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
S. Faessel, Vice Chair
D. Alvarez
G. Bryant
J. Crawford
B. Dennstedt
L. Fong-Sakai
J. Lewitt
M. Luna
J. McMillan
C. Miller
M. Petersen
K. Seckel

Engineering, Operations, and Technology Committee

Meeting with Board of Directors *

May 12, 2025

9:00 a.m.

Monday, May 12, 2025 Meeting Schedule
09:00 a.m. EOT
11:00 a.m. LEG
12:00 p.m. Break
12:30 p.m. OPE
01:30 p.m. OWA

Written public comments received by 5:00 p.m. the business day before the meeting is scheduled will be posted under the Submitted Items and Responses tab available here: https://mwdh2o.legistar.com/Legislation.aspx.

The 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 teleconference and in-person. To provide public comment by teleconference dial 1-833-548-0276 and enter meeting ID: 815 2066 4276 or to join by computer click here.

MWD Headquarters Building • 700 N. Alameda Street • Los Angeles, CA 90012
Teleconference Locations:
Springhill Suites at the Dunes • 215 10th Street • Marina, CA 93933
8705 Gracie Allen Drive • Los Angeles, CA 90048
3008 W. 82nd Place • Inglewood, CA 90305
400 Cannery Row • Monterey, CA 93940
2 Mineral King • Irvine, CA 92602

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* 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 7, 2025 **21-4503**

Attachments: 05122025 EOT 2A (04072025) Minutes

3. CONSENT CALENDAR ITEMS - ACTION

7-2 Amend the Capital Investment Plan for Fiscal Years 2024/25 and 2025/26 to include the ozone contactor expansion joint improvements at the F.E. Weymouth Water Treatment Plant; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **21-4490**

Attachments: 05132025 EOT 7-2 B-L
05122025 EOT 7-2 Presentation

7-3 Authorize on-call agreements with Hazen and Sawyer, Jacobs Engineering Group, Inc., and Mott MacDonald Group Inc. in amounts not to exceed $1 million each to support engineering planning for water system resiliency and energy planning projects; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **21-4492**

Attachments: 05132025 EOT 7-3 B-L
05122025 EOT 7-3 Presentation

7-4 Award a $457,498 construction contract to IPI Construction to upgrade the heating, ventilation, and air conditioning systems in the control rooms at the Joseph Jensen Water Treatment Plant; the General Manager has determined that the proposed action is categorically exempt or otherwise not subject to CEQA **21-4493**

Attachments: 05132025 EOT 7-4 B-L (Revised Attachment)
05122025 EOT 7-4 Presentation

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

4. OTHER BOARD ITEMS - ACTION

8-1 Award a $131 million procurement contract to Siemens Energy Inc. to furnish 35 high voltage power transformers; authorize the General Manager to execute change orders for the CRA transformer procurement contract up to an aggregate amount not to exceed $42.5 million; and authorize an increase of $6.5 million to an agreement with HDR Engineering Inc. for a new not-to-exceed amount of $8.2 million for final design services to replace the high-voltage transformers at the five CRA pumping plants; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **21-4489**

Attachments: 05132025 EOT 8-1 B-L
05122025 EOT 8-1 Presentation

5. BOARD INFORMATION ITEMS

9-5 Colorado River Aqueduct High Voltage Transmission System – Affected Systems Mitigation Agreements **21-4491**

Attachments: 05132025 EOT 9-5 B-L
05122025 EOT 9-5 Presentation

6. COMMITTEE ITEMS

a. Colorado River Aqueduct Operations **21-4535**

Attachments: 05122025 EOT 6a Presentation

b. Update on Surface Water Storage Study **21-4504**

Attachments: 05122025 EOT 6b Presentation

c. Quarterly Cybersecurity Update **21-4506**
[Conference with Metropolitan Director of Info Tech Services, Information Technology, 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)]

7. MANAGEMENT ANNOUNCEMENTS AND HIGHLIGHTS

a. Engineering Services activities **21-4507**
Information Technology activities
Water System Operations activities

Attachments: 05122025 EOT 7a Engineering Services Activities
05132025 EOT 7a Information Technology Activities
05122025 EOT 7a Water System Operations Activities
05122025 EOT 7a Presentation

8. FOLLOW-UP ITEMS

NONE

9. FUTURE AGENDA ITEMS

10. 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 7, 2025

Chair Erdman called the meeting to order at 9:00 a.m.

Members present: Chair Erdman, Vice Chair Faessel, Directors Alvarez, Bryant, Dennstedt, Fong-Sakai (teleconference posted location), Lewitt, Luna (entered after the roll call), McMillan, Miller (entered after the roll call), Petersen, and Seckel.

Members absent: Director Crawford.

Other board members present: Chair Ortega, Vice Chair Camacho, Directors Ackerman, Armstrong, Goldberg, Gray (teleconference posted location), Katz, Kurtz, Lefevre, and Shepherd Romey.

Committee staff present: Bednarski, Chapman, Chaudhuri, Eckstrom, Hattar, Nobriga, Parsons, Rubin, and Upadhyay.

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

CONSENT CALENDAR ITEMS – ACTION

2. CONSENT CALENDAR OTHER ITEMS – ACTION

A. Approval of the Minutes of the Engineering, Operations, and Technology Committee for March 10, 2025.

3. CONSENT CALENDAR OTHER ITEMS – ACTION

7-1 Subject: Authorize an increase to a professional services agreement with Grid Subject Matter Experts, LLC for a new not-to-exceed total amount of $1.245 million for electric transmission planning and North American Electric Reliability Corporation-related electric reliability compliance services; the General Manager has determined the proposed action is exempt or otherwise not subject to CEQA

Presented by: No presentation requested

Motion: Authorize an increase of $1.0 million to a professional services agreement with GridSME for a new not-to-exceed total amount of $1.245 million for electric transmission planning and NERC-related electric reliability compliance services.

7-2 Subject: Authorize an agreement with Red8 in an amount not to exceed $850,000 for the implementation of the Data Storage Infrastructure Refresh project; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Presented by: No presentation requested

Motion: Authorize an agreement with Red8 in an amount not to exceed $850,000 for the implementation of the Data Storage Infrastructure Refresh project.

7-3 Subject: Authorize an agreement with Metal Toad Media Inc. for a new fixed cost of $299,000 per year with a not-to-exceed amount of $996,200 for the duration of the three-year agreement to host, manage, and maintain Metropolitan's external websites; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Presented by: No presentation requested

Motion: Authorize an agreement with Metal Toad Media Inc. for a new fixed cost of $299,000 per year with a not-to-exceed amount of $996,200 for the duration of the three-year agreement to host, manage, and maintain Metropolitan's external websites.

7-4 Subject: Authorize an increase of $3.3 million to an existing agreement with Stantec Consulting Services Inc. for a new not-to-exceed total amount of $4.99 million for final design of a mechanical dewatering facility at the Joseph Jensen Water Treatment Plant; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Presented by: David Fong, Engineer, Treatment Plant Program Management Team

Motion: Authorize an increase of $3.3 million to an existing agreement with Stantec Consulting Services Inc. for a new not-to-exceed total amount of $4.99 million for final design of a mechanical dewatering facility at the Jensen plant.

Director Miller entered the meeting room.

Director Luna entered the meeting room.

The following Directors provided comments or asked questions.

1. Miller
2. Erdman
3. Faessel

Staff responded to the Directors' questions and comments.

7-5 Subject: Authorize an amendment to a reimbursable agreement with BH Luxury Residences LLC for the relocation of the Santa Monica Feeder within the city of Beverly Hills; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Presented by: No presentation requested

Motion: Authorize an amendment to a reimbursable agreement with BH Luxury Residences LLC to provide design review and inspection-related activities for the relocation of the Santa Monica Feeder.

Director Bryant made a motion, seconded by Director Seckel, to approve the consent calendar consisting of item 2A, and items 7-1, 7-2, 7-3, 7-4, and 7-5.

The vote was:

Ayes:	Directors Alvarez, Bryant, Dennstedt, Erdman, Faessel, Fong-Sakai, Lewitt, Luna, McMillan, Miller, Petersen, and Seckel.
Noes:	None
Abstentions:	None
Not voting:	None
Absent:	Director Crawford

The motion for Items 2A, 7-1, 7-2, 7-3, 7-4, and 7-5 passed by a vote of 12 ayes, 0 noes, 0 abstention, and 1 absent.

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

4. OTHER BOARD ITEMS – ACTION

8-1 Subject: Adopt the CEQA determination that the proposed action was previously addressed in the certified 2024 Program Environmental Impact Report and authorize an increase of $12.4 million to an agreement with La Cañada Design Group Inc. for a new not-to-exceed total amount of $16.8 million for final design to upgrade the Michael J. McGuire Water Quality Laboratory

Presented by: Paul Rochelle, Water Quality Section Manager, and Marc Bayan, Engineer, Treatment Plant Program Management Team

Motion: Adopt the CEQA determination that the proposed action was previously addressed in the certified 2024 Final Environmental Impact Report and related documentation, and that no further environmental analysis or documentation is required and authorize an increase of $12.4 million to an agreement with La Cañada Design Group Inc. for a new not-to-exceed total amount of $16.8 million for final design to upgrade the Michael J. McGuire Water Quality Laboratory.

The following Directors provided comments or asked questions.

1. Miller
2. Dennstedt
3. Erdman

Staff responded to the Directors' questions and comments.

Director Bryant made a motion, seconded by Director Dennstedt, to approve item 8-1.

The vote was:

Ayes:	Directors Alvarez, Bryant, Dennstedt, Erdman, Faessel, Fong-Sakai, Lewitt, Luna, McMillan, Miller, Petersen, and Seckel.
Noes:	None
Abstentions:	None
Not voting:	None
Absent:	Director Crawford

The motion for Items 8-1 passed by a vote of 12 ayes, 0 noes, 0 abstention, and 1 absent.

5. BOARD INFORMATION ITEMS

9-2 Subject: Annual Infrastructure Resilience Update

Presented by: Ernie Ariza, Facility Planning Team Manager, and Albert Rodriguez, Principal Engineer, Facility Planning Team

Mr. Ariza and Mr. Rodriguez reported on the following:

- Update on Strategic Infrastructure Resilience Plan (SIRP) Seismic resilience activities
- Plans to continue development of the SIRP & inform CAMP4Water
- Plans to continue improvement of infrastructure seismic resilience

The following Directors provided comments or asked questions.

1. Seckel
2. Luna
3. Ortega
4. Erdman

Staff responded to the Directors' questions and comments.

6. COMMITTEE ITEMS

a. Subject: Pure Water Southern California (PWSC) Quarterly Update

Presented by: Gloria Lai-Bluml, Pure Water Program Management Unit Manager; Dian Tanuwidjaja, Water Reuse & Process Development Team Manager; and Elisa Mendez, Principal Public Affairs Representative.

Ms. Lai-Bluml, Dr. Tanuwidjaja, and Ms. Mendez reported on the following:

- A briefing on status of PWSC
- Plans to continue demonstration testing & preparation of environmental documents, agency agreements & conceptual planning to advance PWSC

The following Directors provided comments or asked questions.

1. Seckel
2. Miller
3. Fong-Sakai
4. Alvarez
5. Armstrong

Staff responded to the Directors' questions and comments.

b. Subject: 2025 Quarterly Desert Housing Update

Presented by: Victor Ramirez, Interim Facilities and Fleet Management Section Manager

Mr. Ramirez reported on the following:

- Background on employee housing for the Colorado River Aqueduct
- Long-term plans for housing and property improvement
- Near-term improvements through the Desert Housing and Recreation Interim Action Plan
- 2024 summary of Desert housing maintenance and repair

The following Directors provided comments or asked questions.

1. Erdman
2. Camacho
3. Fong-Sakai

Staff responded to the Directors' questions and comments.

c. Subject: Garvey Reservoir Update

Presented by: Robert Velasquez, Conveyance and Distribution Unit Manager; and Sam Mouawad, Interim Technology Projects Program Management Team Manager

Mr. Velasquez and Mr. Mouawad reported on the following:

- Briefing on the status of Garvey Reservoir
- Plans to continue to operate the reservoir in bypass mode and look for options to expedite the CIP project

The following Directors provided comments or asked questions.

1. Fong-Sakai

Staff responded to the Directors' questions and comments.

d. Subject: Quarterly Cybersecurity Update

Deferred

7. MANAGEMENT ANNOUNCEMENTS AND HIGHLIGHTS

a. Subject: Engineering Services, Information Technology, and Water System Operations Activities

Presented by: John Bednarski, Assistant General Manager, Water Resources and Technical Services

Shane Chapman, Assistant General Manager, Operations

Mr. Bednarski reported on the following:

- Metropolitan received $15.6 M in U.S. Bureau of Reclamation grant funds for Pure Water Southern California
- Update on Sepulveda Feeder Pump Stations Project

Mr. Chapman reported on the following:

- Successful completion of the Colorado River Aqueduct Shutdown
- Collaboration with Department of Water Resources in areas of operations and engineering
- Member Agency Water Quality Managers Meeting on emerging water quality issues

8. FOLLOW-UP ITEMS

A presentation analyzing potential seismic mitigation scenarios.

9. FUTURE AGENDA ITEMS

- Schedule panel discussion on fluoride
- Provide a presentation on seismic resiliency for State Water Project facilities

10. ADJOURNMENT

The next meeting will be held on May 12, 2025.

Meeting adjourned at 11:14 a.m.

Dennis Erdman
Chair

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

5/13/2025 Board Meeting

7-2

Subject

Amend the Capital Investment Plan for fiscal years 2024/25 and 2025/26 to include the ozone contactor expansion joint improvements at the F.E. Weymouth Water Treatment Plant; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

The ozone contactors at the F.E. Weymouth Water Treatment Plant (Weymouth plant) consist of four large concrete basins, in which the plant's inlet water is mixed with ozone and then conveyed through a common outlet channel to the next step in the treatment process. The outlet channel and contactors are sealed at the seams to minimize water leakage. Recent inspections of the ozone contactors have revealed leakage around the common outlet channel, likely resulting from a degraded concrete wall expansion joint. Timely implementation of expansion joint improvements will reduce the risk of an unplanned shutdown and address the leakage in a timely and cost-effective manner while maintaining reliability of the contactors.

This action amends the Capital Investment Plan (CIP) for fiscal years 2024/25 and 2025/26 to include improvements to the Weymouth plant's ozone contactor expansion joints. 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 2024/25 and 2025/26 to include the ozone contactor expansion joint improvements at the F.E. Weymouth Water Treatment Plant.

Fiscal Impact: Expenditure of $330,000 in capital funds. All costs will be incurred in the current biennium and have been previously appropriated. 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.

Business Analysis: This option will enhance the continued reliability of the ozone contactors and the Weymouth plant's ozonation system.

Option #2

Do not proceed with this project at this time.

Fiscal Impact: None

Business Analysis: Under this option, staff would continue monitoring the leakage and performing short-term repairs. Increased leakage from the contactor expansion joint may lead to an unplanned shutdown to perform emergency repairs.

Alternatives Considered

Staff considered incorporating the project into the next biennial CIP Budget. This option would delay the implementation of the recommended improvements to address leakage within the contactor building, potentially exacerbating the deteriorating condition of the joint seals and leading toward more costly future rehabilitation. Staff determined that the current approach to begin improvements for the ozone contactors expansion joints within the current biennium will reduce the risk of an unplanned shutdown and will address the leakage in a timely and cost-effective manner.

Applicable Policy

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

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

By Minute Item 53598, dated April 9, 2024, the Board appropriated a total of $636.48 million for projects identified in the Capital Investment Plan for Fiscal Years 2024/2025 and 2025/2026.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is not defined as a project under CEQA because it involves organizational, maintenance, or administrative activities; personnel-related actions; and/or general policy and procedure making that will not result in direct or indirect physical changes in the environment. (Public Resources Code Section 21065; State CEQA Guidelines Section 15378(b)(2) and (5).) In addition, the study and design associated with the ozone contactor joint system is exempt from CEQA because it consists of basic data collection, research, experimental management, and resource evaluation activities which 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 Weymouth plant was placed into service in 1941 with an initial capacity of 100 million gallons per day (mgd) and was expanded twice to its current capacity of 520 mgd. The plant delivers a blend of waters from the Colorado River Aqueduct and the State Water Project to Metropolitan's Central Pool portion of the distribution system and an exclusive service area. The Weymouth plant utilizes ozone as the primary disinfectant to reduce the formation of disinfection by-products for compliance with current drinking water regulations and to control taste-and-odor-causing compounds and algal toxins. The plant is located in the city of La Verne.

