Walkdown

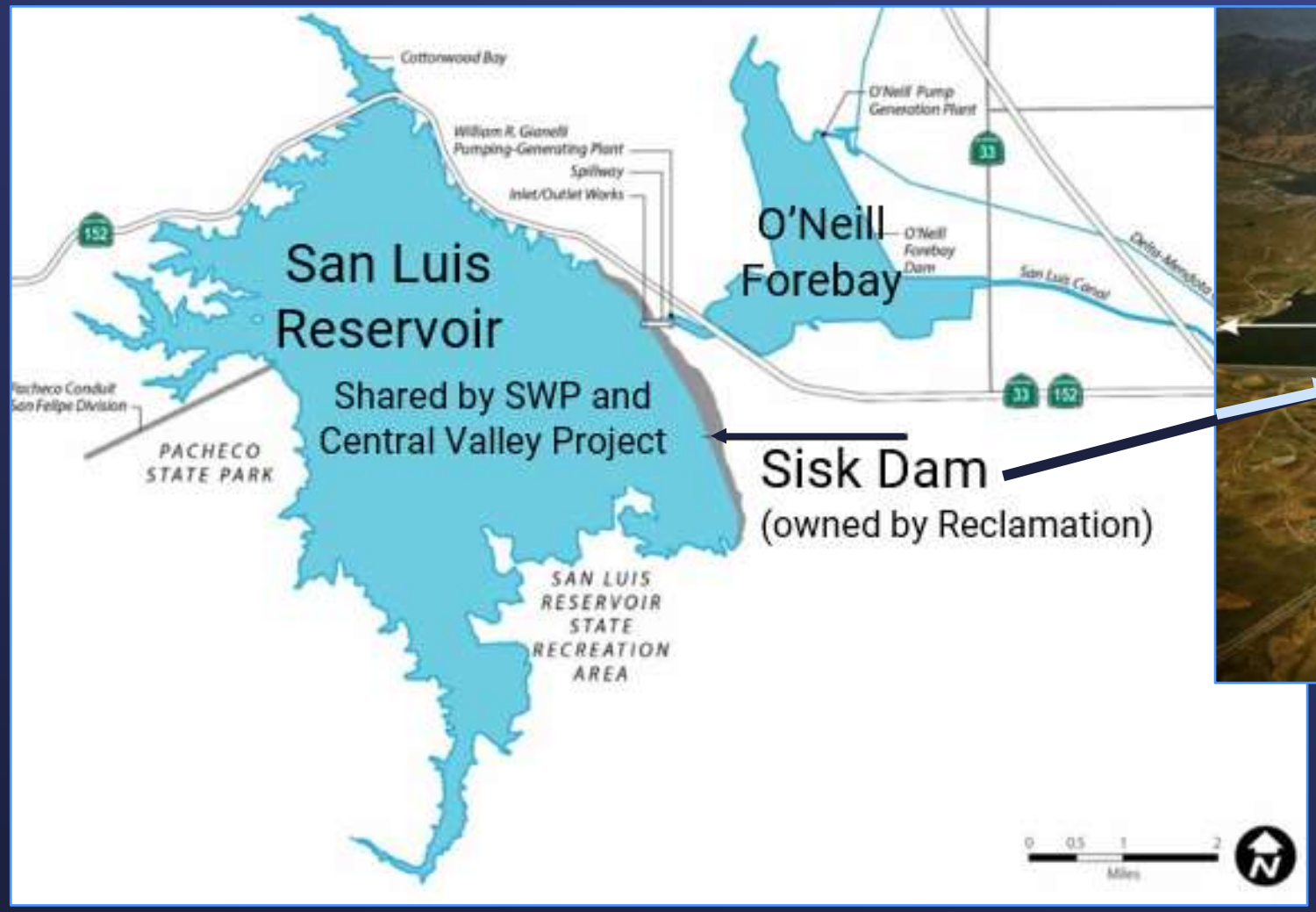
DWR and Metropolitan Collaborate on Seismic Resiliency

DWR/Metropolitan Seismic Resilience Meeting
Jensen Plant – April 11, 2024

- Aqueduct Seismic Resilience Task Force
- Joint exercises for post-earthquake response
- Exchange of information and assistance
- Coordination on DWR proposed efforts, including upcoming outages

Status Update on B. F. Sisk Dam

Sisk Dam Safety of Dams Modification Project
Improving Seismic Resilience



Seismic Modernization of Sisk Dam
Improving Seismic Resilience

2028 - 2032

Raise crest of the dam

Sisk Dam Safety Modification Project

Sisk Dam Expansion (federal project)

Crest Raise

Existing Sisk Dam

Stability Berm

Toe Drain System

2022 - 2028

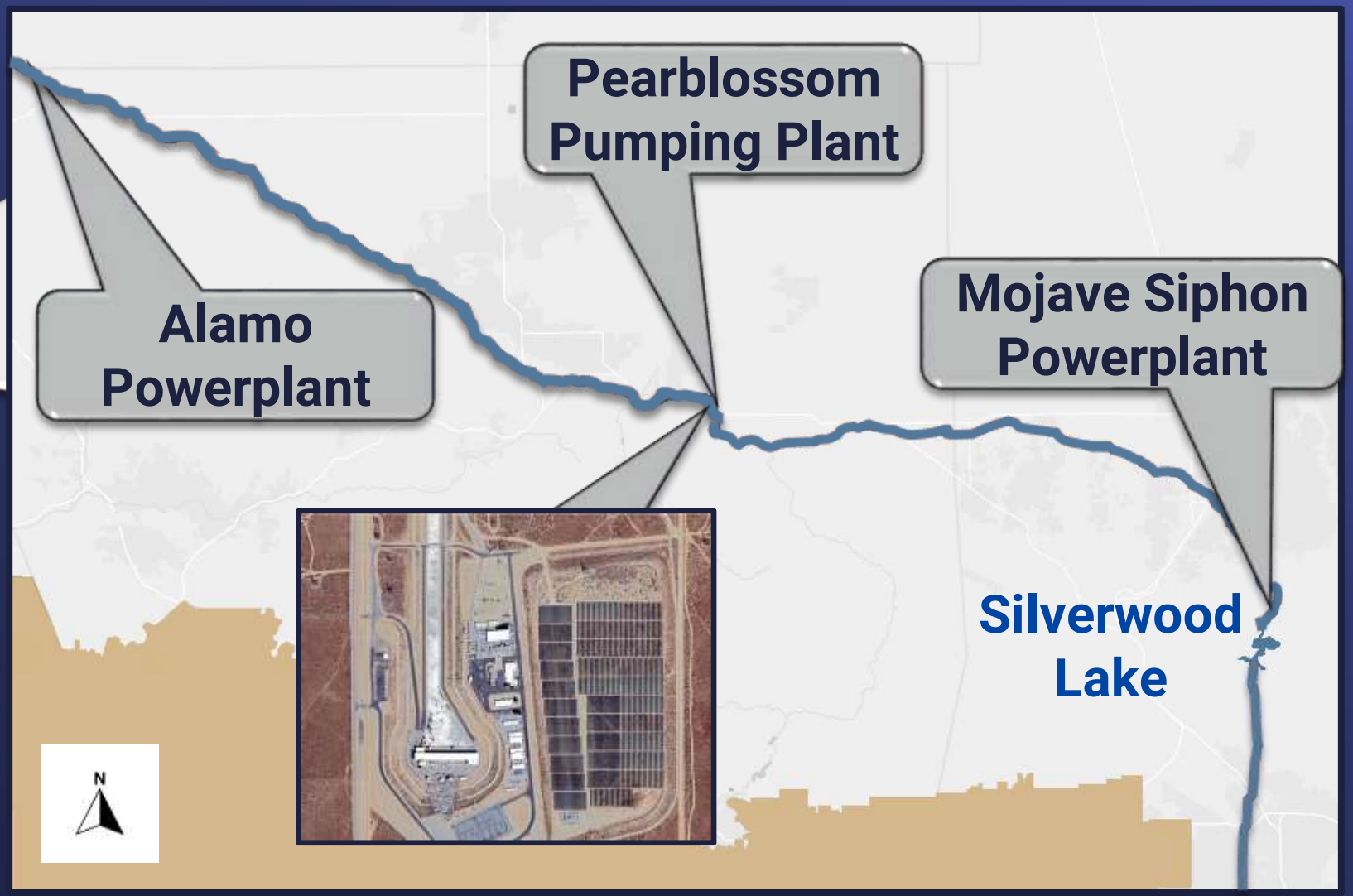
Work on berms & spillway

Environmental compliance & permitting

*This is an artistic representation of the dam and not an accurate engineering cross-section

East Branch of California Aqueduct

East Branch of the California Aqueduct



- Length: 95 miles
  - Canal: 91 miles
  - Siphons: 4 miles
- Total Capacity: 2,010 cfs
- Metropolitan: 1,675 cfs

East Branch Capacity

Diamond Valley Lake
2023 Storage 753 TAF

2023 East Branch Operational Conditions

- Existing East Branch infrastructure did not limit 2023 deliveries
- Operational Conditions & Constraints in 2023
  - Managed low demands
  - Shutdowns
  - Limited SWP blending
    - Disinfection byproduct formation
    - Alkalinity of SWP supplies
    - Nitrification
- Operational Constraints were controlling in 2023
  - Net impact: ~60 TAF not delivered within current East Branch capacity

East Branch Capacity Limitations

East Branch Capacity

- East Branch Enlargement
  - Total Capacity: 2,876 cfs
  - $400 million in 2007 dollars
- Pearblossom Pumping Plant is one element of the East Branch Enlargement
- Other Constraints
  - Raising embankment & concrete liner
  - Replacing road
  - Improving bridges, pipelines, culverts, & siphons
- Phased Improvement Possible

Pearblossom PP Forebay

Improve Reliability

Next Steps

- Continue to evaluate the need for East Branch Enlargement based on availability of SWP supplies and updated demands
- Evaluate potential preferred alternatives, such as northern storage to improve reliability
- Continue collaboration and consultation with DWR on resilience efforts


THE METROPOLITAN WATER DISTRICT OF
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Engineering, Operations, & Technology Committee

Cybersecurity Quarterly Update

Item 6c

May 13, 2024

Agenda

- Member Agency Cybersecurity Summit
- Board of Directors Cybersecurity Awareness Training
- Board of Directors Access to ShareVault

Member Agency Cybersecurity Summit

Member Agency Cybersecurity Summit

WHAT: Summit to learn about cyber threats to water, basic measures that can be put in place, and share ideas on how to meet the challenges presented by cyber threats during a time of limited resources

WHERE: Metropolitan Headquarters Building

WHEN: July 11, 2024

WHO: Agency technical staff and operational leadership

WHY: Cyber threat actors threaten to disrupt our ability to reliably deliver safe drinking water to the many people in our service areas. It is not only a matter of National Security, but it is a matter of Public Safety and Welfare

There will be presentations, panel discussions and round tables facilitated by subject matter experts

Cybersecurity Awareness Training

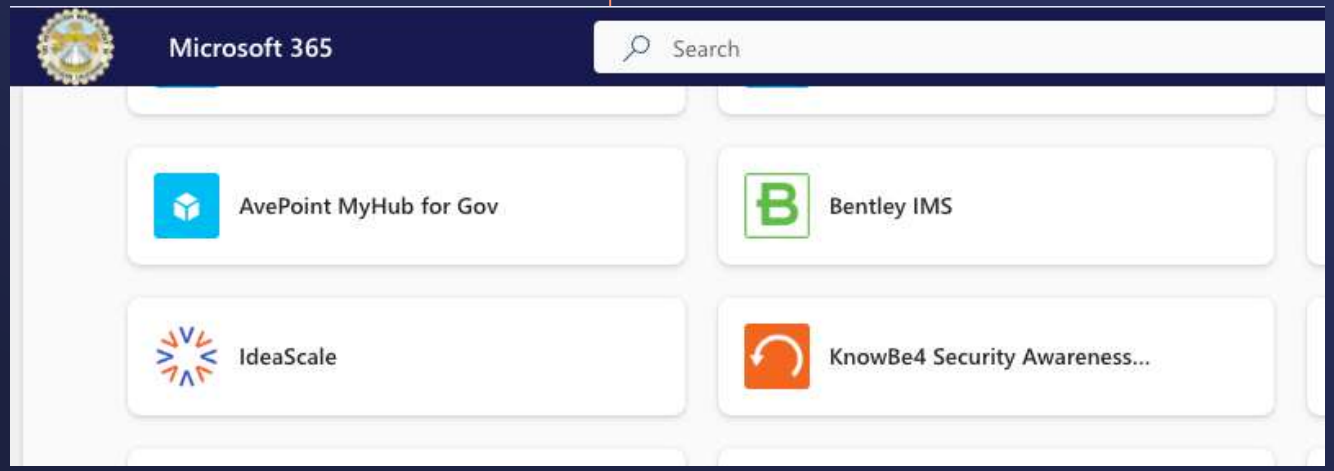
Board of Directors Cybersecurity Awareness Training