The Weymouth plant's ozone contactor structure was placed into service in 2016. The facility features four rectangular concrete contactors arranged in series along their length and two galleries that house essential instrumentation and control equipment. Each contactor is 160 feet long, 48 feet wide, and 30 feet tall. The concrete walls along the length of Contactors 2 and 3 are adjacent, relying on an expansion joint between the walls to allow for thermal expansion and contraction caused by temperature fluctuations. A similar expansion joint is located in the middle of each contactor. The two instrumentation galleries are located between Contactors 1 and 2 and between Contactors 3 and 4. The plant's inlet water is mixed with ozone in the contactors and then conveyed through a common outlet channel to the next step in the treatment process.

Minor leakage and deterioration of caulking located in the ozone contactor's joint, located between Contactors 2 and 3, was first identified by Metropolitan staff during routine inspections performed in 2021. Staff successfully controlled the leakage using joint sealant injections and performed periodic inspections to evaluate the effectiveness of the joint sealant over time. In December 2024, increased leakage was observed around the

previously repaired areas. Staff once again stopped the leak with a short-term temporary repair. Staff concluded that additional investigation is required, and likely water stop improvements in the area where these contactors adjoin the common outlet channel are needed to prevent recurrent leakage. To maintain the reliability of the contactors, staff recommends moving forward with investigations and design of permanent improvements to the Weymouth ozone contactor expansion joint at this time.

In April 2024, 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 not originally included in the Board-authorized CIP. This action amends the CIP to include the Weymouth Ozone Contactor Expansion Joint Improvements 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 2025/26 will be budgeted within the Capital Investment Plan Appropriation for fiscal years 2026/27 and 2027/28. 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 Water Treatment Plants Program.

Weymouth Ozone Contactor Expansion Joint Improvements – Design

Planned improvements include replacement of the existing expansion joint between Contactors 2 and 3, addition of a water stop, and minor structural modifications of the contactor/channel concrete walls to accommodate the joint replacement and water stop installation. Planned design activities include conducting a comprehensive evaluation of joint and water stop systems suitable to the ozone contactors; preparation of drawings and specifications for construction of the recommended improvements; advertisement and receipt of competitive bids; and project management. All design phase activities will be performed by Metropolitan staff.

A total of $330,000 is allocated for this work. Allocated funds include $74,000 for field investigations; $141,000 for design activities described above; $84,000 for shutdown planning, bidding and project management; and $31,000 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 14.1 percent of the total construction cost. The estimated cost of construction for the contactor expansion joint improvements at Weymouth is anticipated to range from $1.0 million to $1.2 million.

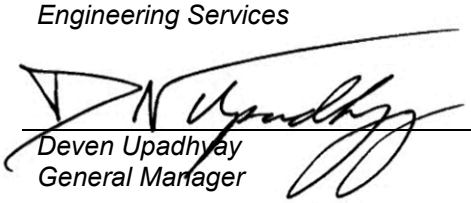
Project Milestone

September 2025 – Complete design of Weymouth Ozone Contactor Expansion Joint Improvements

4/28/2025

Mai M. Hattar
Interim Chief Engineer
Engineering Services

Date



4/28/2025

Deven Upadhyay
General Manager

Date

Attachment 1 – Allocation of Funds

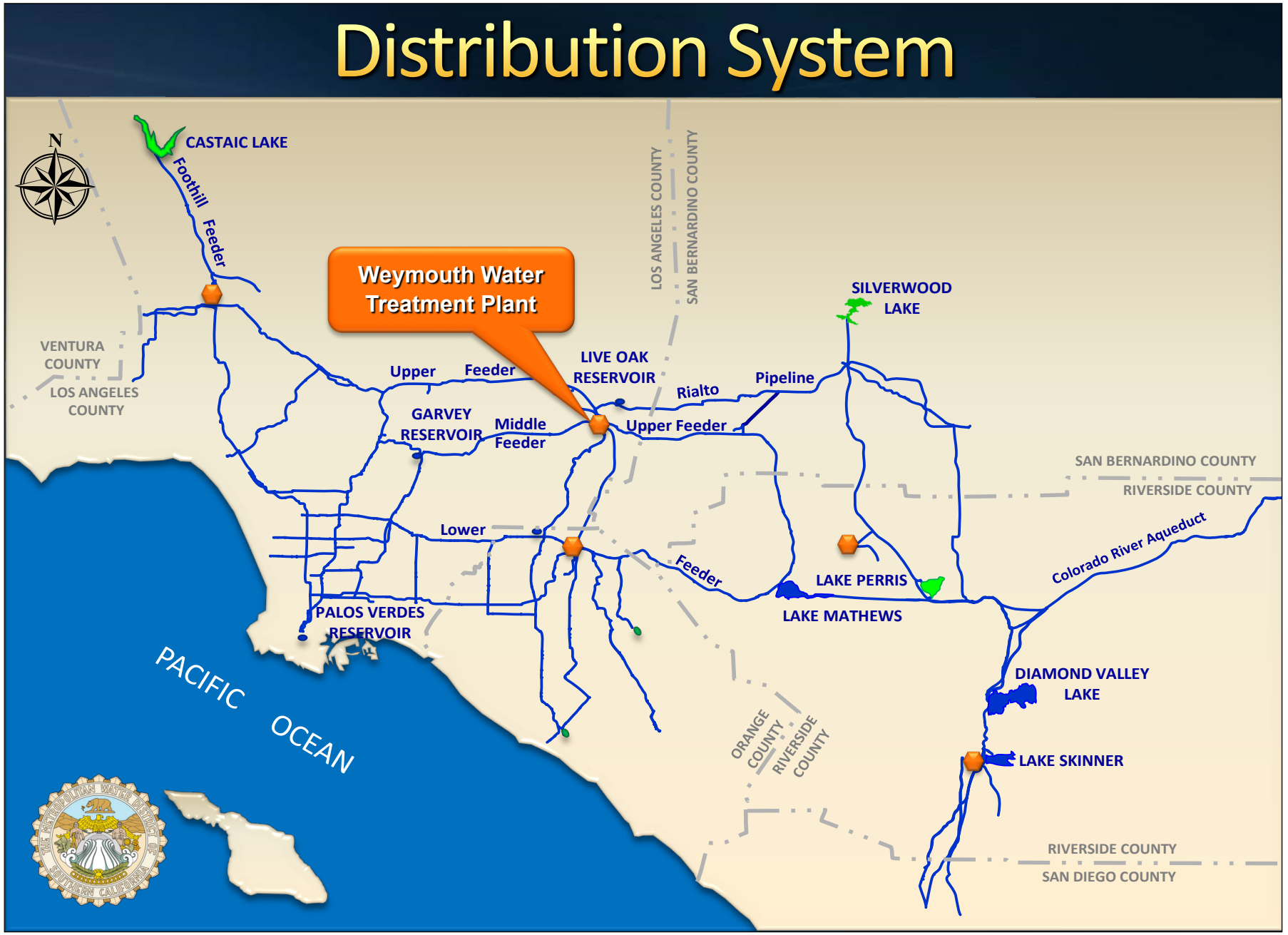
Attachment 2 – Location Map

Ref# es12708226

Allocation of Funds for Weymouth Ozone Contactor Expansion Joint Improvements

	Current Board Action (May 2025)
Labor	
Studies & Investigations	74,000
Final Design	141,000
Owner Costs (Program mgmt., shutdown planning)	84,000
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	31,000
Total	**$ 330,000**

This is the initial allocation of funds to improve the expansion joint at the Weymouth plant's ozone contactors. The total estimated cost to complete this project, including the funds allocated for the work described in this action, and future construction costs, is anticipated to range from $1.3 million to $1.5 million.


Distribution System
N
CASTAIC LAKE
Foothill Feeder
Weymouth 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

Weymouth Ozone Contactor Expansion Joint Improvements

Item 7-2

May 12, 2025

Item 7-2
Weymouth Ozone Contactor Expansion Joint Improvements

Subject

Amend the Capital Investment Plan for Fiscal Years 2024/25 and 2025/26 to include the ozone contactor expansion joint improvements at the F.E. Weymouth Water Treatment Plant

Purpose

Design improvements to the Weymouth ozone contactor expansion joint to maintain the long-term reliability of the contactors

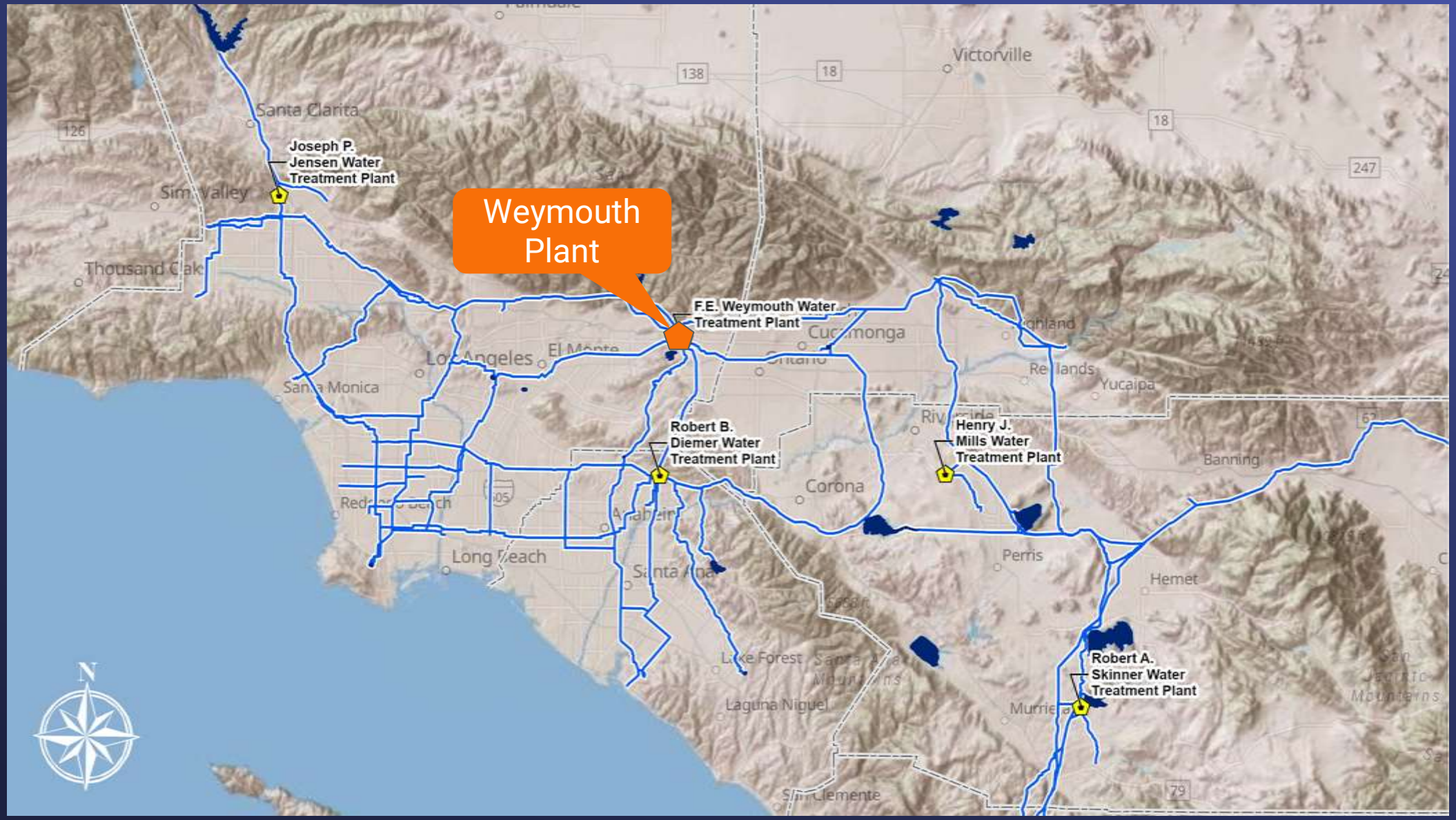
Recommendation and Fiscal Impact

Amend the Capital Investment Plan (CIP) to include improvements to the ozone contactor expansion joints

Fiscal Impact – $ 330,000

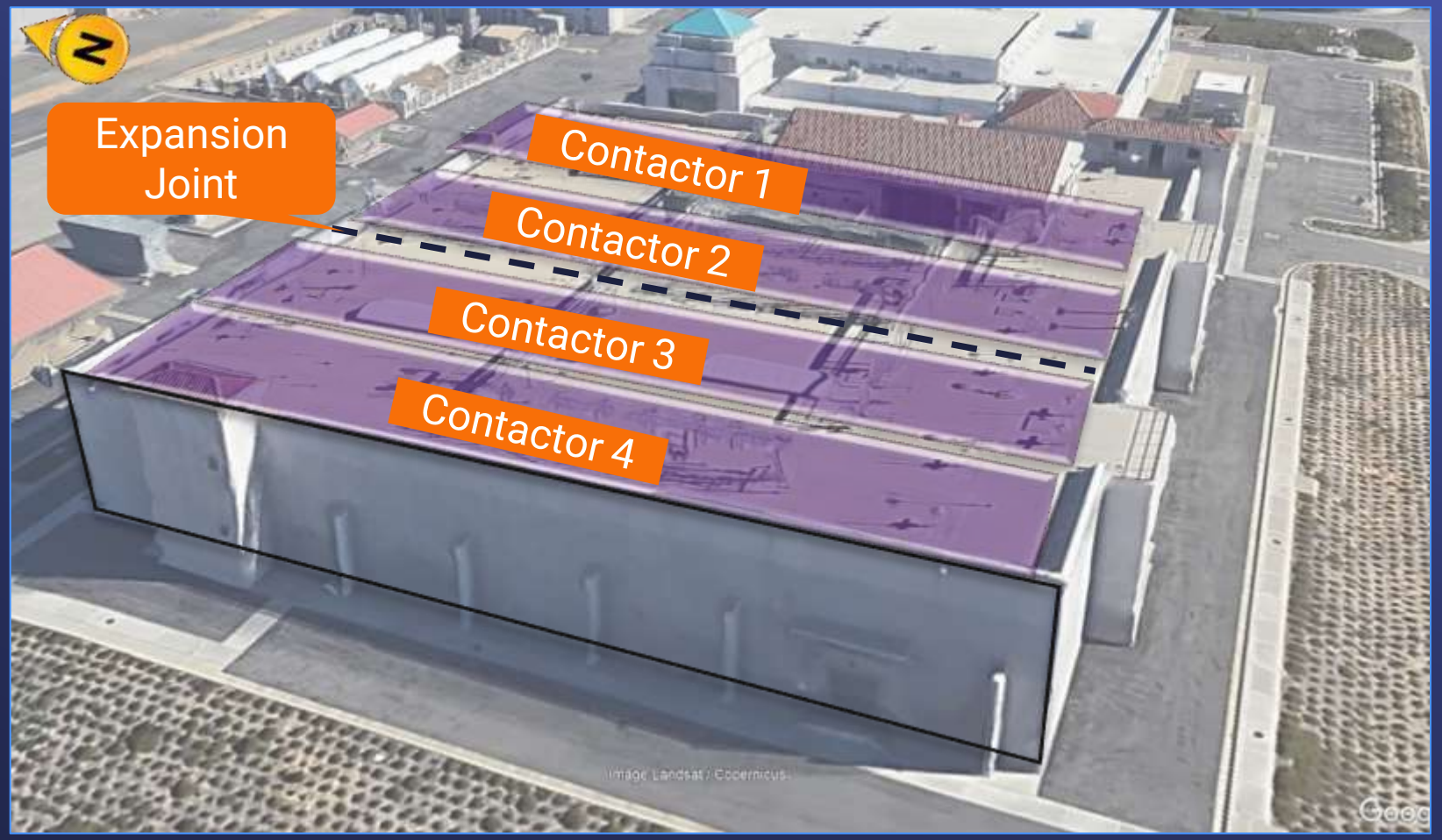
Non-Budgeted

Location Map



Background

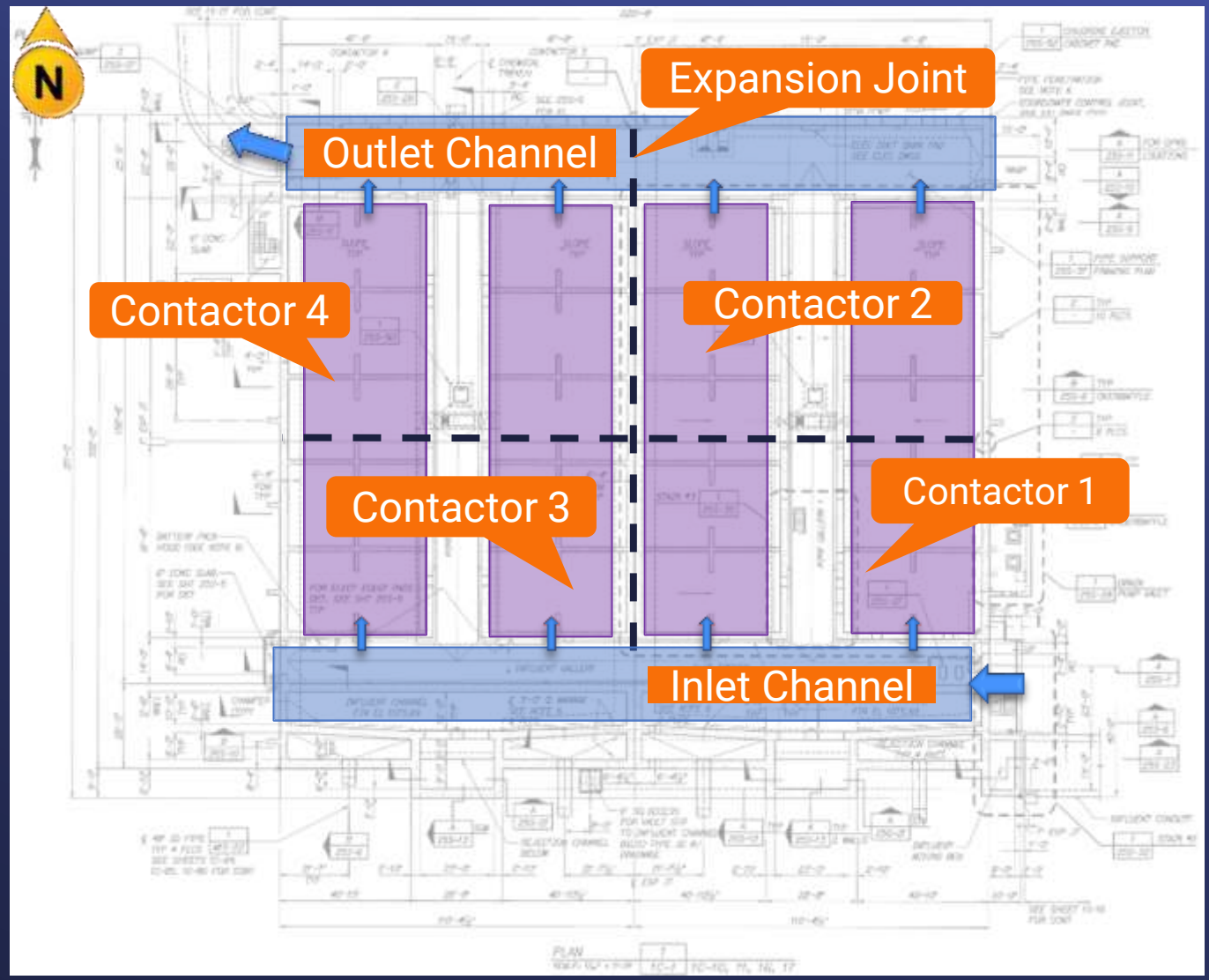
Weymouth Ozone Contactor Expansion Joint Improvements



Ozone Contactor Structure

Background

Weymouth Ozone Contactor Expansion Joint Improvements



Weymouth Ozone Contactor Expansion Joint Improvements

Background

- Ozone Contactor Structure Outlet Gallery

Expansion Joint Leak

Weymouth Ozone Contactor Expansion Joint Improvements

Alternatives Considered

- Considered Alternative – Implement upgrades under next biennial CIP budget
  - Condition of deteriorating joint seals could worsen
- Selected Alternative – Implement improvements in current biennial CIP
  - Reduces risk of unplanned shutdown
  - Addresses leakage in timely manner

Weymouth Ozone Contactor Expansion Joint Improvements

Scope of Work

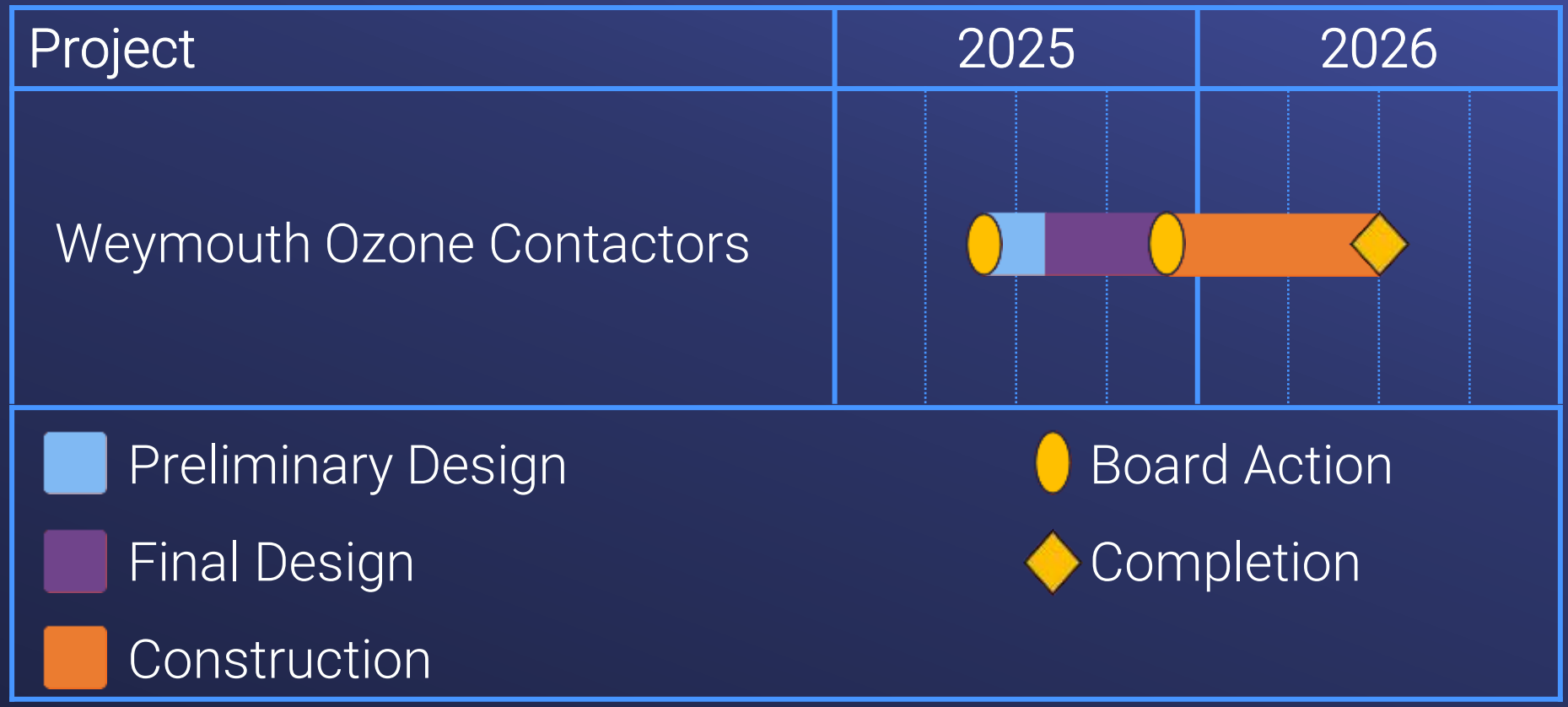
- Conduct field investigations
- Develop final design drawings & specifications
- Prepare cost estimate, plan shutdown, bidding & project management

Allocation of Funds

Weymouth Ozone Contactor Expansion Joint Improvements

Metropolitan Labor		
Studies & Investigations	$	74,000
Final Design		141,000
Owner Costs		84,000
Remaining Budget		31,000
Total	$	330,000

Project Schedule



Board Options

- Option #1

  Amend the Capital Investment Plan for fiscal years 2024/25 and 2025/26 to include the ozone contactor expansion joint improvements at the F.E. Weymouth 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

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

5/13/2025 Board Meeting

7-3

Subject

Authorize on-call agreements with Hazen and Sawyer, Jacobs Engineering Group Inc., and Mott MacDonald Group Inc. in amounts not to exceed $1 million each to support engineering planning for water system resiliency and energy planning projects; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

A series of technical studies and investigations are currently being planned to focus on the subjects of maintaining future water system resilience and enhancing energy sustainability. Staff's strategy for managing planning-phase studies is to rely on in-house engineering staff to accomplish the base load of work, while professional services agreements are selectively utilized to handle work above this base load or where specialized services are required. This action authorizes three new professional services agreements, with maximum amounts of $1 million each, to support engineering planning studies for water system resiliency and energy projects. See **Attachment 1** for the List of Subconsultants.

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

Staff Recommendation: Option #1

Option #1

Authorize on-call agreements with Hazen and Sawyer, Jacobs Engineering Group Inc., and Mott MacDonald Group Inc. in amounts not to exceed $1 million each for engineering planning services.

Fiscal Impact: Up to $3,000,000 from Engineering Services Group's board-approved operations and maintenance budget for fiscal years 2024/25 and 2025/26.

Business Analysis: Contracting with multiple firms provides a flexible and efficient means for Metropolitan to obtain needed technical services and complete planned initiatives per board-adopted schedules.

Option #2

Do not authorize the consulting agreements at this time.

Fiscal Impact: None

Business Analysis: Under this option, Metropolitan staff would perform the engineering planning activities or request board authorization for agreements on a project-specific basis. This option would forego an opportunity to reduce administrative costs or address urgent projects promptly.

Alternatives Considered

Staff initially considered using project-specific agreements instead of additional on-call agreements. Project-specific agreements are negotiated for an amount needed to cover a specific project, with agreements over $250,000 requiring approval by the Board. The current approach of utilizing multiple on-call agreements is recommended to ensure that staff can efficiently execute the planned work over the upcoming biennium. On-call

agreements allow staff to streamline administrative procedures, reduce costs, and enable requested studies and planning activities to move forward without delay.

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)

Not applicable

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.)

CEQA determination for Option #2:

None required

Details and Background

Background

The exposure of Metropolitan's water and energy systems to climate variability has prompted the integration of resilience and sustainability goals into its long-term planning efforts. Promoting sustainable practices in water management helps ensure the availability of safe, clean, and sufficient water to meet current and future needs while minimizing negative environmental and social impacts. Several studies are necessary to support Metropolitan's long-term planning efforts to achieve these sustainability and resilience goals.

These studies include identifying potential risks and vulnerabilities to Metropolitan water and energy systems and developing and prioritizing mitigation measures. Potential studies may include investing in new water technologies and modernizing water treatment plants, interconnection, or pump stations. Similarly, integrating resilience and sustainability into energy projects may include exploring options to diversify power resources or develop energy storage systems and microgrids.

Agreements for Engineering Planning Services – Hazen and Sawyer, Jacobs Engineering Group Inc., and Mott MacDonald Group Inc.

Request for Qualification (RFQ) No. 1381 was issued in August 2024 to establish a pool of qualified firms to support planning-phase studies related to water and power facilities. Planning services under the RFQ were divided into two categories: Category 1 – Vulnerability, Reliability, and Resilience Assessments, and Category 2 – Sustainability Initiatives and Renewable Power Strategic Development. Respondents were allowed to provide qualifications for one or both categories. Services to be provided under the resulting agreements were identified in the RFQ. Category 1 services include conducting vulnerability, reliability, and risk assessments, developing strategies to enhance system resilience, evaluating the cost-effectiveness of proposed measures, and assisting in emergency response planning. Category 2 services include conducting studies to support Metropolitan in advancing sustainability initiatives related to water supply, water quality, and power.

Consultants submitted Statements of Qualifications (SOQs) for one or both categories. Twelve firms submitted SOQs, which were then evaluated based on qualifications, key personnel, experience related to planned studies, past performance, and business outreach. Through this process, all 12 firms were prequalified to provide services under one or both of the above categories and will be eligible for project-specific agreements within the categories of work for which they were prequalified.

New on-call agreements are recommended to be awarded at this time to three prequalified firms based on staff's current assessment of technical resources needed for studies planned over the next several years. New agreements are recommended with Hazen and Sawyer, Jacobs Engineering Group Inc., and Mott MacDonald Group Inc. These firms were selected through the evaluation process described above.

This action authorizes on-call agreements with Hazen and Sawyer, Jacobs Engineering Group Inc., and Mott MacDonald Group Inc. in an amount not to exceed $1 million each per contract. The maximum duration of the agreements will be three years. Staff will return to the Board in the future to authorize additional agreements if a need for such work is identified. For each agreement, Metropolitan has established a Small Business Enterprise participation level of 25 percent of the amount of the agreement. All three firms have committed to meeting this level of participation.

Summary

This action authorizes three on-call agreements for engineering planning services with Hazen and Sawyer, Jacobs Engineering Group Inc., and Mott MacDonald Group Inc. in an amount not exceeding $1 million each per contract for a maximum duration of three years.

4/22/2025
Mai M. Hattar *Date*
Interim Chief Engineer
Engineering Services

4/22/2025
Deven Upadhyay *Date*
General Manager

Attachment 1 – Listing of Subconsultants

Ref# es12704624

The Metropolitan Water District of Southern California

Subconsultants for Agreement with Hazen and Sawyer

Subconsultant and Location	Service Category; Specialty
Proteus Consulting LLP San Diego, CA	Water Supply Planning
ARUP Los Angeles, CA	Resilience, Risk Analysis, Sustainability and Energy
Yao Engineering Pasadena, CA	Power System Planning
V&A Consulting Engineers Inc. Oakland, CA	Corrosion
Optive Denver, CO	Cyber Security and Asset Inventory
Lettis Consultants International Inc. Valencia, CA	Seismic
GeoPentech Santa Ana, CA	Dams and Structures
ASK Energy Inc. Carlsbad, CA	Energy Planning and Condition Assessment
AESC Inc. Carlsbad, CA	Grid Interconnection and Utility Coordination
Mechanical Solutions Inc. Whippany, NJ	Solidworks FEA
WE3Lab Stanford, CA	Grid Modeling and Load Management
Rincon Consultants Inc. Los Angeles, CA	Water Supply/Resilience, Risk Analysis, Sustainability and Energy
Scott Foster Engineering Inc. La Cañada, CA	Hydraulics

The Metropolitan Water District of Southern California

Subconsultants for Agreement with Jacobs Engineering Group Inc.

Subconsultant and Location	Service Category; Specialty
DRP Engineering Inc. Monterey Park, CA	CAD Design Services, Conveyance Design
LEE & RO Inc. City of Industry, CA	Electrical Engineering Services
Trussel Technologies Inc. Pasadena, CA	Anthropogenic Hazards, Regulatory and Permitting

The Metropolitan Water District of Southern California

Subconsultants for Agreement with Mott MacDonald Group Inc.