WHAT: Online training to provide fundamental knowledge of cyber threats and how to identify these threats

WHEN: Available May 01, 2024 – this campaign specifically curated for the Board of Directors will launch and remain available for access indefinitely

WHERE: Through the KnowBe4 platform

HOW: Directors will need to either use a registered device such as an iPad or YubiKey and a computer to access the KnowBe4 site



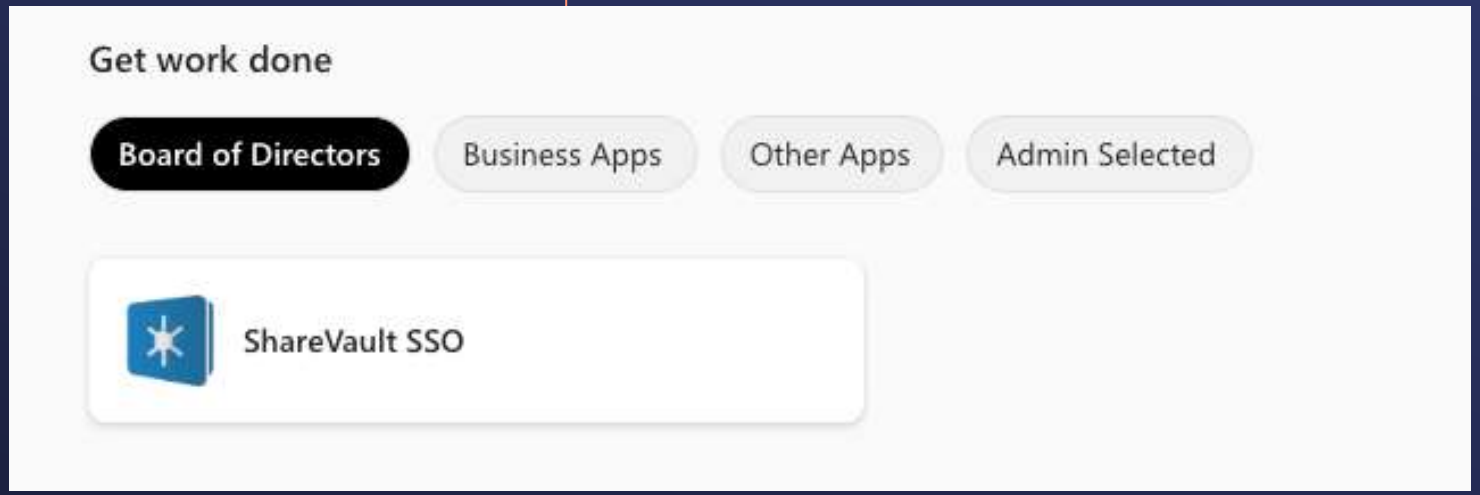
ShareVault Access

ShareVault Access

WHAT: Access for secure file sharing

WHERE: Link is located under the applications section of Office.com

HOW: Directors will need to either use a registered device such as an iPad or YubiKey and a computer to access the ShareVault Site

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SOUTHERN CALIFORNIA
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THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Board Report

Engineering Services Group

- **Engineering Services Monthly Activities for April 2024**

Summary

This monthly report provides a summary of Engineering Services Group activities for April 2024 in the following key areas:

- Distribution System Reliability Program
- Prestressed Concrete Cylinder Pipe (PCCP) Reliability Program
- Colorado River Aqueduct (CRA) Reliability Program
- Treatment Plant Reliability Program
- System Reliability Program
- Protecting the Public and Metropolitan's Assets – Safety of Dams
- Value Engineering Program
- Pure Water Southern California Program
- System Flexibility | Supply Reliability Program

Purpose

Informational

Attachments

Attachment 1: Detailed Report - Engineering Services Group's Monthly Activities for April 2024

Date of Report: 5/13/2024

Engineering Services Key Activities Report

April 2024

Engineering Services manages and executes projects within the Capital Investment Plan (CIP) to maintain infrastructure resiliency, ensure regulatory compliance, enhance sustainability, and provide flexibility in system operations to address uncertain water supply conditions.

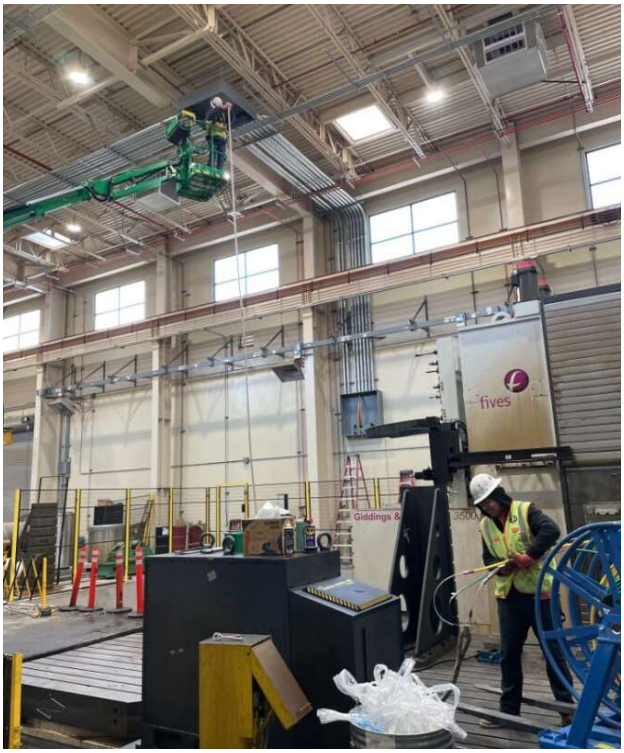
Recent activities on CIP programs and other key engineering functions are described below.

Protect public health, the regional economy and Metropolitan's assets

Distribution System Reliability Program

This capital program maintains reliable water deliveries through specific rehabilitation and upgrade projects on Metropolitan's pipelines, reservoirs, and control structures. Recent activities include the following:

- La Verne Shops Building Completion Stage 4—This project will complete the La Verne Shops building improvements and install Metropolitan-furnished shop equipment. The contractor continued installing electrical conduits for branch circuits and accessways for the new electrical ductbank; began installing reinforcing steel for the new blast booth and foundation concrete formwork for the blast booth pit walls; and is installing new underground natural gas lines. Construction is approximately 78 percent complete and is scheduled to be complete in August 2024.
- Garvey Reservoir Rehabilitation—This project will replace the aging reservoir floating cover and liner, structurally strengthen the inlet/outlet tower, upgrade the on-site water quality laboratory building, rehabilitate the junction structure, and replace the existing standby generator and a portion of the security perimeter fence. The draft Environmental Impact Report (EIR), including the environmental documentation for this rehabilitation effort, is scheduled to be released in July 2024, followed by a presentation to the Monterey Park City Council on this same subject. Final design is approximately 25 percent complete and is scheduled to be complete in April 2025.
- Lake Mathews Pressure Control Structure (PCS) and Electrical System Upgrades—This project will replace the aging Lake Mathews discharge facility and electrical system. The project includes construction of a new PCS with a bypass pipeline alongside the existing forebay and upgrade the electrical system to accommodate future power needs. This project will utilize a progressive design-build (PDB) project delivery method. It is anticipated that an RFQ for Phase 1 will be advertised at the end of 2024 and a Design-Builder selected in early 2025.



La Verne Shops – Installation of Electrical Conduits

- Lake Mathews Wastewater System Improvements—This project consists of replacing the existing septic tank system at Lake Mathews with a new wastewater collection system. The new wastewater system connects to a nearby off-site Western Municipal Water District main wastewater line. The contractor has completed all work and a notice of completion was issued in April 2024.
- Rialto Pipeline Rehabilitation—This project replaces a 35-foot long, 121.5-inch diameter section of welded steel pipe on the Rialto Pipeline in the city of Upland, where the mortar lining has failed. This project also replaces the deteriorating pipe spool and isolation valve at the CB-11 service connection. Final design is complete and board award of a construction contract is scheduled for August 2024.
- Foothill Hydroelectric Plant and Control Building Seismic Upgrade—This project rehabilitates and strengthens the Foothill Hydroelectric Plant and Control Building to withstand a major earthquake and retain its functionality as an essential facility. The contractor has completed the seismic strengthening of the roof and is now excavating to perform work on the foundation. Construction is 40 percent complete and is scheduled to be complete by December 2024.
- San Diego Canal Relining—This project replaced damaged concrete lining at three locations along the San Diego Canal. The contractor has completed all work, and a notice of completion was issued in April 2024.
- Sepulveda Electrical Improvements—This project replaces deteriorated electrical components, makes other upgrades at three Sepulveda Feeder underground structures, and installs two blind flanges after removing a spool on the West Valley Feeder No. 1. The contractor completed installation of the power pedestal, lighting, and receptacles in all vaults, and began cutover of electrical devices to the new power pedestal. Construction is 85 percent complete and scheduled to be complete in May 2024.

Prestressed Concrete Cylinder Pipe (PCCP) Reliability Program

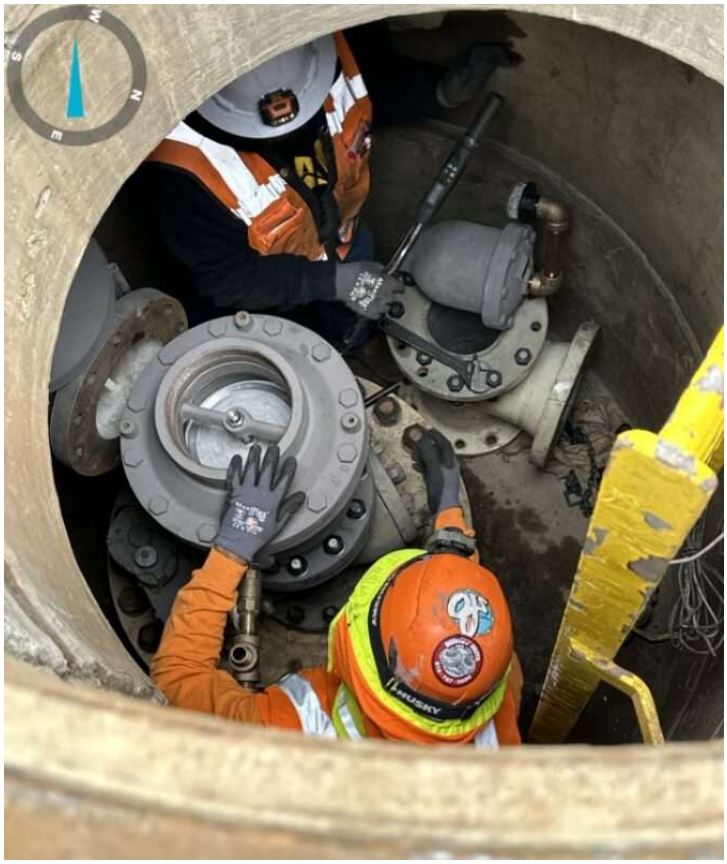
This capital program was established to enhance the reliability of Metropolitan's water distribution system and to reduce the risk of costly emergency repairs of PCCP. The priority pipelines included in the program are the Second Lower Feeder, Sepulveda Feeder, Calabasas Feeder, Rialto Pipeline, and the Allen-McColloch Pipeline. A total of 100 miles of PCCP pipelines will be refurbished under this multi-year program. Recent activities include the following:

- Second Lower Feeder Valves—This procurement contract provides 13 conical plug valves for the Second Lower Feeder PCCP rehabilitation. Metropolitan's Board awarded a procurement contract for the valves in December 2018. Ten valves have been delivered as of January 2024. The eleventh and twelfth valves are scheduled to be shipped in the Fall of 2024. Fabrication of the final valve will be completed in late 2024, and delivery is projected for early 2025.
- Second Lower Feeder PCCP Rehabilitation Reach 3B—This project installs steel lining and three conical plug valves (described above) along a 3.7-mile-long portion of the Second Lower Feeder that traverses the cities of Lomita, Los Angeles, and Torrance. The first shutdown was successfully completed in April. The Second Lower Feeder is back in service, and the temporary bypass at the Palos Verdes Reservoir will remain inactive until the second shutdown. During the first shutdown, 62 percent of the reach was relined, all service connection valves were replaced, and ten access structures were rehabilitated. A second shutdown is planned for winter 2024/25 which will allow for the installation of the three valves and complete the lining of the pipeline reach. Overall construction effort on the project is 49 percent complete and is scheduled to be complete in September 2025.
- Sepulveda Feeder Urgent Carbon Fiber—This project rehabilitates three distressed Sepulveda Feeder PCCP segments in the Van Nuys, Sherman Oaks, and Brentwood neighborhoods of the City of Los Angeles using carbon fiber-reinforced polymer lining. In April 2024, the contractor completed carbon fiber installation and the pipeline was disinfected. All construction will be completed in May 2024.
- Allen-McColloch Pipeline Urgent PCCP Rehabilitation—This project will perform urgent relining of distressed PCCP segments of the Allen-McColloch Pipeline (AMP) discovered during a recent inspection. Relining of the AMP will be performed in stages to minimize impacts to member agencies. The first stage focused efforts on the northern portion and was successfully completed in April 2024. The second stage, to be performed from May to December 2024, will address the southern portion of the pipeline. Final design for Stage 2 is complete and a board action to award a construction contract is planned for May 2024.

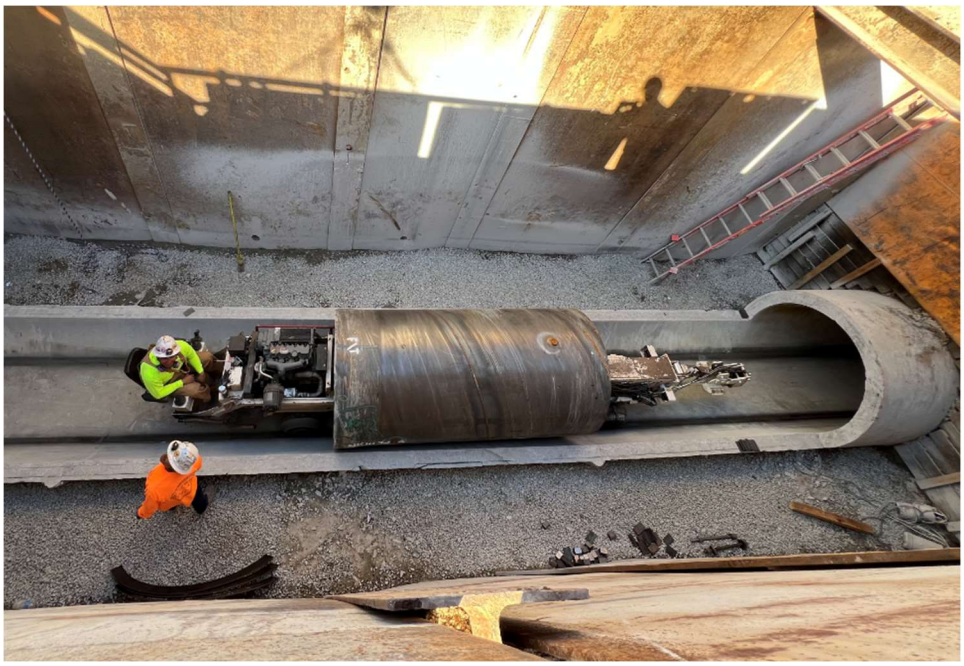
Colorado River Aqueduct (CRA) Reliability Program

This capital program maintains the reliability of Metropolitan's CRA conveyance system. Recent activities include the following:

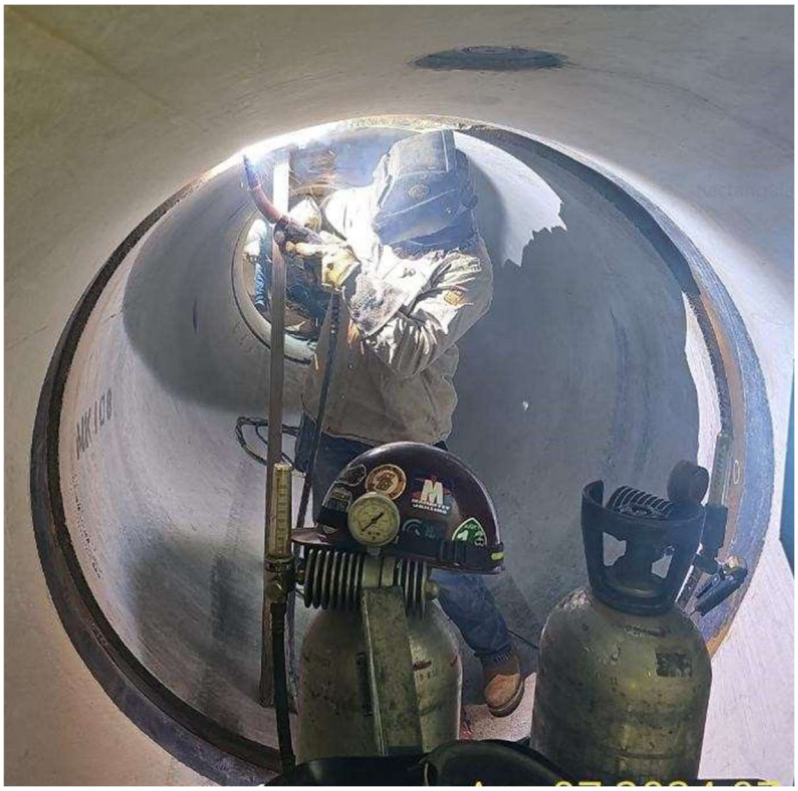
- Flow Level Monitoring Stations—This project will install 12 flow monitoring stations at remote locations along the Colorado River Aqueduct. The contractor has completed the modifications of the existing access structures and has placed the concrete for the building foundation at Mile Marker 54.25. Construction is 26 percent complete and is scheduled to be complete in July 2024.



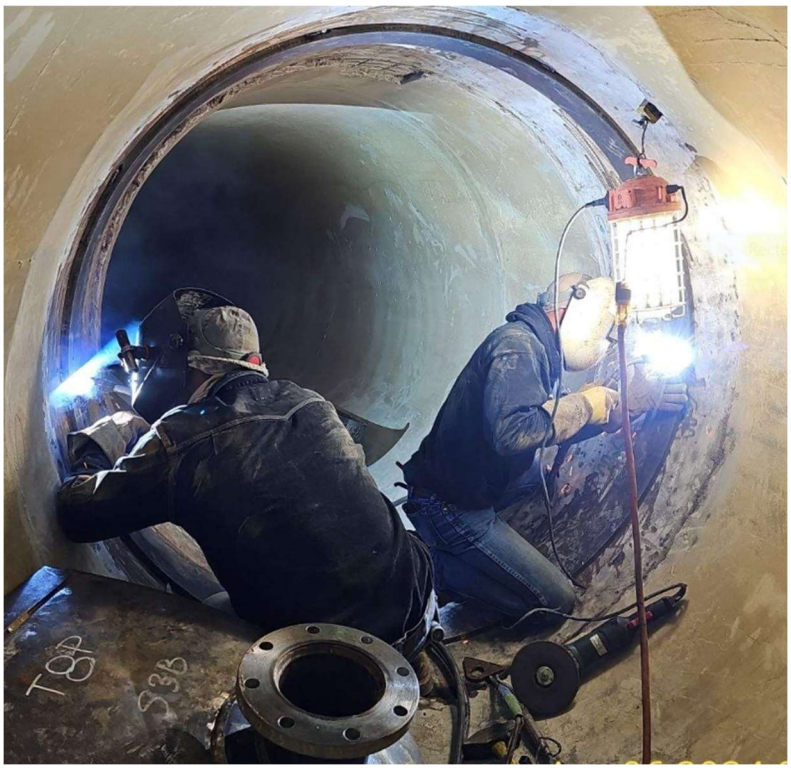
Second Lower Feeder Reach 3B—Valve Installation



Allen-McColloch Pipeline Urgent PCCP Rehabilitation—Installation of Liner Pipe



Allen-McColloch Pipeline Urgent PCCP Rehabilitation—
Welding of Joints on New Liner Pipe



Allen-McColloch Pipeline Urgent PCCP Rehabilitation—Welding of Steel Band for Bulkhead

- Cabazon Radial Gate Replacement—This project will replace an inline and wasteway radial gate at the facility as well as install security, electrical, and safety upgrades. Final design is 65 percent complete and is scheduled to be complete in July 2024.
- Domestic Water Treatment System Upgrades—This project upgrades the domestic water treatment systems at all five CRA pumping plants, including the replacement of the water treatment units. Fabrication of the temporary treatment skids was completed, and the contractor will begin temporary treatment connections in May 2024. Construction is 39 percent complete and anticipated to be completed in early 2026.
- Erosion Control Improvements—This project will install erosion control features at 23 conduit locations along the CRA, which are vulnerable to erosion during storm events. Preliminary design has been completed. A request for authorization of a new agreement for final design is planned for the May 2024 board meeting.
- CRA Main Transformer Replacement—This project replaces the 35 230 kV and 69 kV step-down transformers that are used to run the main pumps at all five of Metropolitan's Colorado River Aqueduct pumping plants. Preliminary design was completed in June 2023. The transformer procurement is currently advertising as a best-value procurement, and staff is responding to questions from prospective bidders. Award of the procurement contract and authorization of a consulting agreement for final design is scheduled for the August 2024 board meeting.

Treatment Plant Reliability Program

This capital program was initiated to maintain reliability and improve the operating efficiency of Metropolitan's water treatment plants through specific improvement projects. Recent activities include the following:

- Weymouth Basins 5–8 and Filter Building No. 2 Rehabilitation—This project rehabilitates major mechanical and structural components of Basins 5–8 and Filter Building No. 2 at the Weymouth plant, including the flocculation/sedimentation equipment, sludge pumps, baffle boards and walls, launders, inlet gates, and outlet drop gates. Rehabilitation work also includes seismic upgrades of basin walls and inlet channel, hazardous material abatement, and replacement of filter valves and actuators in Filter Building No. 2. The contractor completed all rehabilitation work and startup testing in Basins 7 and 8, continued rehabilitation of Filter Building No. 2, and began construction activities in Basins 5 and 6. Construction for this contract is 65 percent complete and is scheduled to be complete in June 2025.
- Weymouth Administration Building Upgrades—This project upgrades the Weymouth Administration Building to withstand a significant earthquake. The planned upgrades include structural strengthening consistent with current seismic standards for essential facilities as well as accessibility and fire/life safety improvements, architectural modifications near the areas of structural upgrades, and improvements associated with the preservation of historic architectural features. Final design is approximately 40 percent complete and is scheduled to be complete in March 2025.