Subconsultant and Location	Service Category; Specialty
Ascend Analytics Boulder, CO	Renewable Energy
Energy Experts International Redwood City, CA	Energy Supply and System Planning

Engineering, Operations, & Technology Committee

Professional Services Agreements for Water and Power Facilities Engineering Planning

Item 7-3

May 12, 2025

Item 7-3
Professional Services Agreements for Water & Power Engineering Planning

Subject

Authorize on-call agreements with Hazen and Sawyer, Jacobs Engineering Group Inc., and Mott MacDonald Group Inc. in amounts not to exceed $1 million for water system resiliency and energy planning projects

Purpose

Contracting with multiple firms provides flexibility and an efficient means for Metropolitan to obtain needed technical services and to complete planning studies that can lead to capital projects

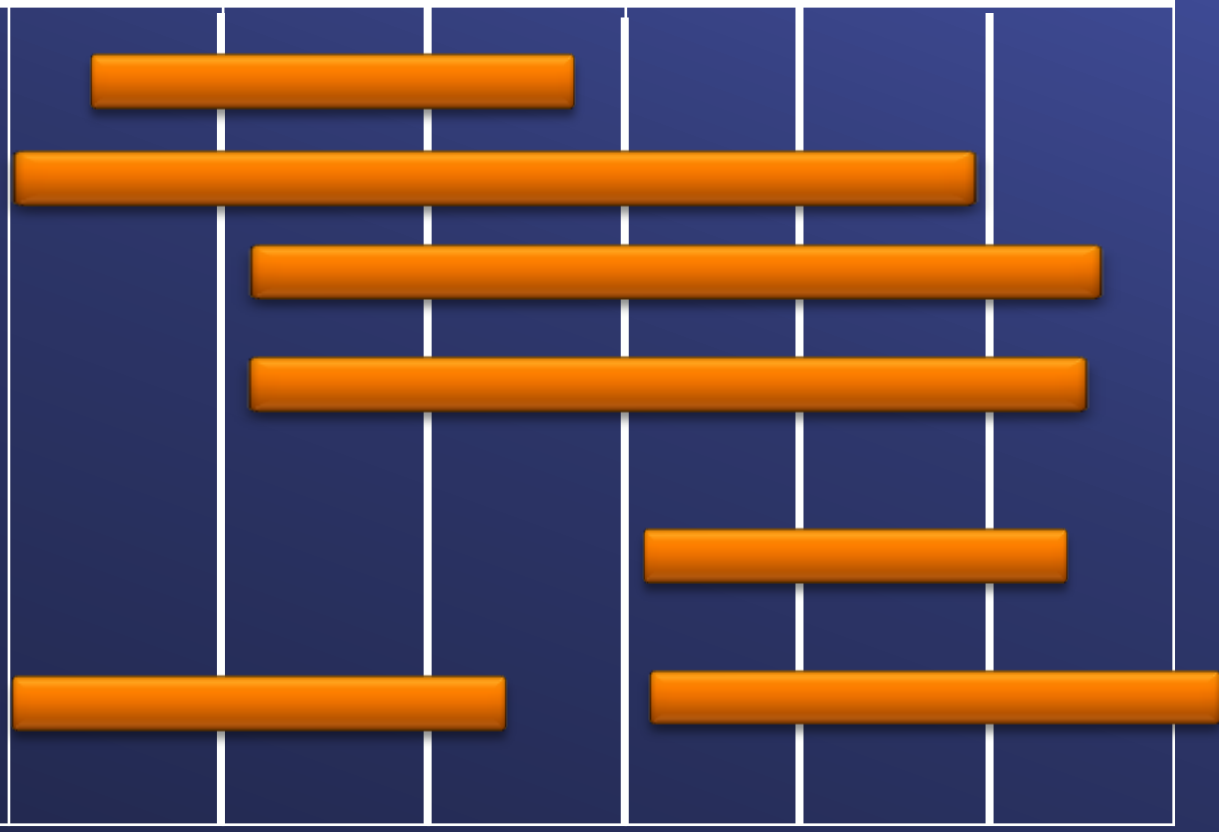
Recommendation and Fiscal Impact

Authorize agreements for planning services

Fiscal Impact – Up to $3 M in O&M

Budgeted

Upcoming *Integrated Strategy for Infrastructure Reliability* Studies & Activities

System Reliability Strategy	2025	2026	2027
• Equitable Supply Reliability Identification • Equitable Supply Reliability Mitigation Projects • System Reliability Study/System Flexibility Study • System Reliability Study/Operational System Overview Study • Evaluation of Regional Storage Portfolio - Spatial & System Considerations • Strategic Infrastructure Resilience Plan/Plan Implementation			

Power Sustainability, Reliability & Resilience Initiatives

- Assist with development of overall energy development strategy
- Assess power system sustainability & resilience against natural & man-made hazards
- Planned studies
  - Energy Sustainability Plan Update
  - Renewable Energy Optimization Studies
  - Energy Storage Studies

Weymouth Solar Farm

Jensen Battery Energy Storage System (BESS) Installation

Professional Services Agreements for Water & Power Engineering Planning

Professional Services Agreements

- Approved individually by the Board over $250 K
- Project-Specific Agreements
  - Used for projects with extended duration or larger scope
- On-Call Agreements
  - Typically utilized for short-term assignments, urgent projects, etc.
  - Allows for flexibility & expedited delivery of planning activities
  - Work is not guaranteed to consultants

Professional Services Agreements for Water & Power Engineering Planning

Request for Qualifications (RFQ) 1381

- 12 firms responded
- All firms qualified in one or two categories
  - Water system vulnerability, reliability & resilience assessments
  - Sustainability initiatives & renewable power strategic development
- Agreements subject to 25% SBE participation
- Three firms recommended for agreements at this time
- Services to be provided include
  - Conduct reliability & resilience assessments
  - Develop strategies for enhancing system resilience
  - Emergency response planning
  - Advance sustainability initiatives related to water supply, water quality & power

Professional Services Agreements for Water & Power Engineering Planning

Alternatives Considered

- Considered Alternative – Utilize project-specific agreements
  - Requires multiple individual board authorizations
- Selected Alternative – Utilize on-call agreements
  - More effectively execute planned work
    - Streamlines administrative procedures & reduces costs
    - Initiate studies without delay

Board Options

- Option #1

  Authorize on-call agreements with Hazen and Sawyer, Jacobs Engineering Group Inc., and Mott MacDonald Group Inc. in amounts not to exceed $1 million each for engineering planning services.

- Option #2

  Do not authorize the consulting agreements at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

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

5/13/2025 Board Meeting

7-4

Subject

Award a $457,498 construction contract to IPI Construction to upgrade the heating, ventilation, and air conditioning systems in the control rooms at the Joseph Jensen Water Treatment Plant; the General Manager has determined that the proposed action is categorically exempt or otherwise not subject to CEQA

Executive Summary

The occurrence of wildfires in the vicinity of the Joseph Jensen Water Treatment Plant (Jensen plant) has increased in recent years. During these fire events, smoke and embers travel onto the plant site, prompting staff to use enhanced respiratory personal protective equipment in the main and secondary control rooms so that they can maintain critical plant operations. The existing heating, ventilation, and air conditioning (HVAC) systems in both control rooms require upgrades to mitigate smoke infiltration, enhance personnel safety, and increase operational resiliency.

This action awards a construction contract for upgrades to the HVAC systems at the Jensen plant's primary and secondary control rooms to mitigate smoke infiltration. 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.

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

Staff Recommendation: Option #1

Option #1

Award a $457,498 construction contract to IPI Construction for upgrades to the heating, ventilation, and air conditioning systems in the control rooms at the Joseph Jensen Water Treatment Plant.

Fiscal Impact: $800,000 in capital funds. All costs will be incurred in the current biennium and have been previously authorized.

Business Analysis: This option will enhance worker safety and the resiliency 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 enhance worker safety and resiliency at the Jensen plant. Under this option, staff would continue to rely solely on the use of respiratory personal protection equipment when air quality within the control rooms is impacted by wildfire smoke.

Alternatives Considered

Staff considered procuring the HVAC equipment and utilizing Metropolitan forces for installation and commissioning. After assessing the current in-house construction support commitments and upcoming maintenance needs of critical water delivery and conveyance facilities, staff recommends the use of a contractor to procure and install HVAC equipment. The selected alternative will maintain staff's ability to meet construction

deadlines for ongoing projects while maintaining enough reserve capacity to perform annual maintenance at other Metropolitan facilities. This approach will also minimize operational disruptions and ensure timely construction completion.

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 53598, dated April 9, 2024, the Board appropriated a total of $636.6 million for projects identified in the Capital Investment Plan for Fiscal Years 2024/2025 and 2025/2026.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action to award the contract to upgrade the HVAC system is exempt under CEQA because it involves repair, maintenance, and minor alterations of existing public structures, facilities, and mechanical equipment involving negligible or no expansion of existing or former use and no possibility of significantly impacting the physical environment. In addition, the proposed action is exempt from CEQA because it consists of replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced. (State CEQA Guidelines Sections 15301 and 15302).

CEQA determination for Option #2:

None required

Details and Background

Background

The Jensen plant was placed into service in 1972. It treats raw water from the West Branch of the California State Water Project and delivers it to Metropolitan's Central Pool and exclusive service areas on the west side of the distribution system. The Jensen plant is located in Granada Hills and is surrounded by vegetated undeveloped hills and mountains prone to wildfire.

The Jensen plant's primary control room is backed up by a secondary control room located in the ozone generation building. Staff responsible for operating the plant is located in one of the two control rooms at all times. The HVAC systems for each control room meet minimum code requirements, but they were not designed to filter and remove smoke infiltration caused by wildfires. During the last three major fire events near the Jensen plant, the Saddle Ridge Fire in October 2019, the Victor Fire in July 2023, and the Hurst Fire in January 2025, smoky conditions in both control rooms caused plant staff to rely on N100 particulate masks and self-contained breathing apparatus with emergency oxygen bottles so that they could safely operate the plant during the smoky conditions. Poor air quality conditions remained at the plant site for several days after the fires were contained.

An upgraded HVAC system with smoke infiltration control was installed at the Diemer plant's control room in 2017 following wildfires near that plant site. The enhanced HVAC system has successfully allowed staff to safely continue plant operations through heavy smoke conditions during a nearby wildfire event in October 2020. The proposed enhancements to the Jensen HVAC system will mimic the improvements that were made at the Diemer plant.

Final design for the HVAC system upgrades at the Jensen plant's control rooms has now been completed, and staff recommends the award of a construction contract at this time.

Jensen Control Room HVAC System Upgrades – Construction

The scope of the construction contract includes furnishing and installation of HVAC equipment with enhanced smoke filtration control at the Jensen plant's primary and secondary control rooms. The work also includes modifications to the existing HVAC ductwork, support structures, and electrical system; replacement of the control room entry double doors; sealing and repairing openings in ceiling tiles, walls, and floors; and abatement of asbestos and lead-containing materials. Metropolitan forces will modify programming within the Supervisory Control and Data Acquisition system and relocate the plant's control room functions to facilitate construction.

A total of $800,000 is required for this work. In addition to the amount of the contract described below, other allocated funds include: $90,000 for Metropolitan force work as described above; $81,000 for construction management and inspection; $77,000 for submittals review, technical support during construction, responding to requests for information, and preparation of record drawings; $43,000 for contract administration, environmental monitoring, and project management; and $51,502 for the remaining budget. **Attachment 1** provides the allocation of the required funds.

Award of Construction Contract (IPI Construction)

Specification No. 2054A to upgrade the HVAC systems in the main and secondary control rooms at the Jensen plant was advertised for bids on February 3, 2025. As shown in **Attachment 2**, three bids were received and opened on March 19, 2025. The low bid from IPI Construction, in the amount of $457,498 complies with the requirements of the specifications. The other bids ranged from approximately $483,000 to $977,000, while the engineer's estimate for this project was $500,000. Metropolitan established a Small Business Enterprise (SBE) participation level of at least 25 percent of the bid amount for this contract. IPI Construction is a certified SBE firm and thus achieves 100 percent participation. The subcontractors for this contract are listed in **Attachment 3**.

This action awards a $457,498 contract to IPI Construction to upgrade the HVAC systems in the primary and secondary control rooms at the Jensen plant. As mentioned above, Metropolitan staff will perform construction management and inspection. Engineering Services' performance metric target range for construction management and inspection of projects with construction costs less than $3 million is 9 to 15 percent. For this project, the performance metric for inspection is 14.8 percent of the total construction cost ($547,498), which includes the construction contract ($457,498) and Metropolitan force construction ($90,000).

Project Milestone

June 2026 – Completion of HVAC systems upgrades at the Jensen plant's control rooms

4/28/2025
Mai M. Hattar *Date*
Interim Chief Engineer
Engineering Services

4/28/2025
Deven Upadhyay *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Ref# es12708451

Allocation of Funds for Jensen Control Rooms HVAC System Upgrades

	Current Board Action (May 2025)
Labor	
Studies & Investigations	$ -
Final Design	-
Owner Costs (Program mgmt., contract admin.)	43,000
Submittals Review & Record Drwgs.	77,000
Construction Inspection & Support	81,000
Metropolitan Force Construction	90,000
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
IPI Construction	457,498
Remaining Budget	51,502
Total	**$ 800,000**

The total amount expended to date to upgrade the HVAC systems at the Jensen plant's control rooms is approximately $600,000. The total estimated cost to complete the upgrades, including the amount appropriated to date and funds allocated for the work described in this action, is $1.4 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on March 19, 2025, at 2:00 P.M.

Specifications No. 2054A
Joseph Jensen Water Treatment Plant Control Room Wildfire Smoke Control

The work includes furnishing and installation of HVAC equipment with enhanced smoke filtration control at the Jensen plant's primary and secondary control rooms, including modifications of existing HVAC ductwork, support structures, and electrical features; replacement of control room entry double doors; sealing and repair of openings in ceiling tiles, walls and floors; and abatement of asbestos and lead-containing materials.

Engineer's estimate: $500,000

Bidder and Location	Total	SBE $	SBE %	Met SBE[1]
IPI Construction Panorama City, CA	**$457,498**	**$457,498**	**100%**	**Yes**
Golden Sun Firm & Co. Inc. Van Nuys, CA	$483,875	-	-	-
Minako America Corp. Gardena, CA	$977,700	-	-	-

[1] Small Business Enterprise (SBE) participation level was established at 25 percent for this contract.

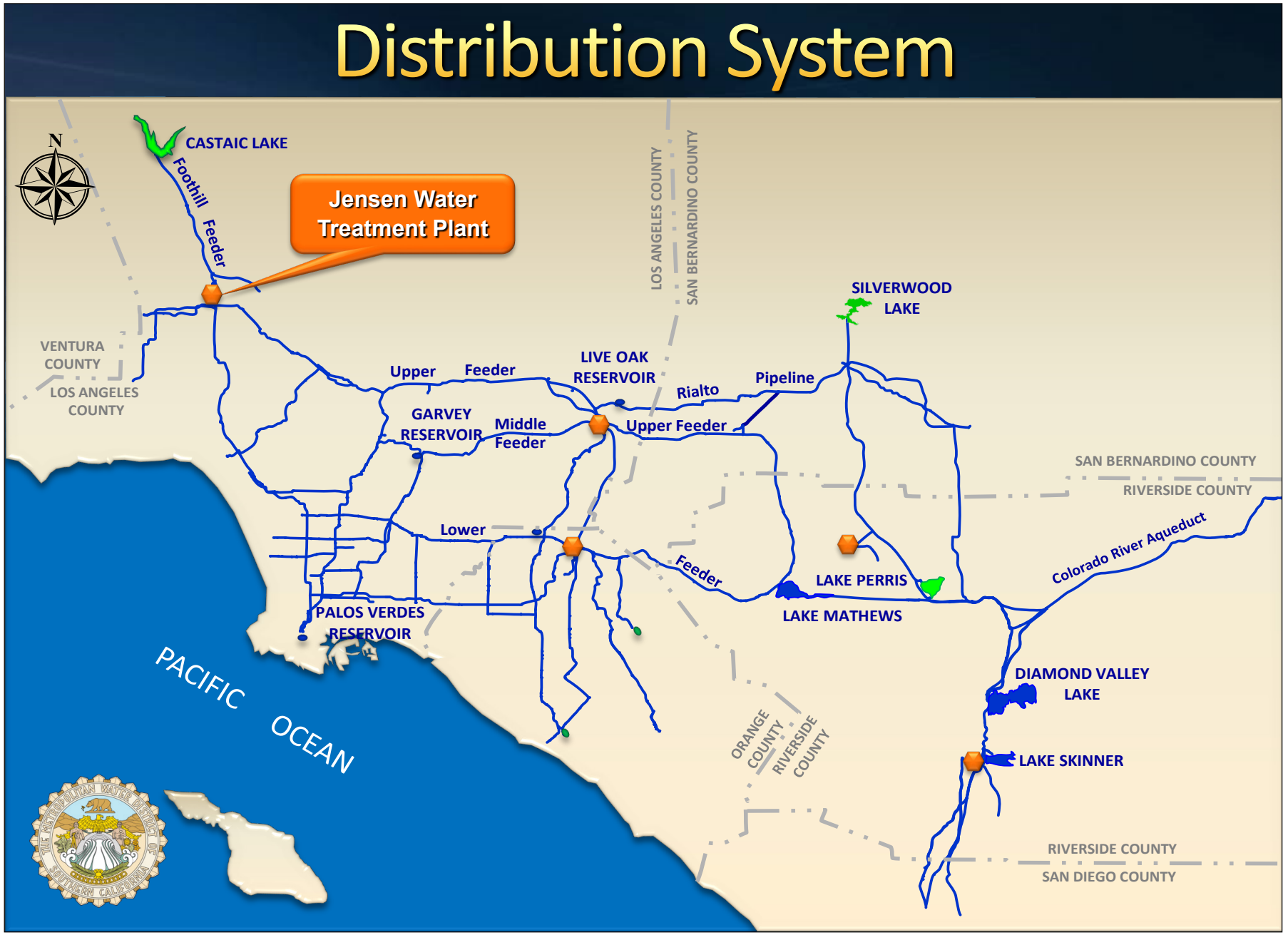
The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

Specifications No. 2054A
Joseph Jensen Water Treatment Plant Control Room Wildfire Smoke Control

Low bidder: IPI Construction

Subcontractor	Service Category; Specialty
Commerce Air Conditioning Company Tarzana, CA	HVAC
Digital Technologies Inc. Ontario, CA	Electrical
Karcher Interior Systems Inc. Orange, CA	Firestopping
Unlimited Environmental Inc. Santa Fe Springs, CA	Demolition/Abatement


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 Control Rooms HVAC System Upgrades

Item 7-4

May 12, 2025

Item 7-4
Jensen Control Rooms HVAC System Upgrades

Subject

Award a $457,498 construction contract to IPI Construction to upgrade the heating, ventilation, and air conditioning systems in the control rooms at the Joseph Jensen Water Treatment Plant

Purpose

Enhance worker safety and resiliency of the Jensen plant during wildfire events

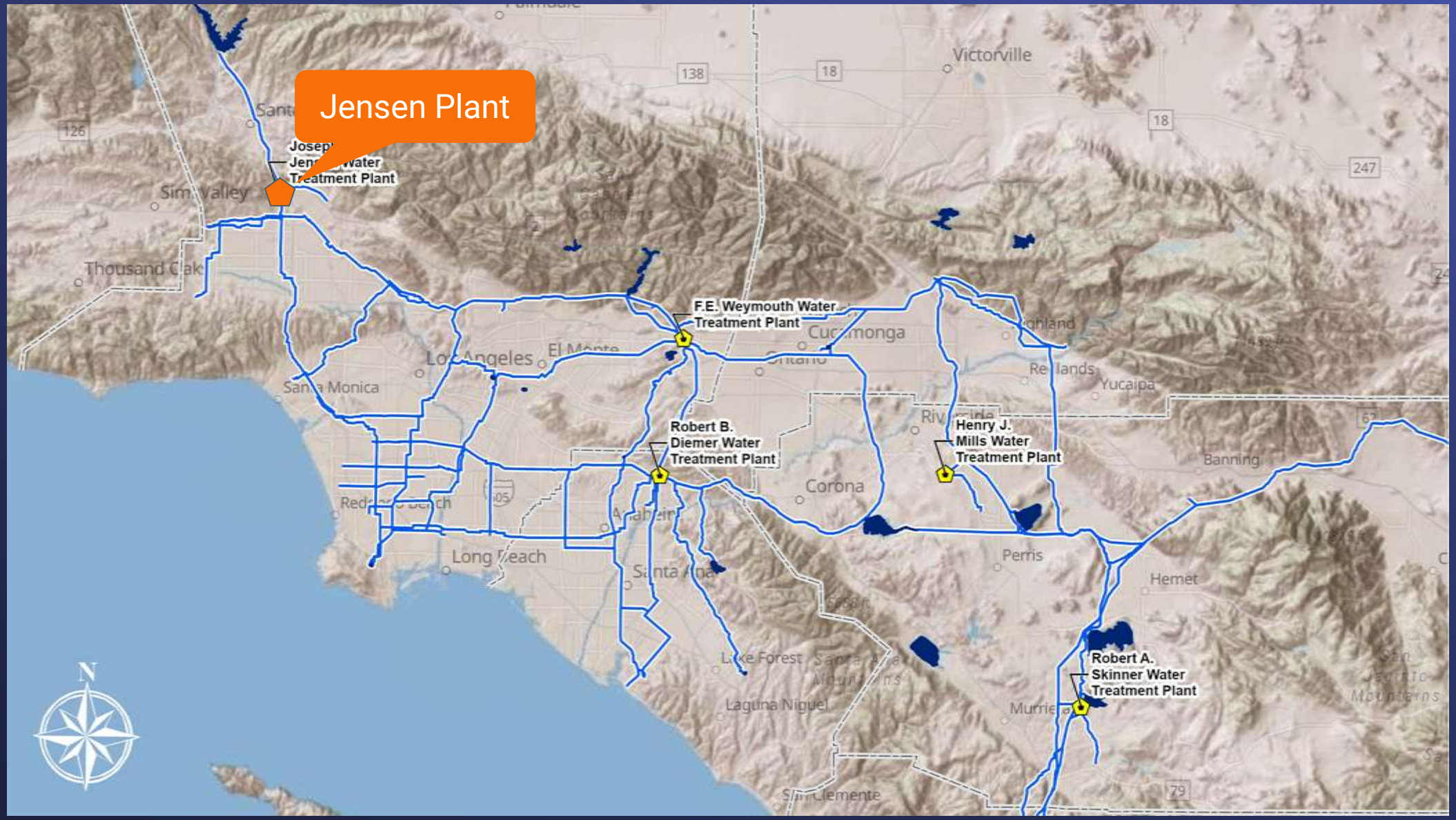
Recommendation and Fiscal Impact

Award a construction contract to upgrade the heating, ventilation, and air conditioning systems in the control rooms at the Jensen plant

Fiscal Impact – $800,000

Budgeted

Location Map

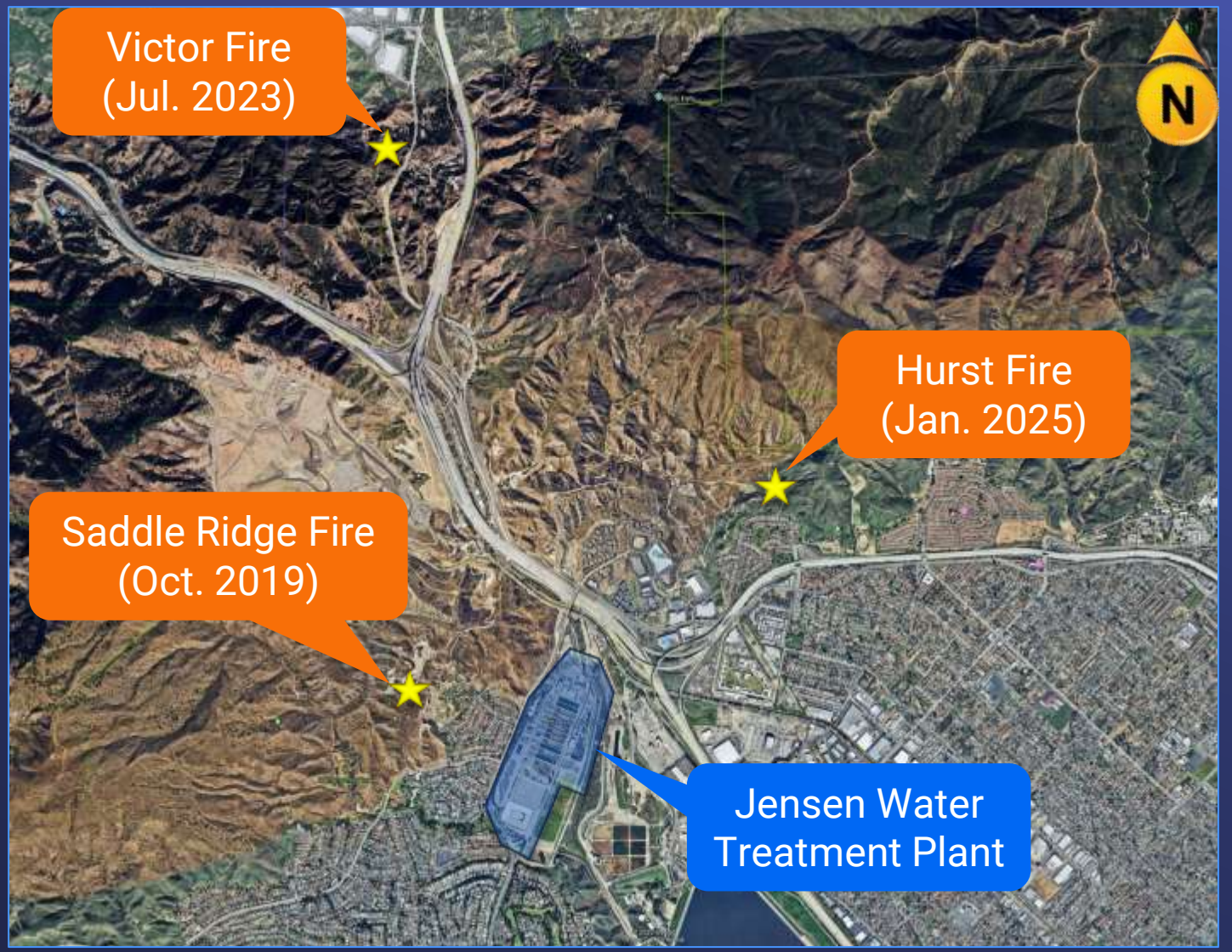


Background

- Jensen staff occupy one of two control rooms at all times:
  - Primary in administration building
  - Secondary in ozone generation building
- HVAC systems meet code requirements, but not designed to remove smoke infiltration
- Diemer upgraded their control room HVAC systems in 2017
  - Successfully mitigated smoke during Blue Ridge Fire in October 2020

Recent Fires Near Jensen Plant

- Increasing wildfire events in recent years
- Staff follows Metropolitan's Wildfire Smoke Protection Procedures
- During the Saddle Ridge Fire
  - Smoky conditions persisted for multiple days
  - P100/N95 particulate masks provided
  - Air purifying respirators & SCBA with breathable air were available for voluntary use



Recent Fires Near Jensen Plant

Hurst Fire (Jan. 2025) – Looking South

Hurst Fire (Jan. 2025) – From Jensen Admin Bldg.

Jensen
Control Rooms
HVAC System
Upgrades

Alternatives Considered

- Considered Alternative – Procure HVAC equipment & utilize Metropolitan forces to complete control room upgrades
  - Existing construction support commitments exceed available in-house resources
- Selected Alternative – Use a contractor to procure & install HVAC equipment

Jensen
Control Rooms
HVAC System
Upgrades

Scope of Work – Contractor

- Furnish & install enhanced smoke filtration HVAC equipment
- Modify existing ductwork, support structures & electrical systems
- Replace control room doors & seal openings

Jensen
Control Rooms
HVAC System
Upgrades

Scope of Work – Metropolitan Staff

- Modify SCADA programming
- Relocate control room functions during construction activities
- Construction management
- Construction support & submittal review
- Project management & contract administration

Bid Results
Specifications No. 2054A

Bids Received	March 19, 2025
No. of Bidders	3
Lowest Responsible Bidder	IPI Construction
Lowest Qualified Bid	$457,498
Range of Other Bids	$483,875 – $977,700
Engineer's Estimate	$500,000
SBE Participation*	100%

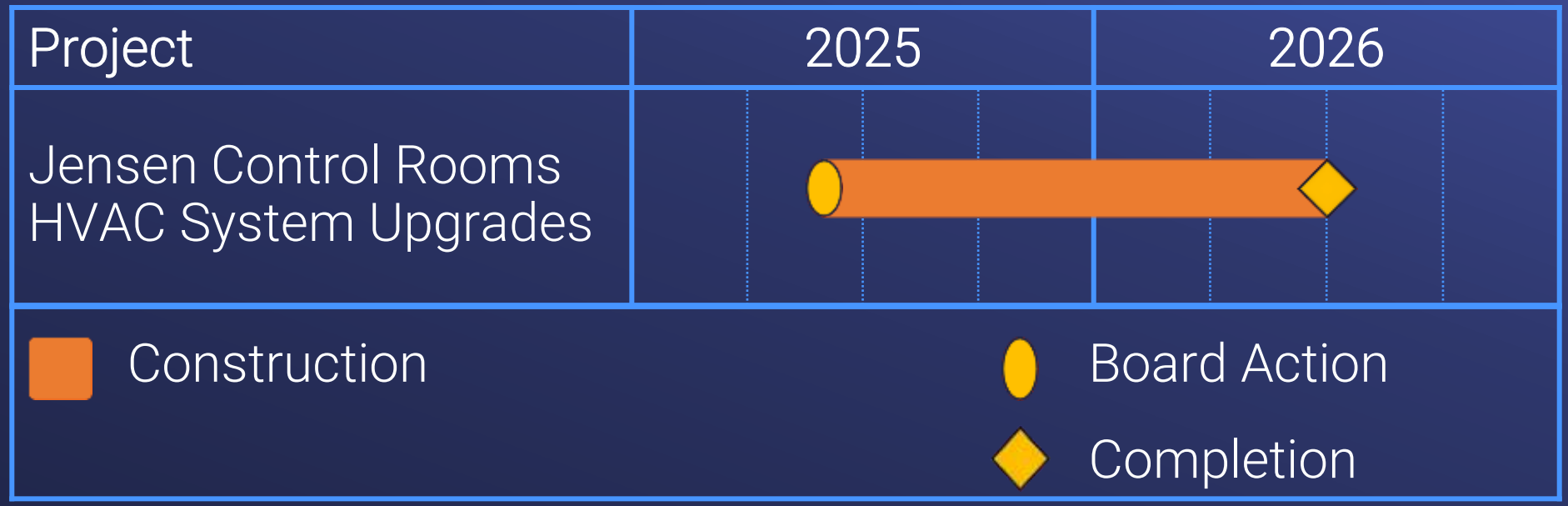
*SBE (Small Business Enterprise) participation level set at 25%

Allocation of Funds

Jensen Control Rooms HVAC System Upgrades

Metropolitan Labor		
Owner Costs (Proj. Mgmt., Contract Admin.)	$	43,000
Submittals Review & Record Drwgs.		77,000
Construction Inspection & Support		81,000
Metropolitan Force Construction		90,000
Contracts		
IPI Construction		457,498
Remaining Budget		51,502
Total	$	800,000

Project Schedule



Board Options

- Option #1

  Award a $457,498 construction contract to IPI Construction for upgrades to the heating, ventilation, and air conditioning systems in the control rooms 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

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

5/13/2025 Board Meeting

8-1

Subject

Award a $131 million procurement contract to Siemens Energy Inc. to furnish 35 high-voltage power transformers; authorize the General Manager to execute change orders for the CRA transformer procurement contract up to an aggregate amount not to exceed $42.5 million; and authorize an increase of $6.5 million to an agreement with HDR Engineering Inc. for a new not-to-exceed amount of $8.2 million for final design services to replace the high-voltage transformers at the five CRA pumping plants; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

The Colorado River Aqueduct (CRA) system utilizes 69 kV and 230 kV transformers to step down power from Hoover and Parker Dams to the lower voltages used to run the main pumps and other equipment at the five CRA pumping plants. The existing transformers have exceeded their design life, are currently showing signs of deterioration, and require replacement to maintain reliable CRA water deliveries.

This action: (1) awards a $131 million procurement contract to Siemens Energy Inc. to furnish 35 high-voltage power transformers; (2) authorizes the General Manager to execute change orders for the CRA transformer procurement contract up to an aggregate amount not to exceed $42.5 million; and (3) authorizes an increase of $6.5 million to an existing agreement with HDR Engineering Inc. to perform final engineering design services to replace the existing high-voltage power transformers at the five CRA pumping plants with the Metropolitan-furnished transformers that are included in this board action. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Listing of Subconsultants, **Attachment 3** for the Location Map, and **Attachment 4** for the Key Agreement Terms.

Proposed Recommendation and Options

Staff Recommendation: Option #1

Option #1

a. Award a $131 million procurement contract to Siemens Energy Inc. to furnish 35 high-voltage power transformers.
b. Authorize the General Manager to execute change orders for the CRA transformer procurement contract up to an aggregate amount not to exceed $42.5 million.
c. Authorize an increase of $6.5 million to an existing agreement with HDR Engineering Inc. for a new not-to-exceed amount of $8.2 million for final engineering design services to replace the high-voltage power transformers at all five CRA pumping plants.

Fiscal Impact: Expenditure of $149.2 million in capital funds. Approximately $5 million will be incurred in the current biennium and has been previously authorized. The remaining funds from this action will be accounted for in subsequent biennial budgets.
Business Analysis: This option will enhance the reliability of the CRA by replacing key elements of its electric power systems.

Option #2

Do not proceed with the project at this time. Staff will continue to monitor the operational status of the transformers.

Fiscal Impact: None

Business Analysis: This option would defer the replacement of the CRA's high-voltage power transformers, which would forego an opportunity to reduce the risk of unplanned outages of the CRA.

Alternatives Considered

During the planning process for this project, staff evaluated replacing the existing single-phase transformers with new three-phase transformers. This option could reduce the number of transformer units at each plant from seven to three, which could potentially lower procurement and maintenance costs. However, this approach would require extensive modifications to upstream and downstream electrical facilities at each pumping plant, including the 230 kV and 69 kV switchyards as well as the 6.9 kV switch houses. After careful evaluation, staff concluded that retaining the single-phase transformer design is the most cost-effective and efficient approach. This approach also minimizes outages and disruptions to CRA water deliveries during construction.