Weymouth Basins 5–8 and Filter Building No. 2 Rehabilitation—
Filling Basin with Water for Initial Operational Testing

Weymouth Basins 5–8 and Filter Building No. 2 Rehabilitation—Installing Joint Sealant at Basin 7

- Mills Electrical Upgrades—This project upgrades the electrical system with dual-power feeds to key process equipment to comply with current codes and industry practice, improve plant reliability, and enhance worker safety. Stage 1 construction is complete. Stage 2 improvements will add a second incoming 12 kV service from Riverside Public Utilities, reconfigure the existing 4160-volt switchgear, and replace the standby generator switchgear and the emergency generator programmable logic controller. The contractor completed installation of the electrical conduits at the standby generator building and continued installation of the electrical conduits and cable trays inside the ORP Switchgear Building. Construction is approximately 50 percent complete and is scheduled to be complete in August 2025.
- Jensen Ozone PSUs Replacement—This project rehabilitates the ozone generation system at the Jensen plant by replacing four existing ozone power supply units (PSUs) and four sets of generator dielectrics. The project also makes required modifications to the associated electrical, control, and cooling water systems. Metropolitan's Board awarded a construction contract in June 2022. All PSUs and dielectrics have been manufactured and delivered. Replacement of the PSUs has been staged to ensure continuous use of ozone during construction. The contractor completed installation and startup testing of two PSUs, began installation of the two remaining PSUs, and continued replacing the ozone generator dielectrics. Construction is 85 percent complete and is scheduled to be complete in June 2024.
- Diemer Filter Rehabilitation—This project rehabilitates the Diemer plant's filters to improve their performance and enhance plant reliability. The planned rehabilitation includes replacing filter media, improving the existing surface wash system, modifying the distribution flumes, and replacing filter elements, such as underdrains and troughs. Final design is approximately 30 percent complete and is scheduled to be completed in December 2024.

System Reliability Program

The System Reliability Program consists of capital projects to improve or modify facilities located throughout Metropolitan's service area to use new processes and/or technologies and improve facility safety and overall reliability. Recent activities include the following:

- Headquarters Physical Security Upgrades—This project implements comprehensive security upgrades for the Metropolitan Headquarters Building. These upgrades are consistent with federally recommended best practices for government buildings. The work has been prioritized and staged to minimize rework and impacts on day-to-day operations within the building. Stage 1 work is complete and provides enhanced security related to perimeter windows and doors. Stage 2 work is complete and provides security system upgrades inside the building with a focus on the main entry rotunda area, boardroom, executive dining lounge, and security control room. Construction of Stage 3 improvements is underway and will provide security system upgrades around the perimeter of the building. The contractor continued installation of the ornamental fence within the courtyard and concrete placement for the fixed bollards. Construction is 65 percent complete and is scheduled to be complete in June 2024.
- SCADA System Upgrades—This project will upgrade Metropolitan's entire control system in incremental stages, spanning the Colorado River Aqueduct, the five water treatment plants, and the conveyance and distribution system. The first stage of this project replaces the control system at the Mills plant, starting with a pilot effort on one of the plant's remote terminal units to demonstrate the

proposed technology and the consultant's approach for the plant and the overall project. Staff continued evaluating the results of the recently installed pilot equipment. The pilot phase is approximately 99 percent complete and is scheduled to be complete in June 2024. The system upgrades at the Mills plant are scheduled to be complete in October 2026.

Protecting the Public and Metropolitan's Assets—Safety of Dams

Engineering Services continued to develop state-mandated Emergency Action Plans (EAPs) for Metropolitan's state-regulated dams to help ensure long-term public safety. This month, the EAPs for the Weymouth Finished Water Reservoir and the Goodhart Canyon Detention Basin were officially approved by Cal OES. All of Metropolitan's 13 state-required EAPs have now been fully approved by Cal OES.

The first of several planned comprehensive dam safety assessments was also initiated in April, which included a Potential Failure Modes Analysis (PFMA) workshop followed by a risk assessment workshop for the Lake Mathews dams, outlet towers, spillway, and forebay structures.

Value Engineering Program

La Verne Water Quality Laboratory Building Upgrade—Technical Assessment

This project includes laboratory functional upgrades in conjunction with seismic upgrades and an expansion of the existing building footprint from a single-story 60,000-square-foot building to a single-story 90,000-square-foot building. In April, Engineering Services completed a technical assessment for the La Verne Water Quality Laboratory Building Upgrade project. The technical assessment examined design alternatives to potentially reduce construction cost and duration. The assessment team included Metropolitan and consultant staff specializing in construction management and construction costs and scheduling. This project is in preliminary design and a formal value engineering workshop is planned for September.

Main Entrance to Water Quality Laboratory Building

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Adapt to changing climate and water resources

Pure Water Southern California Program

The Pure Water Southern California (PWSC) Program is a large regional recycled water project that will provide a new local source of safe and reliable drinking water for Southern California. PWSC currently focuses in four areas: demonstration testing, environmental planning, technical studies, and preliminary design of initial pipeline reaches. PWSC will produce 150 million gallons per day (mgd) of purified water from the Advanced Water Purification Facility (AWPF) in Carson, for indirect potable reuse (IPR) and direct potable reuse (DPR) applications, with the initial deliveries by 2030 and completion by 2035.

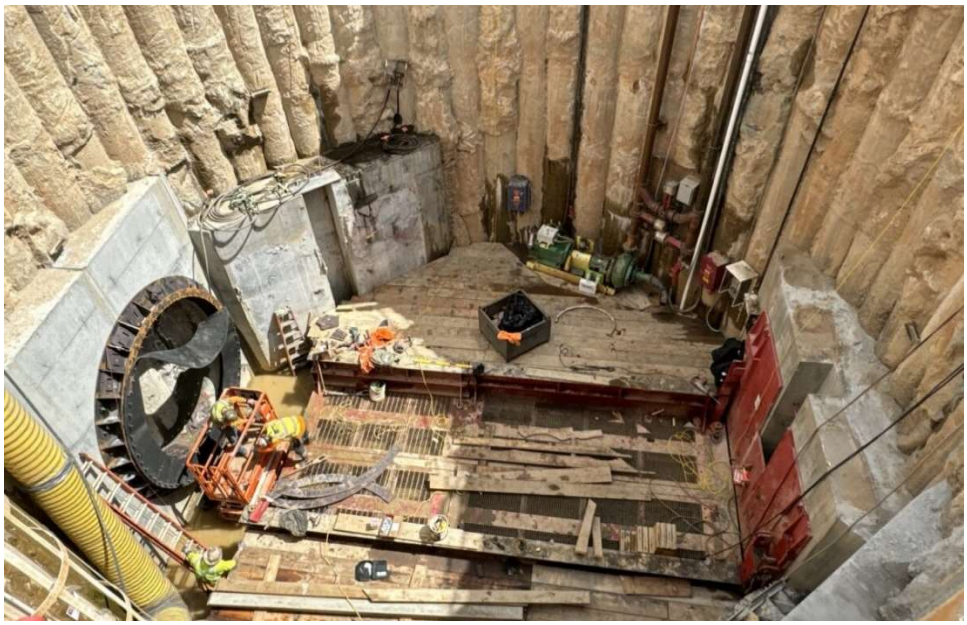
- Demonstration Testing: Demonstration testing began in 2019 with N-only tertiary membrane bioreactor (tMBR) testing completed in 2021 and secondary MBR (sMBR) testing completed in 2023. Modifications for tMBR optimization testing have been completed. The system is online and currently operating in the nitrification/denitrification mode.
- Environmental Planning: The Environmental Planning Phase began in 2020 with the goal of preparing an Environmental Impact Report (EIR) for approval in 2025. Various technical studies have been prepared to support the effort. The draft EIR is currently scheduled for publication in early-2025, with board certification of the document in the third quarter of 2025. Staff continues to finalize the project description, perform additional technical studies, incorporate changes to the program due to inclusion of the LADWP Operation NEXT pipe upsizing, and development of the draft EIR. The Board authorized an amendment to the existing agreement with Helix Environmental Planning Inc. in March 2024 to address the program changes and allow additional planning studies for NEPA documents required by federal funding.
- Program Management: PWSC program management efforts lead the planning for the Program, including project controls, scheduling, budget development, risk management, coordination with Program partners and stakeholders, grants and funding, and preparation of various plans and studies.
    - A PWSC cost estimate update was presented to the PWSC/Regional Conveyance Subcommittee in November 2023. A cost estimate methodology technical memorandum was prepared to document the cost details developed for the AWPF and conveyance systems and provided to the Subcommittee in January 2024.
    - A draft construction sequencing memorandum has been prepared to identify the milestones and construction contracts needed to meet the projected completion of the AWPF, the backbone pipeline, and full delivery for IPR in 2032. The memorandum will be finalized by April 2024.
    - A Large-Scale Water Recycling grant application requesting $125 million was submitted to the US Bureau of Reclamation (USBR) in November 2023. Successful applicants will be notified in the second quarter of 2024. To receive funding, Metropolitan prepared and submitted a feasibility study in January 2024 to meet the USBR requirements.

- Advanced Water Purification Facility: The AWPF will purify wastewater from LACSD's A.K Warren facility (formerly the JWPCP) using membrane bioreactors (MBRs), reverse osmosis (RO), and ultraviolet/advanced oxidation (UV/AOP).
    - A draft conceptual facilities plan has been prepared to document key assumptions of AWPF components.
    - The program team is evaluating the use of progressive design build to design and construct the advanced treatment plant facilities.
    - A proposed Request for Qualifications (RFQ) from qualified firms to design and construct the AWPF is currently in development and is scheduled for advertisement in the third or fourth quarter of 2024. Authorization of this procurement is planned for early-2025.
    - The Method of Services (MOS) study agreements with Southern California Edison (SCE) have been finalized so that SCE can evaluate electrical infrastructure needed to meet AWPF power requirements.
    - The program team reached out to agencies to collect information on their operational practices and lessons learned for product water stabilization.
- Direct Potable Reuse (DPR): The California Division of Drinking Water (DDW) published the final DPR regulations in December 2023. Metropolitan has completed bench-scale testing to screen the potential DPR treatment processes that could be used for the program. Planning of pilot-scale testing is in progress. A technical workshop was held with the Independent Scientific Advisory Panel (ISAP) in March 2024, to discuss bench-scale testing data and proposed DPR treatment train. A DPR white paper is currently being developed to establish Metropolitan's DPR implementation approach via the PWSC Program.
- Conveyance Pipeline System: The program's backbone conveyance system consists of over 40 miles of pipeline and two pump stations. Metropolitan's Board authorized consulting agreements for preliminary design of the first two pipeline reaches in March 2023. Metropolitan surveyors used a new high-definition mobile LiDAR system, which is mounted to the back of a truck, to survey all 14 miles of the proposed alignment for Reaches 1 and 2 in one day. This device captures over 500,000 survey measurements per second. The data is being processed and will assist with project planning and preliminary design.
    - Reach 1—This reach is approximately six miles long and runs through the city of Carson. Current work includes utility field investigation and geotechnical work. Preliminary design is 55 percent complete and is scheduled to be complete by late-2024.
    - Reach 2—This reach is approximately eight miles long and runs through the cities of Long Beach and Lakewood. Current work includes ground penetrating radar and obtaining permits for geotechnical work. Preliminary design is 20 percent complete and is scheduled to be complete by late-2024.

System Flexibility | Supply Reliability Program

Projects under this capital program will enhance the flexibility and/or increase the capacity of Metropolitan's water supply and delivery infrastructure to meet current and projected service demands. Projects under this program address climate change affecting water supply, regional drought, and alternative water sources for areas dependent on State Project Water.