During the preliminary design phase, staff also considered rehabilitating the existing transformer cranes, as the new transformers are expected to weigh less than the current equipment. However, due to the cranes' age, their general condition, limited availability of spare parts, and the current structural codes, rehabilitation was deemed neither feasible nor economical. Staff also evaluated the use of mobile cranes as an alternative to replacing the existing stationary cranes. Outreach to local vendors confirmed that utilizing mobile cranes, where feasible, would be more cost-effective compared to rehabilitating all five existing stationary cranes. This information led to the decision to replace the stationary cranes at only two of the plants and utilize mobile cranes at the three pumping plants that have adequate space for mobile crane operation.

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

Metropolitan Water District Administrative Code Section 8150: Best Value Procurement

Related Board Actions/Future Actions

By Minute Item 52330, dated April 13, 2021, the Board authorized preliminary design to replace the CRA main pump transformers.

By Minute Item 53598, dated April 9, 2024, the Board appropriated a total of $636.6 million for projects identified in the Capital Investment Plan for Fiscal Years 2024/25 and 2025/26.

Board Informational Item 9-2 dated January 14, 2025, Update on the Colorado River Aqueduct High-Voltage Transformers Replacement Project.

Award cranes construction contract (future)

Award transformer installation contract(s) (future)

Summary of Outreach Completed

Staff conducted a comprehensive global outreach to identify and prequalify transformer manufacturers with the technical capabilities, resources, and proven expertise to manufacture custom high-voltage power transformers. In addition, staff engaged with other agencies, such as the U.S. Bureau of Reclamation and the Department of Water Resources, that regularly procure custom high-voltage power transformers to gather insights into their procurement practices and experiences with the current market conditions.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

On April 13, 2021, the project was determined to be exempt from CEQA pursuant to Sections 15301, 15302, 15303, 15304, and 15311 of the State CEQA Guidelines. The current board action does not result in any substantial change to the project. Accordingly, no further CEQA determinations or documentation are necessary.

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, 63 miles of canals, and 44 miles of cut-and-cover conduits. The aqueduct was constructed in the 1930s and was placed into service in 1941.

Electrical power for the CRA's five pumping plants is transmitted via 237 miles of high-voltage lines from Hoover and Parker Dams. Higher voltages are used on overhead power lines to increase transmission efficiency, and the voltage is then decreased (stepped down) at the CRA pumping plants to match the lower voltages of plant equipment. Four pumping plants have incoming voltages of 230 kV, while the incoming voltage at the Intake Pumping Plant is 69 kV. Each plant uses seven single-phase power transformers to step down the voltage from its incoming voltage to the operating voltage of 6.9 kV, which is used to operate the main pumps and other equipment. The aqueduct system utilizes 35 high-voltage transformers distributed across all five pumping plants. At each plant, four transformers were installed in 1939 with the initial construction of the aqueduct, and the remaining three transformers were installed in 1959 with the aqueduct's expansion. The seven transformers at each plant are arranged in two banks of three transformers, each with one common spare unit. Each transformer bank powers up to five pump units, or approximately 63 percent of the aqueduct's capacity.

While a typical power transformer's service life is expected to be 40 to 50 years, the CRA's transformers have operated continuously for nearly 85 years due to thorough maintenance and ideal operating conditions in a dry climate. In the mid-1980s, a significant effort was undertaken to rehabilitate and refurbish the original transformers installed in 1939. Most transformers continue to operate reliably, but urgent maintenance is becoming more frequent. In April 2025, urgently needed maintenance of a transformer bushing at the Hinds plant resulted in an unplanned CRA flow reduction for over a week. Also, recent inspections have identified elevated gas levels in the transformer oil, an early indicator of equipment failure. Analysis of this data, along with operational performance and non-destructive microscopic examinations of selected transformers' insulating materials, indicates that the transformers are nearing the end of their service life and require replacement to ensure reliable operation of the CRA.

Due to the specialized nature of the transformers and the continued strong demand for electrical equipment on a global basis, long lead times are required for manufacturing this equipment. As such, staff recommends the transformers be procured before the installation contract is ready for advertisement. This approach ensures the transformers are available when the installation contractor mobilizes to conduct on-site work and minimizes impacts on the plants' operations during installation and commissioning.

CRA High-Voltage Transformers Replacement – Procurement

The scope for the procurement contract includes furnishing 35 high-voltage transformers and associated appurtenances. Deliveries will be staged in batches and stored at each pumping plant until the construction contractor is ready to install the equipment. The transformers may be shipped fully assembled with oil or as disassembled units, depending on the manufacturer's preference and shipping regulations. The transformers will be inspected, assembled, tested, and prepared for long-term storage in accordance with the manufacturer's recommendations. The transformers will be equipped with instrumentation to monitor their condition. The vendor, Siemens, will perform periodic testing and inspections to validate the warranty and ensure the transformers are ready for installation.

A construction contract will be awarded after the first half of the transformers have been received by Metropolitan. Transformers will be replaced one unit at a time, with construction crews working across all plants simultaneously to replace five transformers per year. A detailed installation and delivery schedule has been developed to align with annual CRA shutdowns, minimizing impacts to the CRA operations and ensuring 8-pump flow capacity. Multiple alternative installation options were also considered that would shorten the installation schedule by a few years but restrict the CRA's capacity to five pump flow or below. Staff plans to include provisions within the installation contract to allow the contractor to accelerate the schedule if opportunities arise.

Award of Procurement Contract (Siemens Energy Inc.)

A Request for Qualification No. 1240A was issued on October 8, 2021, to prequalify potential bidders. Statements of Qualifications were received on November 19, 2021. Six manufacturers and authorized distributors were prequalified to bid on the transformer's procurement contract. They included Delta Star Inc., Hitachi, ILJIN Electric USA Inc., Siemens Energy Inc., Turbos Trans Electric, and WEG Transformers USA.

Specifications No. 1897 – Furnishing 69 kV and 230 kV Power Transformers for the Colorado River Aqueduct Pumping Plants was advertised on May 19, 2023, to the prequalified manufacturers. During the bidding period, manufacturers indicated to staff that market conditions had significantly changed since the prequalification list was established, and substantial exceptions would be taken concerning: (1) Technical requirements; (2) Standard contract terms and conditions, including delivery schedule and warranty; and (3) Up-front, fixed pricing for the units. Items affecting fixed pricing include unprecedented global industry demand for transformers, global events that have caused disruptions to supply chains, and significant materials price fluctuations. Collectively, these issues result in even longer lead times to procure the transformers.

The advertisement period for Specifications No. 1897 closed on September 21, 2023, after two separate time extensions were granted at the request of the potential bidders. Metropolitan received one bid that was deemed nonresponsive and rejected, as it only included pricing for seven of the 35 transformers. In addition, the vendor took numerous exceptions to Metropolitan's bidding requirements and technical specifications.

Following these bidding challenges, staff elected to implement best value procurement provisions, per Metropolitan's Administrative Code Section 8150. This approach allows prequalified manufacturers to submit proposals addressing the solicitation's technical specifications while enabling the evaluation of additional factors beyond cost. The proposals include elements such as payment schedules, material escalation clauses, operational performance guarantees, warranty provisions, and delivery schedules, all of which can be negotiated with the manufacturers to ensure the best overall value for Metropolitan. During this process, staff continued to perform outreach efforts and another manufacturer (SGB-SMIT Group) was prequalified.

Request for Proposal (RFP) No. 1360 was issued on March 15, 2024, to the seven prequalified manufacturers. One proposal was received from Siemens Energy Inc. (Siemens), whose manufacturing facilities are located in Austria, on July 18, 2024. Metropolitan completed a thorough review and analysis of the submitted proposal. Siemens has proposed commercial terms that differ materially from those included in Metropolitan's standard procurement contracts. Metropolitan entered negotiations in September 2024 with Siemens on contract pricing, technical requirements, and contractual terms and conditions. This process involved detailed discussions and careful consideration of key terms, including payment terms, material escalation clauses, operational performance guarantees, warranty provisions, and delivery schedules. Staff has negotiated to ensure that the final contract not only meets the technical and operational needs of the project but also provides flexibility and long-term value for Metropolitan. **Attachment 4** highlights the negotiated agreement terms that vary from Metropolitan's standard terms.

This action awards a $131 million procurement contract to Siemens to furnish 35 high-voltage power transformers. This amount includes all sales and use taxes imposed by the State of California. Staff contacted several entities that have recently purchased large transformers and found the initial proposal was reasonable and reflects the high demand and limited manufacturers of the specialty equipment. As a procurement contract, there are no subcontracting opportunities, and no Small Business Enterprise participation level was established for this contract.

A total of $138.8 million is required for the procurement phase. In addition to the amount of the procurement contract described above, other allocated funds for professional services include $920,000 for design review and factory acceptance testing, which will be performed by a specialty firm under an existing board-authorized on-call agreement. Allocated funds for Metropolitan staff activities include $758,000 for fabrication inspection and functional testing; $435,000 for submittals review and responding to manufacturer requests for information; $244,000 for laydown area preparation, transformer monitoring and maintenance during storage to uphold warranty; $550,000 for contract administration and project management; and $4,893,000 for the remaining budget. **Attachment 1** provides the allocation of the required funds.

Change Order Authority for Procurement Contract

Based on Metropolitan's Administrative Code, the General Manager's change order authority for the transformer procurement contract is $6.55 million, which is five percent of the contract amount. On the transformer procurement contract, change orders are anticipated that may potentially exceed the current five percent change order authority.

Potential changes include optional testing procedures if exercised by Metropolitan, and price adjustments due to escalation. Since 2020, the transformer industry has relied on a price adjustment formula based on published indices for materials, labor, and currency exchange rates. Over the past five years, fluctuations have increased approximately six to eight percent annually, potentially resulting in the contract price exceeding the General Manager's change order authority. To accommodate these increases, this action also authorizes an additional approximately $36 million allowance for price adjustments based on the established formula. If the indices drop over the course of the contract, Metropolitan's cost would be reduced.

Staff recommends that the General Manager's change order authority for this procurement contract be increased to $42.5 million. This action authorizes the General Manager to execute change orders for the CRA transformer procurement contract up to an aggregate amount not to exceed $42.5 million.

CRA High-Voltage Transformers Installation – Final Design

Staff recommends executing the planned transformer installation work for the five CRA pumping plants in a two-staged approach. The first stage will focus on replacing the cranes prior to awarding an installation contract. Each plant currently utilizes a stationary crane and cart system to move the transformers to offsite facilities for maintenance or emergency repairs. Despite regular maintenance, the structural steel members of these cranes have deteriorated, and they no longer meet current seismic standards. In addition, the original electrical and control systems are outdated due to obsolete components which are difficult to obtain for replacement. To address these issues, staff recommends demolishing the existing cranes and replacing them with mobile cranes at three of the pumping plants. At Hinds and Intake, where space constraints prohibit the use of mobile cranes, the existing cranes will be replaced with new stationary cranes. The cart systems, which are used to transport the transformers, at all five pumping plants will also be replaced.

The second stage of the installation work consists of an installation contract to install the Metropolitan-furnished transformers, upgrade the foundations to meet current seismic code requirements, construct secondary containment structures around the transformer pads to address environmental and fire protection, and build protective barriers to improve site security. As part of the security improvements, staff is also planning the installation of radar detection systems for protection against aerial threats.

The planned final design work for the installation of the transformers and the new cranes and carts will be conducted by a hybrid effort between Metropolitan staff and consultants. Metropolitan staff will prepare the instrumentation and controls design drawings, provide technical input, manage the project, and administer the consultant agreement.

A total of $10.4 million is required for the final design. Allocated funds for professional services include $6.5 million for the final design activities by HDR as described below; $580,000 for geotechnical and ground motion reports to evaluate the integrity of the soil conditions and foundations; $100,000 for constructability review; $50,000 for third-party technical review; $50,000 for hazardous materials assessment; and $50,000 for historical resources analysis by specialty firms under existing board authorized on-call agreements. Allocated funds for Metropolitan staff activities include $1.5 million for preparing instrumentation and controls design

drawings, technical oversight, and review of consultant's work; and $1 million for environmental support, construction contracts preparation, CIP office support, project controls and project management; and $570,000 for the remaining budget. **Attachment 1** provides the allocation of the required funds.

Final Design Services (HDR Engineering Inc.) – Amendment to Existing Agreement

HDR Engineering Inc. (HDR) will provide final design services under an existing board-authorized agreement for the replacement of the high-voltage transformers. The planned final design activities will include: (1) detailed design of transformer foundations; (2) design and development of procurement and installation documents for the cranes and carts; (3) creation of final design drawings and specifications for transformer installation; (4) preparation of a construction cost estimate; (5) design of security improvements to protect transformers from external threats; and (6) development of a detailed construction sequencing plan. In April 2021, Metropolitan's Board authorized an agreement with HDR to complete preliminary design for the replacement of the CRA high-voltage transformers. HDR was selected through a competitive process via RFP No. 1252 based on the firm's staff expertise, technical approach and methodology, and cost proposal. Preliminary design has been completed, and HDR is now recommended to provide engineering services for final design as described above.

This action authorizes an increase of $6.5 million to the existing agreement with HDR for a new not-to-exceed total of $8.2 million to perform final design to replace the CRA high-voltage transformers. Metropolitan has established a Small Business Enterprise participation level of 25 percent for this agreement. HDR has agreed to meet this level of participation. The planned subconsultants for this work are listed in **Attachment 2**.

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 4.2 percent of the total construction cost. The total estimated cost for design is $9.12 million, which includes $6.5 million for HDR, $1.5 million for Metropolitan staff design and technical oversight, and $1.12 million for transformer procurement which was previously allocated. The estimated cost of construction for the replacement of the CRA main pump transformers is anticipated to range from $220 million to $240 million.

Summary

A total of $149.2 million is required to perform this work, which includes $139 million for procurement and $11 million for final engineering design services. This action: (1) awards a $131 million procurement contract to Siemens to furnish 35 high-voltage power transformers; (2) authorizes the General Manager to execute change orders for the CRA transformer procurement contract up to an aggregate amount not to exceed $42.5 million; and (3) authorizes an increase of $6.5 million to an existing agreement with HDR for final engineering design services to replace the high-voltage power transformers at the five CRA pumping plants.