- Perris Valley Pipeline—This project will complete construction of the Perris Valley Pipeline and provide service connections to Eastern and Western Municipal Water Districts. This project installs 3,000 linear feet of tunnel that crosses the Interstate 215 freeway. The contractor has completed construction of all the shafts and completed construction of the first tunnel segment. Excavation of the second tunnel reach commenced on the eastern side of Interstate 215 in mid-April 2024. Overall construction is 45 percent complete and is scheduled to be complete in early 2025.
- 84-Inch Diameter Valve Procurement for Drought Projects—This project will furnish three 84-inch diameter butterfly valves for use in the Wadsworth Pumping Plant Bypass, Inland Feeder–Rialto Pipeline Intertie, and the Badlands Tunnel Surge Protection. The valves have been fabricated and tested. They are currently being prepared for shipment. The work is approximately 75 percent complete. These projects will allow the delivery of Diamond Valley Lake (DVL) water to the Rialto Pipeline.
- Sepulveda Feeder Pumping Stations, Stage 1—This project installs new pump stations at the existing Venice and Sepulveda Canyon pressure control facilities, providing the ability to reverse flow in the Sepulveda Feeder and deliver 30 cubic feet per second from the Central Pool to portions of the Jensen plant exclusive area. This project utilizes a progressive design-build (PDB) project delivery method. Engineering and Operations staff are reviewing initial submittals and collaborating through a series of design workshops, planned through the end of the year, to support upcoming design work. The contractor and Metropolitan are coordinating with both Southern California Edison and the Los Angeles Department of Water and Power on upgrades to the incoming power service at both locations. Phase 1, which includes site investigation, design to the 70 percent level, environmental planning, and preparation of long-lead-item procurement documents, is scheduled to be complete in September 2024. Work progress is on track to complete the first major milestone, delivery of the Basis of Design Report (BODR), in May 2024. The project team presented at the national Design Build Institute of America (DBIA) 2024 Water/Wastewater Conference on Metropolitan's initial PDB project.
- Wadsworth Pumping Plant Bypass—This project installs a bypass pipeline and an isolation valve to interconnect the Wadsworth Pumping Plant with the Eastside Pipeline. This is one of several projects needed to deliver water from DVL to the Rialto Pipeline. A shutdown to tie the new bypass pipeline into the Wadsworth outlet line and install a new tee was conducted in April 2024. Construction is approximately 72 percent complete and is scheduled to be complete in July 2024.



Perris Valley Pipeline—
Installation of tunneling equipment for the second tunnel segment drive

Sepulveda Pump Stations Design Build Team presents to 2024 DBIA Water/Wastewater Conference
(Left to right: Stephanie Fong, David Pier (Carollo Engineers), Jeannie Chu, and Doug Hathaway)

Wadsworth Pumping Plant Bypass—emoving Section of Pumphouse Conduit

Wadsworth Pumping Plant Bypass—Welding Buttstrap for the Tee Section

Wadsworth Pumping Plant Bypass—
Constructing Forms For Encasement at the Tee Section

Information Technology Group

- **Information Technology Group Monthly Activities for April 2024**

Summary

This report provides a summary of activites related to the Information Technology Group for April 2024.

Purpose

Informational

Detailed Report

Earlier this year, the American Federation of State, County and Municipal Employees (AFSCME) bargaining unit ratified the Memorandum of Understanding (MoU). Among the many provisions, this included an Equity Wage Adjustment for non-exempt AFSCME individual job classifications. The Information Technology (IT) team reviewed various provisions of the MoU with the Payroll team and the Human Resources Information System (HRIS) business team to develop a high-level schedule and action items for each significant change needed to implement this in PeopleSoft. The equity wage increase required changes to existing salary schedules and job data update processes in PeopleSoft. The team also drafted a new generic design to accommodate future rate increases with or without retro, including annual cost-of-living adjustment updates.

Additionally, because of the complex nature of temporary promotions and retro-on-retro adjustments, multiple reports were developed to help HRIS and Payroll reconcile and identify anomalies. To assist with the mass retro payout, IT team hired a consultant to design a generic process that leverages the existing single-employee retro pay into a multiple employees' retro pay process. This design also considered future MoU changes from the different bargaining units and the need to make retro pay for multiple employees in a payroll cycle.

Thorough validation during the development and testing environments was conducted by IT, Payroll, and the HRIS team before being successfully deployed into production.

Date of Report: April 17, 2024

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Board Report

Water System Operations Group

- **Operations Monthly Activities for April 2024**

Summary

This monthly report for the Water System Operations Group provides a summary of activities for April 2024 in the following key areas:

- Enhance Workforce Safety
- Develop Workforce and Prepare Employees for New Opportunities
- Manage Business Operations, Budget, and Staffing
- Develop New Solutions to Enhance Operational and Business Processes
- Provide Reliable Water Deliveries and Manage Storage
- Develop New Supplies and Optimize System Flexibility
- Manage Power Resources and Energy Use in a Sustainable Manner
- Protect Source Waters and Ensure Water Quality Compliance
- Optimize Water Treatment and Distribution
- Protect Infrastructure and Optimize Maintenance
- Ensure Power and Environmental Regulatory Compliance
- Enhance Emergency Preparedness and Response
- Prepare for Future Legislation and Regulations
- Advance Education and Outreach Initiatives
- Engage with Member Agencies and Other Stakeholders on Technical Matters

Purpose

Informational by the Water System Operations Group on a summary of key activities for the month of April 2024

Attachments

Attachment 1: Detailed Report – Water System Operations Group's Monthly Activities for April 2024

Date of Report: May 14, 2024

Water System Operations

Core Business Objectives

Enhance Workforce Safety

A near-miss is an incident that did not result in injury but could have the potential to if not addressed in a timely manner. Recently, a Metropolitan meter vault was being replaced, while a nearby agency pipe discharged a large volume of water that quickly flooded the 25-foot-deep vault. No staff were injured, and no one was within the vault at the time of the discharge. Review of this near-miss incident resulted in several positive recommendations, including construction of a new berm to prevent water intrusion, safety hazard awareness training for area staff, and installation of warning signs at the structure. Additional long-term recommendations are currently being developed. These near-miss recognitions and reviews are important to identify areas for safety improvements and to safeguard staff.

New berm built to prevent water intrusion into the vault

New warning sign to alert staff not to enter structure without top support

Staff completed the modification of the approach apron to provide safe access to a pump well structure on the Middle Feeder. The structure access hatch, ventilation piping, and sump piping were raised to accommodate the concrete apron, and the site was restored.

Staff excavating concrete slab area (left) and reinforcing wire installation (right) to enhance safe access at a Middle Feeder structure

Develop Workforce and Prepare Employees for New Opportunities

Staff continued work on modifications to the new Electrical Apprentice classroom at the Apprenticeship Training Center, located at the former Diamond Valley Lake (DVL) Visitor Center. The apprentices will have increased room in the new space, leading to a better training and learning environment. The work includes installing new receptacles for the electrical apprenticeship trainers and emergency shut-off switches for safety.

Staff installing a new cut-in box (left) and electrical conduit (right)

Manage Business Operations, Budget, and Staffing

The Business Management Team held a quarterly meeting in April to discuss budget updates and prepare for year-end reporting activities. It is essential to meet year-end due dates to ensure that expenditures are captured for the correct period. The Budget Unit also discussed the Board's approval of Metropolitan's biennial budget for Fiscal Years 2024/25 and 2025/26.

Develop New Solutions to Enhance Operational and Business Processes

Staff successfully shut down the Inland Feeder and Wadsworth pumping plant yard piping to enable a contractor to tie in and complete the Eastside Pipeline intertie at Wadsworth pumping plant in Winchester. The newly constructed bypass will allow the Wadsworth pumping plant to release water from Diamond Valley Lake into the southern portion of the system while simultaneously pumping water north towards Devil Canyon. This is one of four projects that will provide the Rialto Pipeline with a new source of water during drought periods.

Newly constructed bypass encased in concrete to tie into existing piping at Wadsworth pumping plant at DVL

Provide Reliable Water Deliveries and Manage Storage

Metropolitan member agency water deliveries were 79,800 acre-feet (AF) for April with an average of 2,660 AF per day, which was about 140 AF per day higher than in March. As a result of the increased State Water Project (SWP) allocation, Metropolitan has recently started the Cyclic and Conjunctive Use Program deliveries. Treated water deliveries were 7,300 AF higher than March for a total of 44,000 AF, or 55 percent of total deliveries for the month. The CRA pumped a total of 69,000 AF in April. SWP imports averaged 500 AF per day, totaling about 14,900 AF for the month. The target SWP blend is 0 percent for Weymouth, Diemer, and Skinner plants.

Metropolitan expects to have sufficient SWP and Colorado River supplies to meet demands in 2024. Water continues to be managed according to Water Surplus and Drought Management (WSDM) principles and operational objectives with an emphasis to position SWP supplies to meet future demands in the SWP Dependent Area. Metropolitan has resumed deliveries to Desert Water Agency and Coachella Valley Water District because of the improved supply conditions. Metropolitan is continuing to minimize the use of Table A supplies this year to improve SWP Carryover supplies for next year.

Develop New Supplies and Optimize System Flexibility

During April, staff continued baseline monitoring for tertiary membrane bioreactor (MBR) nitrification-denitrification testing at the Pure Water Southern California Napolitano Innovation Center (NIC) demonstration plant and maintained stable MBR and reverse osmosis (RO) process performance at target operating conditions. Staff also continued to optimize the carbon dosing system to efficiently achieve MBR filtrate nitrate targets. Comprehensive monitoring of source water, RO concentrate, product water, and key intermediate process locations was completed to characterize performance of the treatment train.

Staff collect samples to evaluate performance of the MBR-based treatment train at the NIC demonstration plant

Manage Power Resources and Energy Use in a Sustainable Manner

Energy markets in April 2024 reflected the relatively mild winter of 2023/24 and relatively plentiful natural gas supplies. Natural gas prices fell from their normal winter price range of $5–10 per Metric Million British Thermal Unit (MMBtu) range into the $2-5 per MMBtu range, with electricity prices in the California Independent System Operator (CAISO) market following suit. Longer daylight hours and increased solar generation, coupled with relatively low springtime electricity demands, helped keep electricity prices on average in the $20–40 per megawatt-hour (MWh) and drove prices negative during the high solar hours from 10 AM to 4 PM. No significant energy pricing events occurred either in the western U.S. or nationwide.* Summer electric and capacity price forecasts are also trending lower.

The CRA resumed operation following the March shutdown, averaging five pumps. Reduced water demand and nearly full storage levels at Lake Mathews continued to keep the overall CRA pumping costs trending below budget. The CRA energy cost budget for fiscal year 2023/24 is $82.6 million; the current cost forecast for the 2023/24 fiscal year is significantly lower at $44.7 million, because of reduced pumping and lower forward cost curves. Monthly costs are forecast to increase as the CRA returns to a higher scheduled flow and energy prices increase in anticipation of summer.

Metropolitan reached an agreement with Southern California Edison to transfer a block of Import Allocation Rights (IARs) at the Mead 230 kV interconnection for summer 2024. IARs allow for load serving entities within the CAISO to import Resource Adequacy capacity to meet their monthly load serving obligations. Metropolitan possesses IAR capacity at Mead substation in excess of the requirements to meet CRA pumping load for summer 2024; IAR capacity expires without value if not used. This transaction has an approximate value of $1.6 million for Metropolitan.

Staff installed a bank of five electric vehicle (EV) chargers at the Mills plant. The chargers will support two Ford Lightnings assigned to the plant. The Mills plant is located between the Desert facilities and Union Station headquarters, providing a safe and reliable place for Metropolitan vehicles to charge. Mills plant staff, with the support of Fleet Services, is also planning to install a “supercharger” station which will allow rapid charging for Metropolitan employees traveling between facilities.

Five new EV chargers installed at Mills plant

Protect Source Waters and Ensure Water Quality Compliance

Metropolitan complied with all water quality regulations and primary drinking water standards during March 2024.

On April 10 and 11, staff participated in an annual stakeholder meeting on perchlorate cleanup at the Nevada Environmental Response Trust site in Henderson, Nevada. The Trust and the Nevada Division of Environmental Protection updated stakeholders on the status of the Remedial Investigations and Risk Assessments for Operable Units, administrative and financial matters, and stakeholder engagement plans for 2024. The meeting included a site tour of the Trust site, the nearby Endeavour cleanup site, and Las Vegas Wash discharge areas. Perchlorate remediation efforts in Henderson are critical to ensure continued protection of Colorado River water supplies. Metropolitan routinely monitors perchlorate levels at the Las Vegas Wash and its CRA intake. Levels at the CRA intake typically remain below 2 µg/L, well below California's perchlorate maximum contaminant level of 6 µg/L.

Site visit to fluidized bed reactors used for perchlorate treatment in Henderson, Nevada

Optimize Water Treatment and Distribution

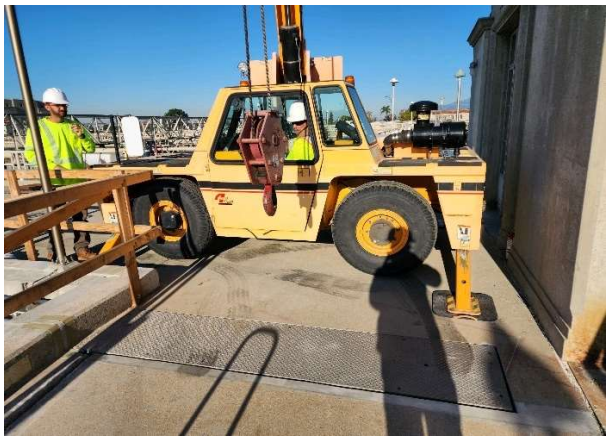
In April, the SWP target blend entering the Weymouth and Diemer plants, and Lake Skinner, was zero percent. The SWP blend leaving Lake Skinner decreased from approximately 65 to 40 percent, after the release from DVL to Lake Skinner was discontinued at the beginning of the month. Lake Skinner was bypassed from mid-April to the end of the month to support the shutdown of San Diego raw water pipeline No. 3.

Flow-weighted running annual averages for total dissolved solids from March 2023 through February 2024 for Metropolitan's treatment plants capable of receiving a blend of supplies from the SWP and the CRA were 345, 430, and 470 mg/L for the Weymouth, Diemer, and Skinner plants, respectively.

Staff repaired the fish screen Programable Logic Controller (PLC) at DVL. The fish screens create an electrical field in the water that prevents fish in the lake from swimming near the Inlet/Outlet Tower while water is being withdrawn from the lake.

Staff repairing instrumentation PLC for the fish screens at DVL

Staff installed a drop gate as isolation for the ongoing Weymouth Basins 5–8 capital project. The gate is an area with limited access and is directly above the basin effluent channel. Plant and engineering staff worked together to establish a safe crane placement location. Together, they were able to identify a location that could support the weight of both the crane and the suspended gate. This allowed staff to complete the work safely and effectively, without renting expensive specialty equipment.

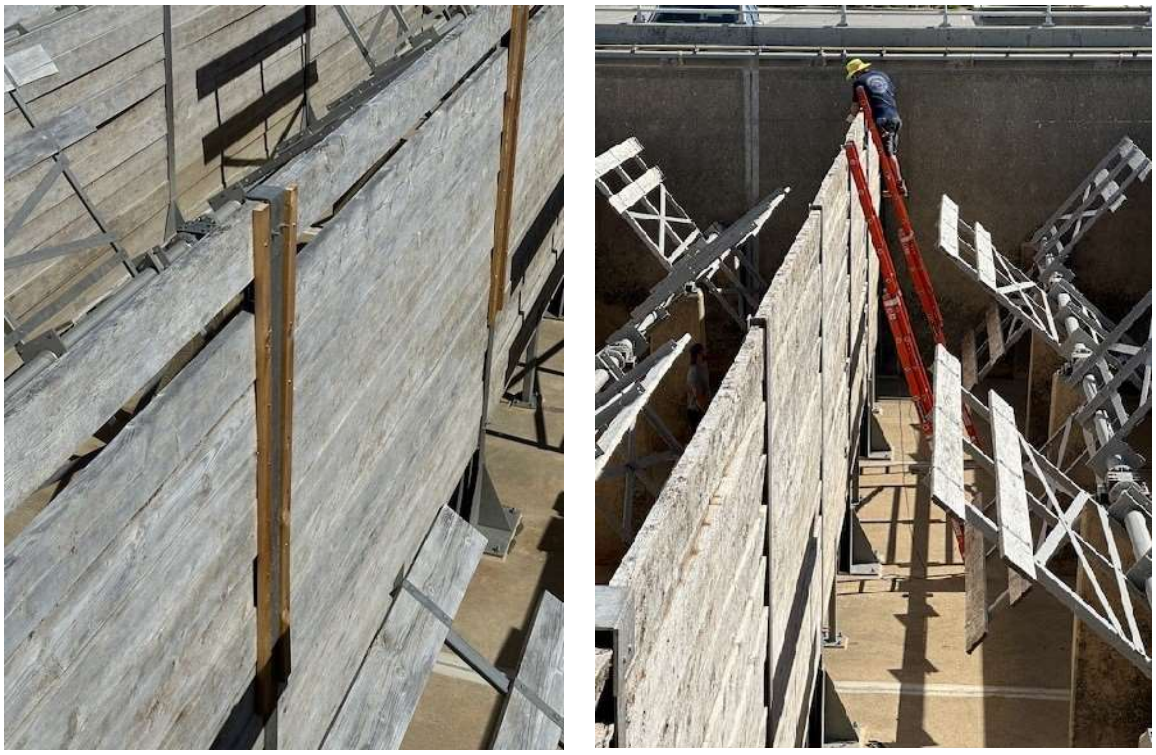


Crane that was used for basin refurbishment at the Weymouth plant

Staff worked with Engineering Services to survey existing fiber optic cables at the Diemer plant as part of the SCADA Upgrade capital project. The survey will determine whether the existing fiber optic cables can support the new SCADA system upgrade or whether some of the existing cables need to be replaced.

Staff opening vaults and cabinets to identify fiber optic cables

Staff improved baffle board anchoring at the Diemer plant within the sedimentation basins. The baffle boards reduce the velocity and turbulence of water flowing through the sedimentation basins by spreading the flow across the entire width of the basin. Given the material weight, the baffle boards could slide out of their support columns when filling an empty basin. By improving the anchoring mechanism, the boards remain in place, which improves operating efficiency and avoids replacement of loose boards.

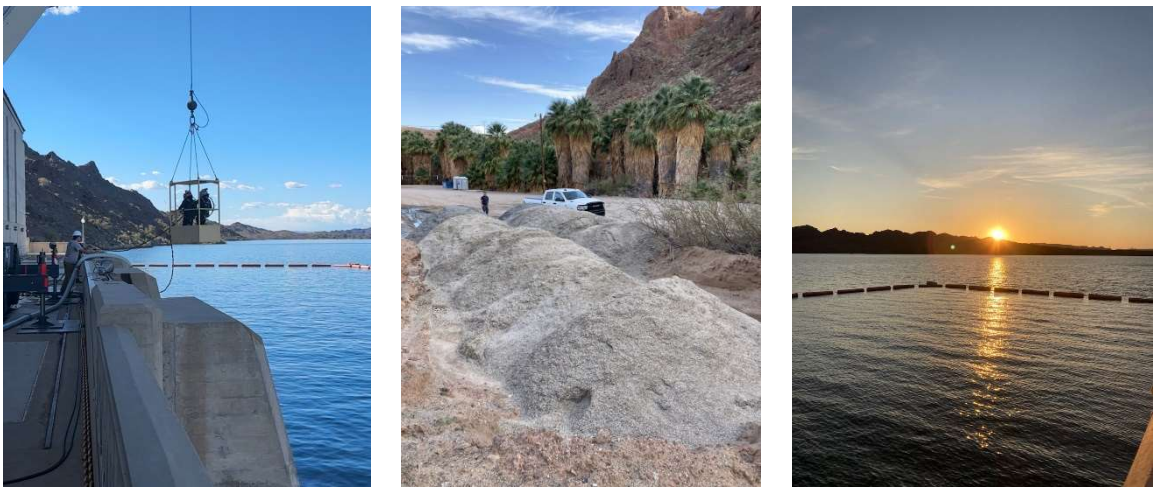


Staff securing baffle boards inside the sedimentation basin at the Diemer plant

Protect Infrastructure and Optimize Maintenance

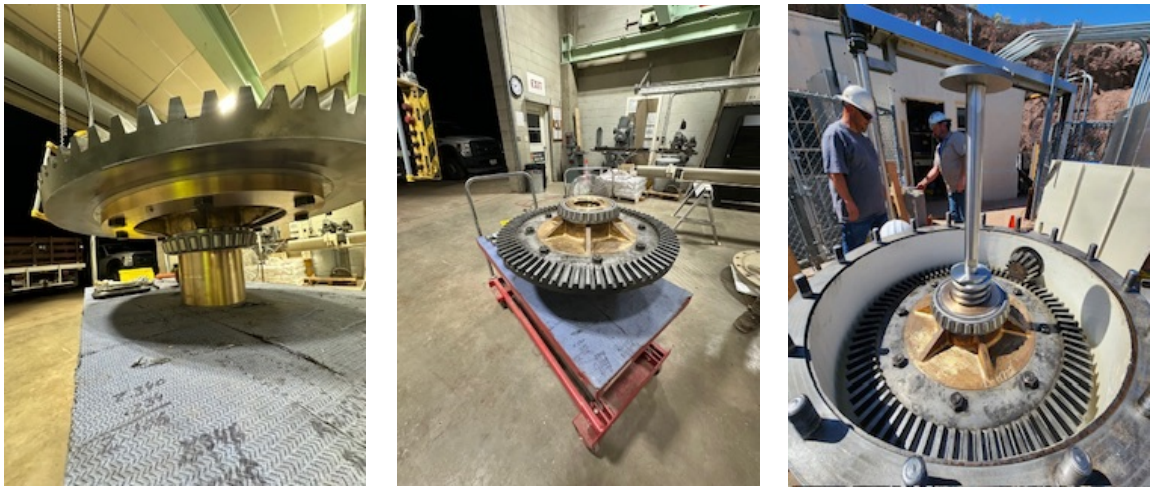
This month, staff completed installing and commissioning modernized transformer bank protection relays at Iron Mountain pumping plant. Protection relays are high-speed devices that isolate and contain high-voltage faults to prevent widespread damage or cascading events that could create a hazardous condition. The modernized system allows for enhanced event recording and fault data capture, which aids in both regulatory reporting and system troubleshooting.

The La Verne Shops received a request to support activities during the 2024 CRA Shutdown. Those activities consisted of divers dredging the galleries at the Intake pumping plant, repairing a damaged portion of the buoy line, and supporting emergency repairs of a slide gate at Copper Basin. All planned work was completed successfully.



Divers being lowered in the water to dredge galleries (left), removed debris (center), and the repaired buoy line (right) at Intake pumping plant

Damaged gate shaft (left and center) and as-found actuator assembly (right) for the gate at Copper Basin



New bevel gear (left) and repaired actuator assembly (center and right) for gate at Copper Basin

The 230kV main transformers are some of the oldest operating pieces of equipment in the CRA system. The transformers are oil-filled, and regular testing is conducted to assess fluid quality. Metropolitan owns a sophisticated oil purification system to restore the oil to factory specifications when needed. Staff at the Gene pumping plant perform maintenance on the oil purification system before processing transformer oil.

Staff maintaining the oil purification unit prior to operation

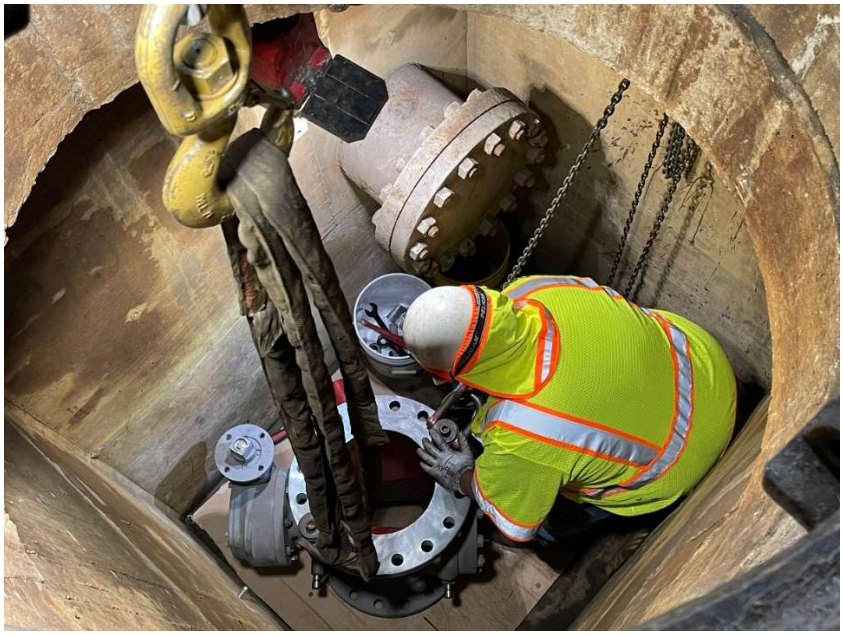
The CRA Desert pumping plants undergo constant repairs and upgrades to bring the aging systems up to current standards. A capital project in the Desert Region to replace the main motor room crane at each pumping plant is wrapping up with the replacement of the last crane at Intake pumping plant.