Project Milestones

December 2025 – Completion of final design of cranes and carts system

December 2028 – Completion of final design of transformer installation

February 2030 – Final delivery of transformers

4/29/2025
Mai Hattar *Date*
Interim Chief Engineer
Engineering Services

4/29/2025
Deven Upadhyay *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Listing of Subconsultants

Attachment 3 – Location Map

Attachment 4 – Key Agreement Terms

Ref# es12688645

Allocation of Funds for CRA High-Voltage Transformers Replacement

	Current Board Action (May 2025)
Labor	
Studies & Investigations	$ -
Final Design	1,500,000
Owner Costs (Program mgmt., envir. monitoring)	1,550,000
Submittals Review & Record Drwgs.	435,000
Construction Inspection & Support	758,000
Metropolitan Force Construction	244,000
Professional/Technical Services	
HDR Engineering Inc.	6,500,000
Fabrication Inspection Consultant	920,000
Geotechnical Services Consultant	580,000
Constructability Review Consultant	100,000
Environmental Services Consultant	50,000
Hazardous Materials Assessment Consultant	50,000
Third-Party Technical Review Consultant	50,000
Contracts	
Siemens Energy Inc.	131,000,000
Remaining Budget	5,463,000
Total	**$ 149,200,000**

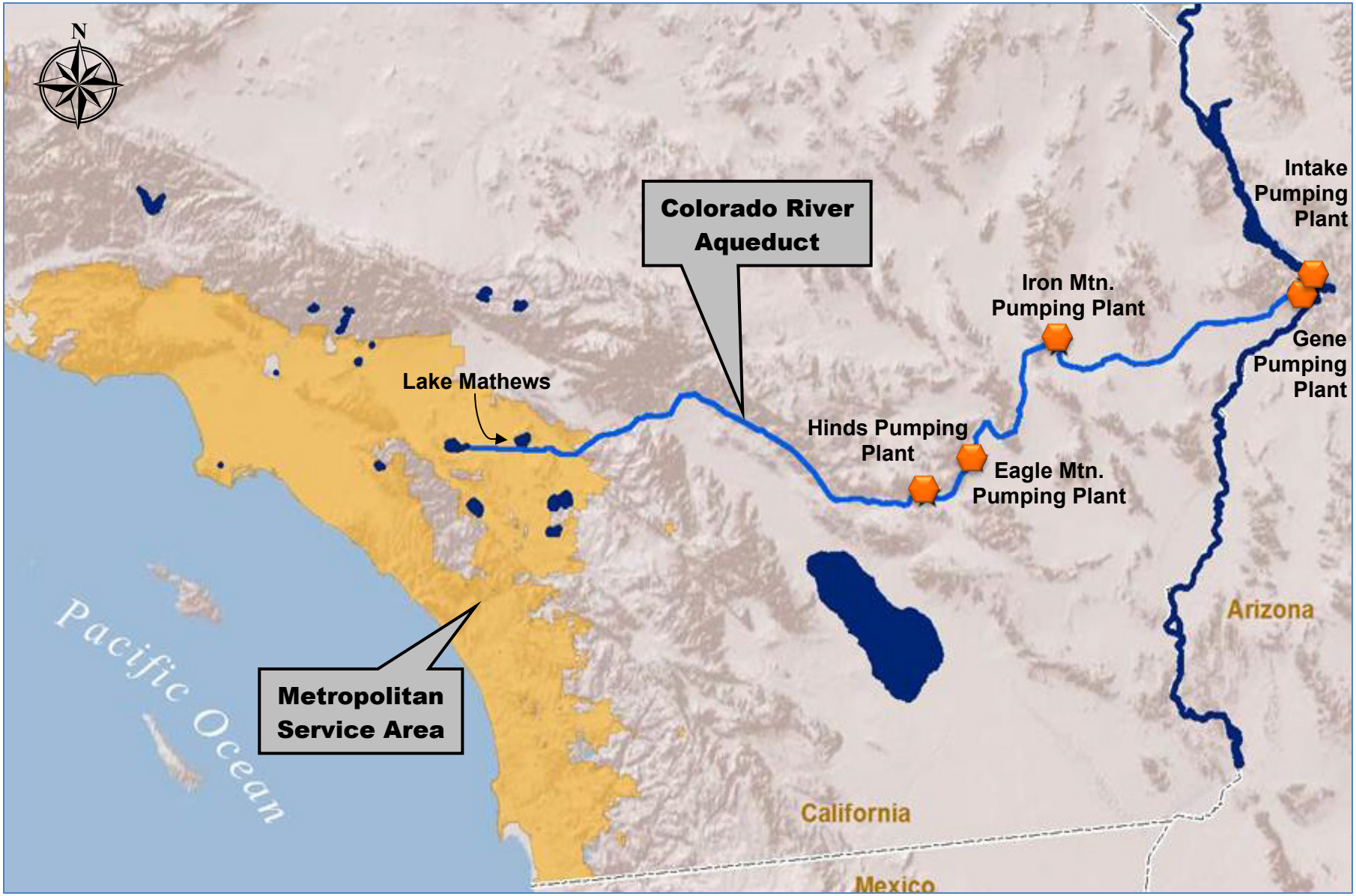
The total amount expended to date to replace the CRA High-Voltage Transformers Replacement is approximately $6.2 million. The total estimated cost to complete this project, including the amount appropriated to date, funds allocated for the work described in this action, and future construction costs, is anticipated to range from $250 million to $300 million.

The Metropolitan Water District of Southern California

Subconsultants for Agreement with HDR Engineering Inc.

Subconsultant and Location	Service Category; Specialty
PGA Engineers Inc. Brea, CA	Transformer Anchorage, Transformer Structural Design, Transformer SPCC Design
ProjectLine Technical Services Costa Mesa, CA	Transformer Instrumentation and Controls Design, Drafting Support
Leland Saylor Associates Los Angeles, CA	Cost Estimating, Scheduling
Health Science Associates Los Alamitos, CA	Hazardous Materials Surveys
Poole Fire Protection Olathe, KS	Fire Protection System Evaluation

Location Map



The Metropolitan Water District of Southern California

CRA High-Voltage Transformers Replacement
Key Agreement Terms

1.	**Payment Schedule:** Due to high global demand and the limited number of factories capable of producing transformers with these specifications, manufacturing and delivery have long lead times. The earliest anticipated delivery is between 2029 and 2030. To secure a production slot, Metropolitan has agreed to an upfront deposit of 3 percent of the contract price. The agreed-upon payment milestones are: • 3 percent upon receipt of contract execution • 7 percent upon approval of submittals and drawings • 25 percent upon receipt of main materials • 40 percent upon successful factory acceptance testing • 15 percent upon delivery • 10 percent upon energization
2.	**Contract Award:** The contract with Siemens is valued at $131 million, which includes: • 35 transformers • Spare parts • Applicable taxes, shipping and ground transportation • Unloading and storage preparation • Extended warranty • Manufacturer's field services during installation • Performance bond
3.	**Limitation on Liability:** Metropolitan's standard language regarding limitations on liability has been revised to cap total liability to the contract value of the affected unit and exclude liability for consequential, incidental, indirect, special, or punitive damages, including lost profits, revenue, production, and power-related costs. In addition, all liability expires at the end of the applicable warranty period, and liability for damage to Metropolitan's property due to the Contractor's negligence or warranted defects is capped at the lesser of the repair/replacement cost or $5 million. Liability for damages arising from technical advice or training services is also limited.

4.	**Insurance:** Metropolitan's standard language regarding insurance coverage has been revised to increase the required general liability insurance coverage from $1 million to $5 million per occurrence and annual aggregate while allowing the required limits to be met through a combination of primary and excess/ umbrella coverages.
5.	**Liquidated Damages (LD):** If the Contractor fails to deliver the transformers on schedule, LDs of 0.5 percent of the contract price per week of delay will apply, up to a maximum of 10 percent of the delayed items' contract price. If this cap is reached, Metropolitan reserves the right to terminate the Contractor's right to proceed and procure similar materials elsewhere, with the costs of cover charged to the Contractor.
6.	**Extended Warranty:** The initial proposal included a warranty of 60 months from energization (66 months from delivery), whereas typical industry warranties range from 1 to 2 years. Through negotiations, Metropolitan has secured an extended warranty of 5 years post-energization (8 years from delivery).
7.	**Termination of Contract** The contract includes provisions for termination by either party under the following circumstances: • Metropolitan may terminate the contract for cause if the Contractor fails to meet key obligations and does not resolve the issue within 30 days of written notice, or under conditions such as abandonment, insolvency, or failure to deliver. If terminated for cause, Metropolitan may procure the remaining materials or services elsewhere, and the Contractor will be responsible for any verified costs. • If Metropolitan breaches the contract or terminates for convenience, the Contractor is entitled to compensation for completed work, materials purchased, profit, and certain unavoidable costs, subject to the terms of the agreed-upon cancellation schedule and good-faith negotiations. The cancellation schedule specifies the Contractor's per-unit damages as follows: o 10 percent after receipt of order o 30 percent after preliminary drawing has been communicated or extended lead time items are being ordered or latest 30 months before ready for shipment date o 50 percent after order of main components (copper, core, tank) or latest 18 months before shipment date o 90 percent after main components have been received at the factory location or latest 10 months before shipment date o 100 percent after core/winding manufacturing has started or latest 7 months before shipment date

Engineering, Operations, & Technology Committee

Colorado River Aqueduct High-Voltage Transformers Replacement Project

Item 8-1

May 12, 2025

Item 8-1
Colorado River Aqueduct High Voltage Transformers Replacement

Subject

- Award a $131 million procurement contract to Siemens Energy Inc. to furnish 35 high voltage power transformers
- Authorize an increase of $6.5 million to an agreement with HDR Engineering Inc. for final design services

Purpose

This project will enhance the reliability of Colorado River Aqueduct (CRA) deliveries by replacing key elements of its electric power systems

Recommendation and Fiscal Impact

Award a procurement contract and amend an agreement for final design services to replace the CRA transformers

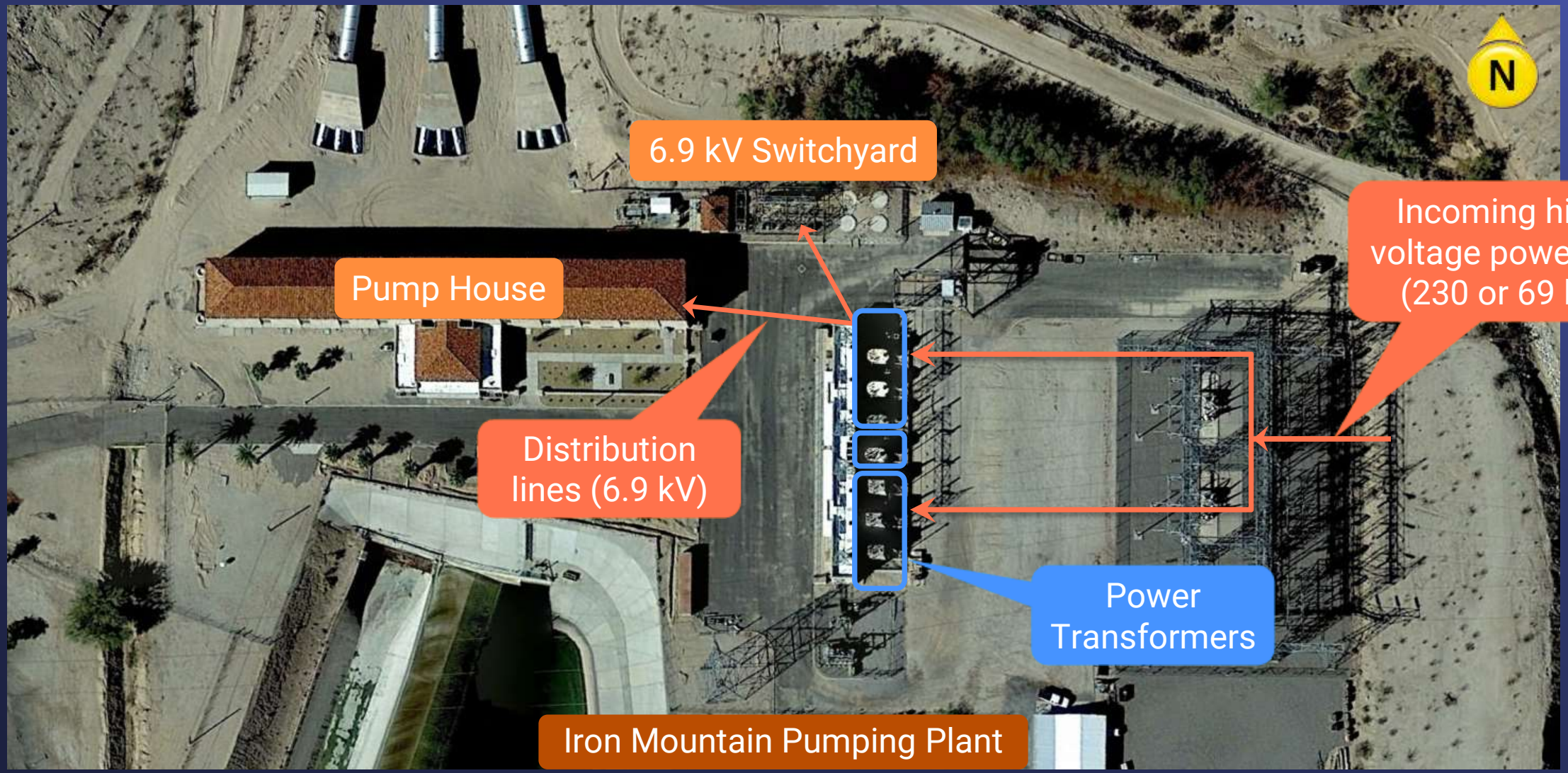
Fiscal Impact 26/28 – $5 million

Total Fiscal Impact – $149.2 million

Budgeted

Project Location

Typical Site Layout



Background

- Facilities initially constructed in 1939
- 35 transformer units
  - 15 in service since 1940
  - 20 in service since late 1950s
- Major maintenance performed in late 1980's with CRAPPR
- Failure will impact water deliveries
  - Recent Hinds Pumping Plant bushing leak forced CRA low flow period

Hinds Pumping Plant

CRA Transformer Condition Assessment Program

- Assessments include:
  - Online & Offline testing
    - Offline testing performed every 5 years
      - Winding resistance, power factor, turns ratio, etc.
    - Online testing performed every 6 months
      - Oil quality & sampling
  - Diagnostic testing
    - Triggered by abnormal results
    - Increased sampling and/or internal inspection
- Perform repairs based on results
  - No local shop can repair 230 kV units.
  - Current repair times quoted approx. 2 years

Staff Installing Refurbished Intake 2C Transformer Unit (Removed 10/19, Installed 6/20, Energized 2/21)

Planned Improvements

- Replace 35 transformers at 5 CRA pumping plants
- Upgrade foundations to meet current seismic standards
- Enhance physical security features
- Construct secondary containment systems
- Replace transformer cranes at two plants

Gene Pumping Plant

Iron Mtn. Pumping Plant

Installation Methodology

- All 35 units will be delivered in advance & stored onsite for installation
- Transformers will be replaced one unit at a time across all plants
  - Provides 8-pump flow flexibility
  - Ensures alignment with water supply needs
- 5 transformers will be replaced per year
  - Coordination required with annual CRA shutdowns to minimize impacts on plant operations

Eagle Mtn. Pumping Plant

Intake Pumping Plant

Colorado River Aqueduct
High Voltage Transformers Replacement

Alternatives Considered

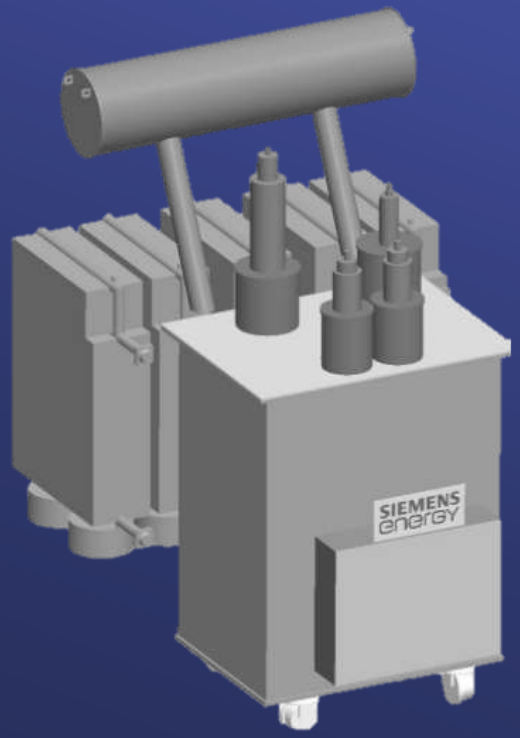
- Considered Alternative:
  - Replace 7 single-phase units with 3 three-phase units
    - Potential cost savings in procurement & maintenance
    - Requires major electrical facility modifications
- Selected Alternative:
  - Retain single-phase configuration
    - Minimize construction & operational impacts

Procurement Approach

- Apr ’21: Initiated preliminary design
- Mar ’22: Prequalified 6 transformer manufacturers & conducted extensive vendor outreach
- May ’23: Completed preliminary design & advertised transformer procurement package
  - No responsive bids received due to:
    - Limited pool of manufacturers meeting technical requirements
    - Reluctance to provide upfront pricing amid supply chain disruptions & material price volatility
    - Preference for repeat customers

Best-Value Procurement

- RFP No. 1360 (Specifications No. 1897)
  - Direct negotiation of contract terms with supplier
  - No advantage in competitive bidding
    - Metropolitan Admin. Code Section 8150
- Award of procurement contract
  - Siemens Energy Inc.
  - Amount: $131 M
    - Cost deemed reasonable



Rendering of New Siemens Transformer

Colorado River Aqueduct
High Voltage Transformers Replacement

Scope of Work (Procurement)

- Siemens Energy Inc.
  - Fabricate & deliver 35 high-voltage power transformers
  - Off-load & prepare units for storage
  - Provide training
- Metropolitan
  - Fabrication inspection & functional testing
  - Submittal reviews & response to RFIs
  - Site preparation for transformer storage
  - Field monitoring & testing
  - Project management & contract administration

Negotiations Highlights

- Reduced upfront deposit from 10% to 3%
- Lowered milestone payments prior to delivery
- Purchased extended warranty coverage (8-year term)
- Increased cap on liquidated damages with more favorable limits
- Siemens to provide a 100% performance bond