Motor room main crane replacement at Intake pumping plant

The harsh environment and temperature extremes of the Desert Region can quickly degrade equipment. Consistent maintenance ensures that Metropolitan obtains the maximum life expectancy of its assets. Staff repaired a valve in the cooling circulating water system for the CRA main pump motors.

Staff repairing a circulating water valve at Gene pumping plant

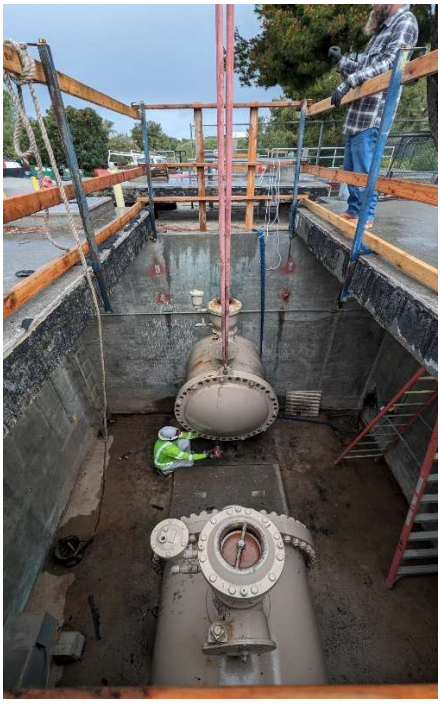
Staff recently completed a shutdown on a 15-mile portion of the 36-inch Orange County Feeder from the Weymouth plant to the sectionalizing valve at service connection F-6 in the city of Fullerton. During this outage, an internal inspection of the pipeline was performed, and two minor mortar repairs were identified and completed. This outage also provided the opportunity to replace several faulty valves throughout the shutdown zone.



Staff installing a new lubricated plug valve on the Orange County Feeder

Staff removed the Allen-McColloch Pipeline (AMP) from service to allow relining of the pipeline in key areas. A previous inspection showed multiple wire breaks of the prestressed concrete cylinder pipe (PCCP). This shutdown allowed multiple contractors access to reline portions of the pipeline and ensure its structural integrity.

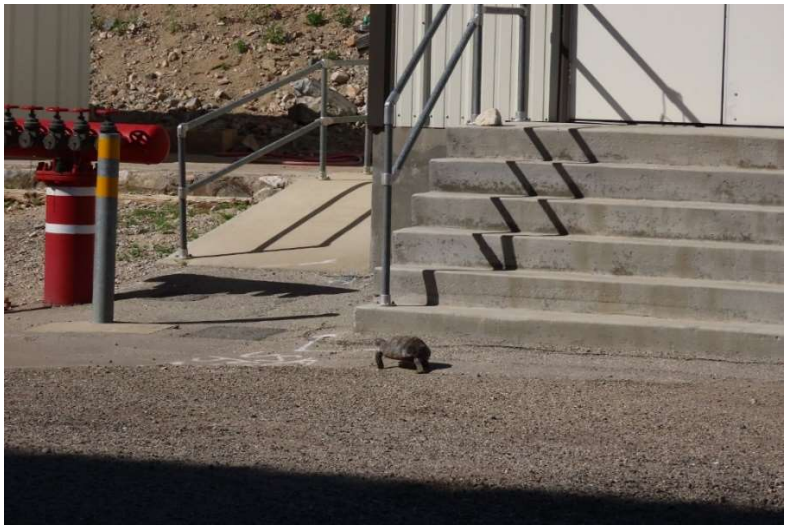
Staff dewatering the AMP to prepare for relining work

Staff removing flanges to provide access for contractors to complete relining work for the AMP

Ensure Power and Environmental Regulatory Compliance

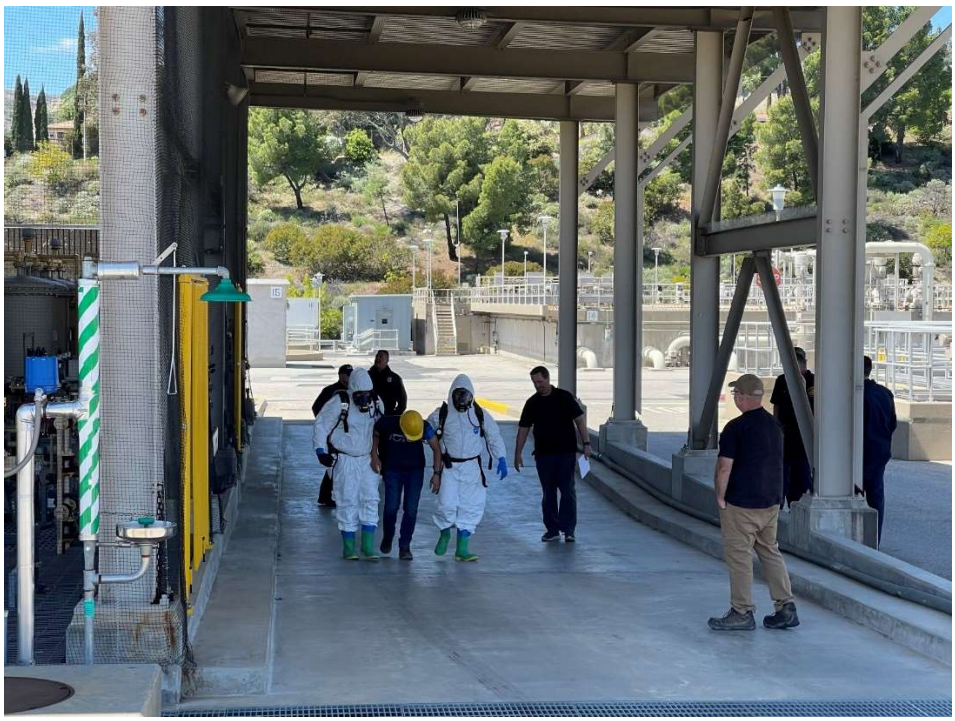
New storage buildings are being built at several of the Desert Region's pumping plants. Projects of this size require environmental approval and a steady watch for animals entering the work zone. Once installed, temporary fencing will help to keep animals like the desert tortoise safely away from the construction zones.

Temporary fencing to protect desert tortoise and other animals from entering construction zone at Hinds pumping plant

Enhance Emergency Preparedness and Response

Staff partnered with the Los Angeles City Fire Department to complete a joint training and exercise as part of routine chemical responder training at the Jensen plant. This joint exercise provided an opportunity for Metropolitan staff to strengthen our relationship with local fire department staff. All parties gained better understanding of the role each would play during an emergency response related to a chemical leak or chemical exposure requiring worker rescue.



Staff working with Los Angeles City Fire Department to simulate a rescue operation at the Jensen plant

Prepare for Future Legislation and Regulations

On March 18, U.S. Environmental Protection Agency (EPA) published its final rule under the Toxic Substances Control Act (TSCA) that bans the production, importation, and distribution of chrysotile asbestos, the only known form of asbestos that is currently imported into the United States. To date, there are still eight chlor-alkali plants (about one-third of the production capacity) in the United States that still use asbestos diaphragms for the manufacture of chlorine and caustic soda. While the chlor-alkali industry has committed to stop the importation of asbestos and phase out the use of asbestos diaphragms, this action could potentially increase the costs of chlorine and caustic soda used for water and wastewater treatment. Staff worked with AWWA and The Chlorine Institute on implementation delays to support the industry in meeting the phase-out deadlines.

On March 26, staff submitted the first of two comment letters on EPA's two proposals to regulate PFAS under the Resource Conservation and Recovery Act (RCRA). The first proposal revises the definition of "hazardous waste" such that PFAS can be included in corrective actions for treatment, storage, and disposal facilities (TSDFs). Staff's primary concern was that while the rule is focused on TSDFs, the rule could raise the disposal costs of PFAS-laden materials sent to TSDFs and that this was not included in the cost analysis. Staff also asked that EPA adopt formal RCRA

enforcement guidance for TSDFs, such that water utilities are protected against future liability; and that EPA follow the "polluter pays" principle and/or make additional funding available for treatment and cleanup costs.

On April 5, the Office of Environmental Health Hazard Assessment (OEHHA) adopted Public Health Goals (PHGs) for PFOA and PFOS in drinking water. A PHG is the level of a drinking water contaminant that does not pose a significant risk to health with lifetime exposure from all uses of tap water. The PHGs are 0.007 ppt for PFOA and 1 ppt for PFOS. The Division of Drinking Water (DDW) will use the PHGs to develop California drinking water standards for PFOA and PFOS that are as close to the PHGs as possible but still technically and economically achievable for drinking water systems. Staff will closely monitor any future activity by DDW towards regulating these compounds.

On April 8, staff submitted a second comment letter on EPA's proposals to regulate PFAS under RCRA. The second letter addressed EPA's proposal to list nine PFAS (PFOA, PFOS, PFBS, HFPO-DA, PFNA, PFHxS, PFDA, PFHxA, and PFBA) and their salts and isomers as "hazardous constituents" under RCRA. A hazardous constituent listing is the first step towards a potential "hazardous waste" listing. If these nine PFAS were to be classified as hazardous wastes under RCRA, they would automatically be classified as hazardous substances under the Comprehensive Environmental Response, Compensation & Liability Act (CERCLA). Similar to comments on the PFAS-CERCLA regulatory effort, Metropolitan emphasized that while we support regulating PFAS, the regulatory community needs guardrails in place (e.g., analytical methods, regulatory limits, and cleanup standards) before regulating these compounds. Staff also reiterated that EPA should follow the "polluter pays" principle. Staff will continue to track any future regulations with respect to PFAS.

On April 10, the EPA announced the final drinking water standards for six PFAS. EPA set individual maximum contaminant levels (MCLs) for PFOA and PFAS at 4 parts per trillion (ppt), and 10 ppt for PFNA, PFHxS, and GenX. EPA will also regulate PFAS mixtures containing at least two or more of PFHxS, PFNA, HFPO-DA, and PFBS using a unitless Hazard Index of one. Lastly, EPA finalized health-based, non-enforceable Maximum Contaminant Level Goals (MCLGs) for PFOA and PFOS at 0 ppt and 10 ppt for PFNA, PFHxS, and GenX. Staff are evaluating these new standards on how they will affect Metropolitan and its member agencies. Initial monitoring must be completed by 2027, and public water systems must implement measures to reduce the levels of PFAS in their systems that exceed the MCLs within five years. To prepare for the required monitoring in Metropolitan's waters, staff will be developing in-house detection capabilities over the next year. However, based on monitoring results over the last eight years, none of the PFAS included in this regulation have been detected in Metropolitan's treated water.

On April 11, Representatives Curtis (R-Utah) and Perez (D-Wash.) introduced H.R. 7944—the Water Systems PFAS Liability Protection Act. The bill is narrower in scope than S. 1430 (Lummis), introduced last year which proposed CERCLA liability exemptions for water systems, as well as agriculture, airports, fire suppression users and waste managers. H.R. 7944 only offers exemptions for water and wastewater systems from potential liability for PFAS contamination under CERCLA.

On April 17, DDW adopted a 10 µg/L maximum contaminant level (MCL) for hexavalent chromium. The rule was adopted as proposed (with minor language changes)—10 µg/L MCL; detection limit for purposes of reporting (DLR) of 0.1 µg/L; 2–4 year compliance timelines depending on system size; need for a compliance plan, among other provisions. If approved by the Office of Administrative Law (OAL), the rule will be effective on October 1, 2024. Staff will continue tracking the implementation of the rule. The process of finalizing this regulation has taken over ten years and staff has provided comments to the SWRCB throughout the process, expressing support for the MCL but also noting concerns over the cost of compliance and treatment for some agencies.

On April 19, the EPA published a final regulation listing PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Such listing could expose water utilities to liability and clean-up costs if they detect and must remove PFOA and PFOS from their water supplies. Metropolitan has consistently advocated for water utilities to be protected from CERCLA liability.

Advance Education and Outreach Initiatives

On April 4, staff gave a presentation on Pure Water Southern California at an event hosted by American Society of Civil Engineers, Orange County branch in collaboration with the Environmental and Water Resources Institute, Orange County Chapter in Irvine, California.

Staff also provided a presentation on the sources, treatment, and science of drinking water to high school age students at a youth academy on April 11. Lastly, staff participated in a panel discussion on water quality monitoring and measurement hosted by the Center for Science, Society, and Public Policy at the California Institute of Technology on April 12.

On April 17 and 18, staff provided tours of the Water Quality Laboratory for staff from Metropolitan's office of Equal Employment Opportunities (EEO) and Sustainability, Resilience, and Innovation (SRI) department, respectively. Staff also provided a lab tour for the American Water Works Association Young Professionals Committee on April 25.

Engage with Member Agencies and Other Stakeholders on Technical Matters

On April 18, the Water Quality Section celebrated its 50-year anniversary with a Member Agency Water Quality Managers meeting. The event included invited speakers who provided a retrospective overview on the development of the Safe Drinking Water Act (enacted in 1974) and the formation of the Water Quality and Research Branch (as it was called in 1974), a summary of current water quality issues, and an informed prediction of likely water quality issues and regulations over the next five to fifteen years. This special event included several Metropolitan retirees and a message from Metropolitan's General Manager recognizing the critical role Water Quality staff has played in ensuring Metropolitan's safe water deliveries for southern California.

Presentation on the development of drinking water regulations during a Member Agency Water Quality Managers workshop celebrating the 50-year anniversary of Metropolitan's Water Quality Section

Metropolitan staff began training staff from LACSD's A. K. Warren Water Resource Facility in the operation of the NIC demonstration facility. LACSD will be shadowing Metropolitan staff in routine operation and maintenance activities of each of the unit processes at the NIC. This operational coordination between the agencies also helps to facilitate partnering for potential joint operations of future full-scale advanced water treatment facilities.

Advanced water treatment training for LACSD operations staff from the A. K. Warren Facility

Engineering, Operations, & Technology Committee

Management Announcements and Highlights

Item 7a

May 13, 2024

Engineering Services

Metropolitan Support of Glen Canyon Dam Investigations

1/32nd Scale Tailrace Model

1/32nd Scale Outlet Works Cavitation Model

Metropolitan Staff in attendance (L to R)
Kai Wang, John Shamma, Kevin Kearns, Bashar Sudah

Bureau of Reclamation Project Meeting
April 30, 2024 – Denver Federal Center
Lakewood, CO

Wadsworth Pump Plant Bypass Shutdown Tie-in

DVL to Rialto Pipeline Drought Resiliency Project

Allen-McColloch (AMP) Pipeline PCCP Stage 1 Rehabilitation

Lowering new liner pipe into existing PCCP pipe

Welding new steel liner pipe

Concrete placement at new access location

Urgent AMP Relining Activities April 2024

Water System Operations

Minimizing State Water Project Supplies

Current Operational Conditions

- 2024 SWP Allocation at 40%
- CRA at 7-pump flow
- Deliveries to DWCV at 650 cfs
- Deliveries to CUP and Cyclic starting
- SWP blend targets are 0% at Weymouth, Diemer, and Skinner
- April 2024 deliveries of 77 TAF were similar to deliveries in April 2023

Lake Oroville at 96% Capacity
(April 26, 2024)

Minimizing State Water Project Supplies

May 2024 Operations

Minimizing SWP supplies to meet storage goals

Increased SWP blends (~25%) anticipated in summer months

Ensuring Continued System Reliability

Sepulveda Feeder
Rehabilitate PCCP via carbon fiber relining
Recently Completed

West Valley Feeder No. 1
Support LADWP's valve replacement
Recently Completed

Colorado River Aqueduct
Perform CIP and O&M activities
Completed Last Month

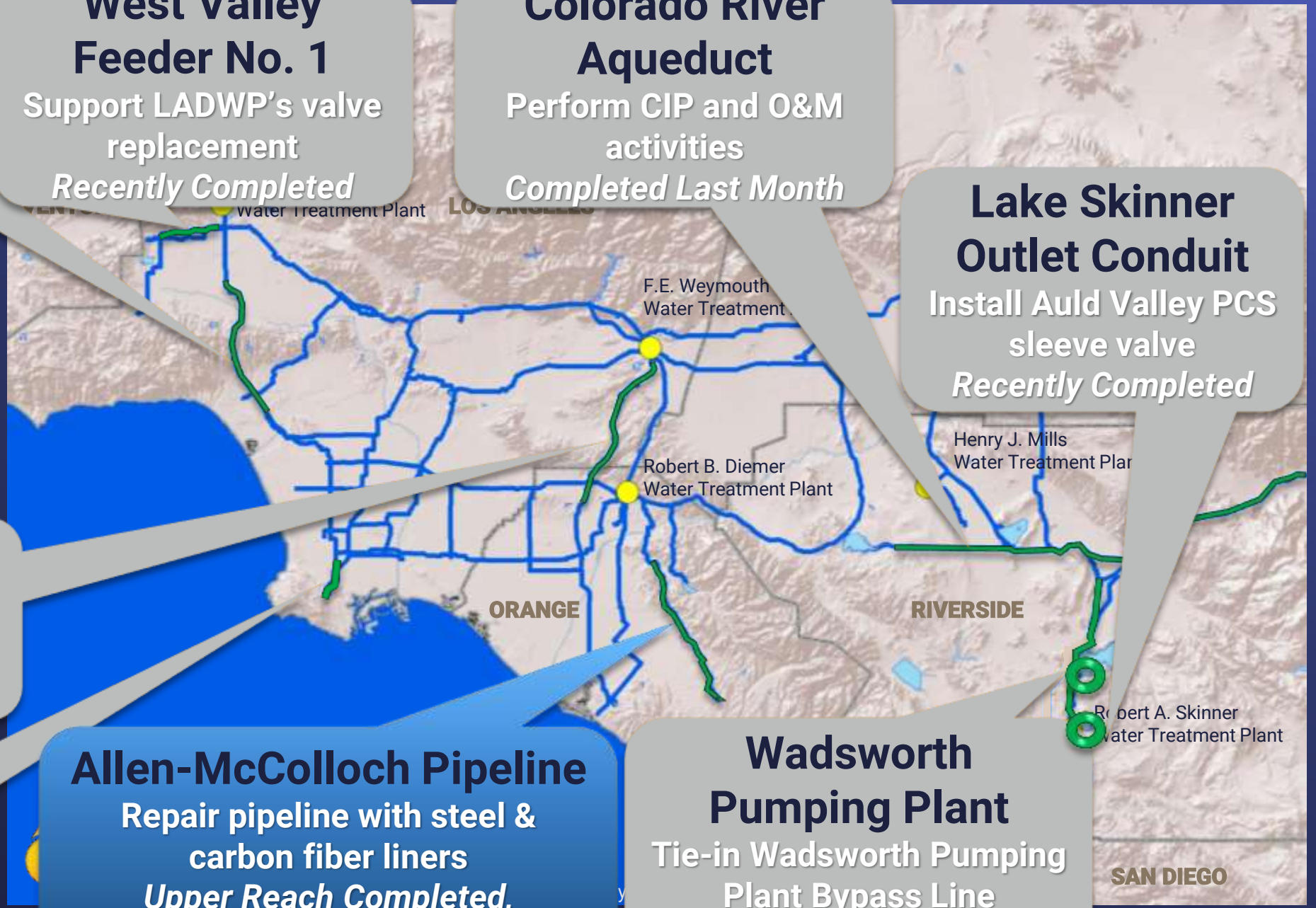
Lake Skinner Outlet Conduit
Install Auld Valley PCS sleeve valve
Recently Completed

Orange County Feeder
Decommission OC Reservoir and PCCP inspection
Completed Last Month

Second Lower Feeder
Rehabilitate PCCP
Recently Completed

Allen-McColloch Pipeline
Repair pipeline with steel & carbon fiber liners
Upper Reach Completed, Lower Reach Underway

Wadsworth Pumping Plant
Tie-in Wadsworth Pumping Plant Bypass Line
Recently Completed



Ensuring Continued System Reliability

Recent Shutdowns

Wadsworth PP Tee Installation

Allen-McColloch Pipeline Bulkhead

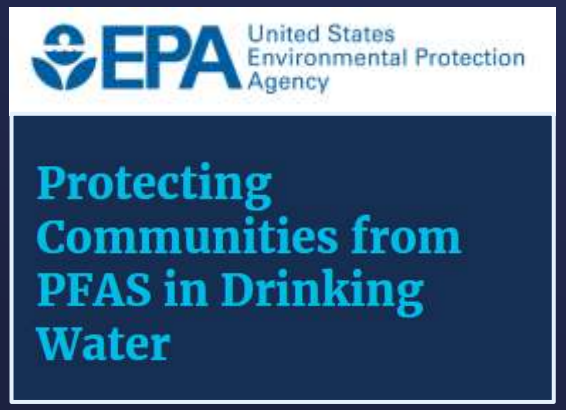
Sepulveda Feeder Carbon Fiber Lining

Second Lower Feeder Coating

April 26, 2024

EPA Issues Final MCLs for Six PFAS

Federal Maximum Contaminant Levels (MCLs)



- PFOA & PFOS – 4 ng/L
  - PFHxS, PFNA, GenX – 10 ng/L
  - PFHxS, PFNA, GenX, PFBS combined using a Hazard Index of 1
- Routine monitoring starting 2027
- Compliance with PFAS MCLs required by 2029
- The six PFAS with MCLs have not been detected in Metropolitan's treated water
- Developing PFAS standards is a priority for California Division of Drinking Water

PFOA & PFOS Listed as CERCLA Hazardous Substances

PFAS and CERCLA

- Final rule published by EPA in Federal Register on May 8 and effective July 8, 2024
- Concurrent guidance indicates enforcement will focus on primary polluters
  - Manufacturers, federal facilities, and other industrial parties
  - Will not pursue community water systems or other passive receivers
- Water agencies working with Congress to develop CERCLA liability protections (H.R. 7944 and S. 1430)

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

April 17, 2024

State Drinking Water Standards

OAL final regulation review by June 15, 2024

CALIFORNIA Water Boards

California Finalizes MCL for Hexavalent Chromium

- MCL is 10 µg/L (effective October 1, 2024)
- Treatment technologies: ion exchange, reverse osmosis, and reduction-coagulation-filtration
- New MCL will not impact Metropolitan since concentrations in source and treated water are well below MCL
- Some member agencies may be impacted
  - Naturally occurring and industrial sources
  - Compliance costs may be a concern for some utilities

Water Quality 50-Year Anniversary

Redesigned lobby at Water Quality Laboratory

- Metropolitan formed the Water Quality and Research Branch in 1974 in response to the Safe Drinking Water Act (passed December 16, 1974)
- Special Member Agency Water Quality Managers Meeting held April 18
- June EO&T Committee presentation- “Fifty Years of Water Quality”
- Additional events to commemorate 50-year anniversaries of Water Quality and SDWA planned for later in the year

Desert Employee Appreciation Event

Iron Mountain Pumping Plant – April 24, 2024

Information Technology

No update for this period


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928