Change Order Authority

- Change order authority determined by Admin. Code (Section 8123)
  - Procurement contract: $6.5 M (5%)
- Request for additional change order authority
  - Price adjustment formula (Industry standard since 2020)
    - Based on published indices for currency, labor & materials
    - 7% annual escalation based on historical trends
    - Potential for de-escalation (Metropolitan receives credit)
  - Unit pricing adjusted 6 months before delivery
    - Invoiced upon delivery of each unit
  - Additional authority: $36 M
- Total authority: $42.5 M

Price Adjustment Overview

- Adjustment calculated per unit 6 months before delivery
- Adjusted cost invoiced at time of delivery
- Formula accounts for:
  - Base Price
  - EUR/USD Exchange Rate
  - Austrian Consumer Price Index
  - Labor Wages
  - Materials (copper, steel, core sheets)

Colorado River Aqueduct
High Voltage Transformers Replacement

HDR Engineering Inc. - Agreement (Final Design)

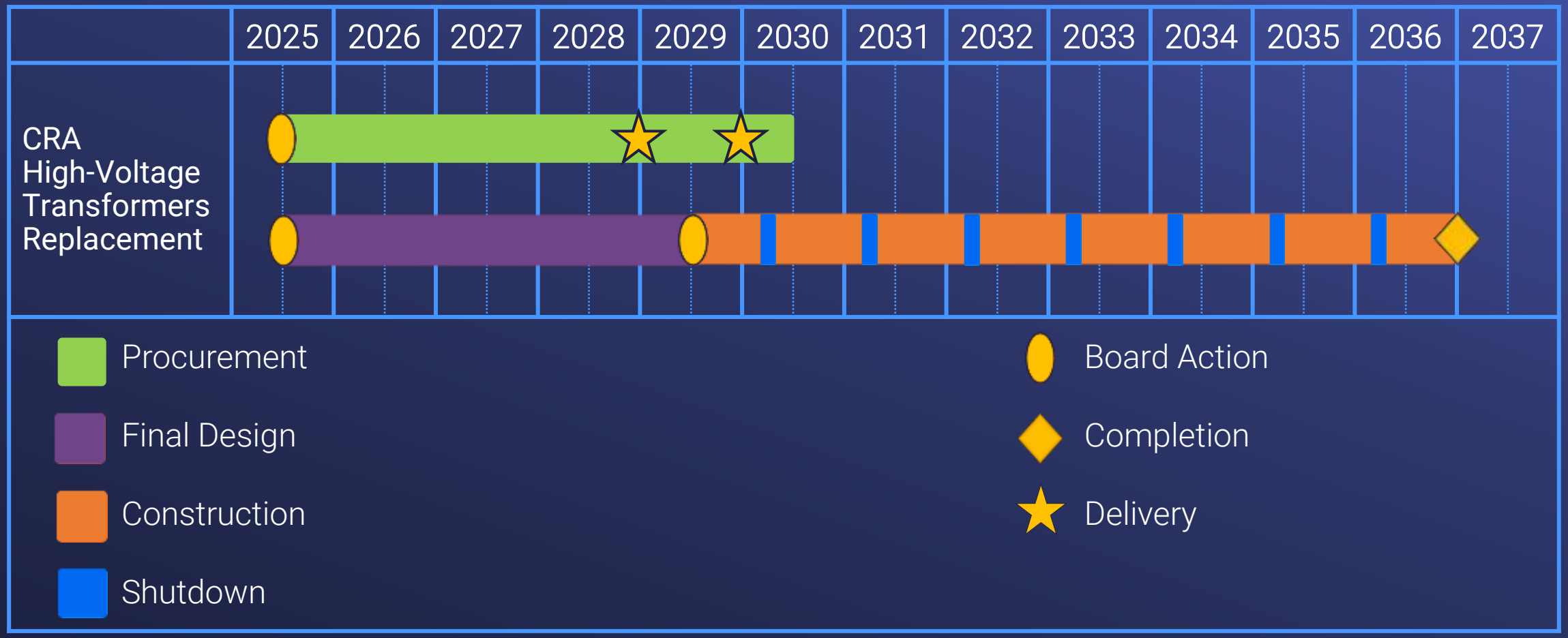
- Competitively selected under RFP 1252
  - Completed preliminary design
- Recommend amendment
  - Perform final design
    - Drawings & technical specs
    - Construction cost estimate
    - Construction sequencing plan
  - Provide technical support for procurement
    - Review fabrication drawings
  - Amendment amount: $6.5 M
  - New NTE amount: $8.2 M
- SBE Participation level: 25%

Allocation of Funds

Metropolitan Labor		
Final Design	$	1,500,000
Owner Costs (Proj. Mgmt., Contract Admin., Envir. Support)		1,550,000
Construction Inspection & Support		758,000
Force Construction		244,000
Submittals Review, Tech. Support, Record Dwgs.		435,000
Professional/Technical Services		
HDR Engineering Inc.		6,500,000
Fabrication Inspection Consultant		920,000
Geotechnical Services Consultant		580,000
Other Consultants (Environ., Haz. Matls., & Tech		250,000
Contracts		
Siemens Energy Inc.		131,000,000
Remaining Budget		5,463,000
	Total $	149,200,000*

*Includes $138.8 M for procurement & $10.4 M for final design. The total estimated cost to complete the project is anticipated to range from $250 M to $300 M.

Project Schedule



Board Options

- Option #1
  a. Award a $131 million procurement contract to Siemens Energy Inc. to furnish 35 high-voltage power transformers;
  b. Authorize the General Manager to execute change orders for the CRA transformer procurement contract up to an aggregate amount not to exceed $42.5 million; and
  c. Authorize an increase of $6.5 million to an existing agreement with HDR Engineering Inc. for a new not-to-exceed amount of $8.2 million for final engineering design services to replace the high-voltage power transformers at all five CRA pumping plants.
- Option #2

  Do not proceed with the project at this time. Staff will continue to monitor the operational status of the transformers.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

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

5/13/2025 Board Meeting

9-5

Subject

Colorado River Aqueduct High Voltage Transmission System – Affected Systems Mitigation Agreements

Executive Summary

During the second half of 2024, Metropolitan received an unexpected influx of requests for affected system studies from seven energy service providers (ESPs) and a request from a generation developer to connect a project directly to the Colorado River Aqueduct transmission system (CRATS). As required by law and to protect the CRATS, staff initiated a study of a cluster of seven-generation projects on December 30, 2024, with a projected completion date in the fourth quarter of 2025. It is the responsibility of the ESPs to pay for any necessary mitigation upgrades. The generation projects may not connect to the electric transmission system and commence commercial operation until any potential impacts on the CRATS are mitigated. Initial study results indicate that the projects will impact the CRATS and require mitigating upgrades. Because these upgrades to the CRATS cannot be completed before some of the third-party projects go online, staff is examining the potential for Metropolitan to enter into interim affected systems mitigation agreements or "bridge" agreements. These bridge agreements will allow third-party projects to proceed with construction and operation while upgrades are made to the CRATS. Once Metropolitan staff completes the transmission cluster study, projects will enter into longer-term affected system mitigation agreements to pay for the upgrades to the CRATS.

Fiscal Impact

No immediate fiscal impact because the work is reimbursable.

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)

Staff will return to the Board to request authority to enter into the affected systems mitigation agreements, and staff will present the results of the cluster study at a later board meeting, likely in the fourth quarter of 2025 or the first quarter of 2026.

Details and Background

Background

Metropolitan owns a 230,000-volt (230 kV) transmission system that provides power to its Colorado River Aqueduct (CRA) pumps. The CRATS was built pursuant to the 1928 Boulder Canyon Project Act for the sole and exclusive purpose of supplying power from the Hoover and Parker-Davis projects to the five pumping plants along the CRA. The CRATS extends south and west from the Mead substation at Hoover Dam to serve

Metropolitan's five Colorado River pumping stations, and interconnects with adjacent utilities Southern California Edison (SCE) and the Western Area Power Administration (WAPA). The CRATS comprises approximately 300 miles of transmission lines that pass through what is generally considered to be desirable solar generation territory. Recent years have seen substantial interest in the development of solar and bulk energy storage projects in the areas adjacent to the CRATS, to meet the demand for renewable energy to meet California's ambitious Renewable Portfolio Standard (RPS) goals. Due to the interconnected nature of the transmission grid, development of these projects can have impacts on Metropolitan's power and water system operations. An example of such an impact would be similar to an event that occurred on November 21, 2022, when a disturbance on an adjacent transmission system resulted in involuntary load shedding and water spillage at Metropolitan's Eagle Mountain pumping station.

During the second half of 2024, Metropolitan received an unexpected influx of Affected System Study requests from generators interconnecting to the California ISO (CAISO) and WAPA systems. Although the CRATS is not part of the CAISO or WAPA, it is connected to both systems and, pursuant to federal law and regulation, new-generation projects must ensure that they do not impact existing systems and if they do, they are responsible for the costs of mitigation. To address potential impacts, an Affected System Study is requested by a third-party generator developer that wishes to connect their project to the grid to determine the impact of that generator on adjacent systems. These studies are highly technical in nature and assess a proposed generation project's impacts on the transmission system across several dimensions (steady-state thermal loading, steady-state, transient, and post-transient voltage stability impacts, and so forth). These studies are critical to ensure that a generation project does not have an adverse impact on the CRATS or water operations and to protect Metropolitan against incurring costs to mitigate any negative impacts through operational procedures or physical system improvements. The timeliness of these studies is critical to protect Metropolitan's interests and to support the broader state and national policies promoting renewable energy development and robust electrical energy markets. Although new-generation projects may not proceed without ensuring that any impacts on existing systems are mitigated, existing systems must conduct their studies and upgrades with timely and reasonable efforts.

Affected system studies are paid for by the ESP. The developer signs a study agreement and makes a study deposit, typically on the order of $50,000 to $250,000, from which the actual study costs are deducted. Any residual study deposit funds are returned to the developer once the study is completed.

As Metropolitan received simultaneous inquiries from multiple generation projects for affected system studies, to expedite the work and assign mitigation costs in a fair and transparent manner, staff elected to use a 'cluster study' approach, where a group of generation projects are studied for their aggregate impact to the CRATS and mitigation costs apportioned to each project by their net impact. Seven-generation projects were included in the current cluster study that officially kicked off on December 30, 2024.

At the completion of the Affected System Study, any negative impacts are identified, along with required mitigations and their associated costs. These mitigations may be operational in nature or may require capital improvements, such as the reconductoring of transmission lines, addition or replacement of circuit breakers, and so forth. Cost estimates for the required mitigations are developed and apportioned to each project based on clear and transparent criteria. Completion of the current cluster study and identification of mitigations and costs are anticipated by the fourth quarter of 2025 or the first quarter of 2026.

Bridge agreements

Several of the projects need to secure financing and commence construction before the completion of Metropolitan's study in the fall of 2025. To allow these projects to proceed and to protect Metropolitan's interests, staff recommends entering into preliminary or "bridge" agreements with the ESPs. Bridge agreements would essentially allow projects to demonstrate that they have received provisional agreement from Metropolitan to

allow their project to become operational in exchange for a financial deposit to offset an assigned portion of mitigation costs to be identified when the cluster analysis is completed. Key terms of the bridge agreement include:

1. A preliminary estimate of the developer's pro rata share of the mitigation costs.
2. Provision of a credit or security to confirm the developer's obligation to pay for its pro rata share of future mitigation costs.
3. Agreement by the developer to enter into a more detailed and longer-term affected system mitigation agreement once the transmission cluster study is completed.
4. The developer's commitment to work cooperatively with Metropolitan, CAISO, and other stakeholders to establish and operate subject to interim operating measures pending completion of required mitigating upgrades.
5. In exchange for the foregoing, Metropolitan's preliminary authorization for the developer to commence construction and operation prior to completion of upgrades.

Metropolitan staff recommends providing the bridge agreements with the ESPs as an option to protect the CRATS while ensuring generation projects of regional importance are not delayed. Staff will return to the board soon to request authority to enter into specific bridge agreements.

4/28/2025
Shane O. Chapman *Date*
Assistant General Manager, Operations

4/28/2025
Deven Upadhyay *Date*
General Manager

Ref# wso12701831

Engineering, Operations, & Technology Committee

Colorado River Aqueduct High Voltage Transmission System – Affected Systems Mitigation Agreements

Item 9-5

May 12, 2025

Item 9-5

CRATS Affected Systems Mitigation Agreements

Subject

Colorado River Aqueduct High Voltage Transmission System – Affected Systems Mitigation Agreements

Purpose

Provides information relevant to the Board for future approval of Affected Systems Mitigation Agreements with generation project developers

Next Steps

Presentation by staff of Affected Systems Mitigation Agreements with specific generation project developers for Board review and approval

CRATS
Affected
Systems
Mitigations
Agreements

Background

- Metropolitan has received multiple requests from third-party generation developers for affected system studies
  - Seven official study requests
  - Several thousand megawatts (MW) of solar generation & energy storage systems
  - Close proximity to CRATS but not directly connected
- Affected system studies identify potential impacts to Metropolitan's transmission & water operations, are highly technical in nature & time sensitive
- Critical to meeting regulatory obligations & protecting Metropolitan's energy & water operations

CRATS
Affected Systems Mitigations Agreements

Background

- Each study participant is responsible for the costs of their study & makes a deposit to offset Metropolitan's expenses at the time of application
  - Study deposits range from $50k to $250k
- Metropolitan does not have sufficient staff to manage the queue of study requests & perform the necessary technical analysis
  - February board informational item
- Staff will rely heavily on industry consultants to perform the technical analysis & develop mitigations and cost estimates
  - April board action to extend GridSME agreement

CRATS
Affected Systems Mitigations Agreements

Affected System Study - Scope of Work

- Transmission Planning Consultant
  - Perform technical analysis to identify system impacts
  - Develop operational & physical improvement mitigations
  - Develop scope & cost estimates for physical improvements
  - Estimates pro rata costs for each study participant proportional to their project's impact
- Metropolitan Staff
  - Manage interconnection queue, study agreements, & study deposits
  - Set technical study parameters & review work product
  - Track study-related costs for reimbursement
  - Develop Capital Investment Plan (CIP) as necessary

CRATS
Affected
Systems
Mitigations
Agreements

Need for Bridge Agreements

- Several study participants need to secure financing & begin construction prior to completion of the studies
- Bridge agreements allow study participants to demonstrate they have provisional agreement from Metropolitan for their project to become operational
- Protects Metropolitan's electric and water operations by requiring a financial deposit to offset mitigation costs

CRATS
Affected
Systems
Mitigations
Agreements

What's in a Bridge Agreement?

- Study participant commitment to study and mitigation efforts
  - Agreement to enter into a full mitigation agreement once the cluster study is completed
  - Credit or security commitment to offset the study participant's pro-rata share of mitigation costs
  - Agreement to work cooperatively with Metropolitan, the California ISO (CAISO), and other stakeholders to establish and operate subject to interim operating measures
- Metropolitan commitment to preliminary authorization for the study participant to commence commercial operation

CRATS
Affected
Systems
Mitigations
Agreements

Future Board Actions

- Staff will return with proposed bridge agreements for the Board's review & approval
  - First bridge agreement may be brought for Board approval as early as June 2025
  - Several bridge agreements are possible in this first cluster of projects during 2025
- Staff will return with permanent & long-term mitigation and interconnection agreements following completion of the current study in 4Q 2025 or 1Q 2026


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

Colorado River Aqueduct Operations

Item 6a

May 12, 2025

Item 6a
Colorado River Aqueduct Operations

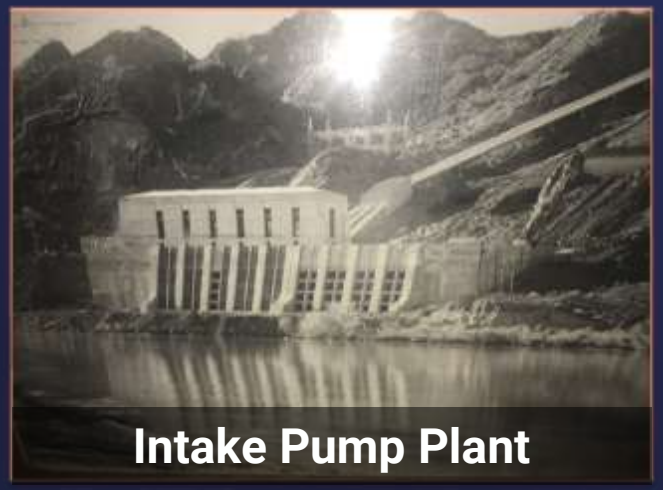
Subject

Colorado River Aqueduct Operations

Purpose

Overview of Colorado River Aqueduct Operations and Challenges

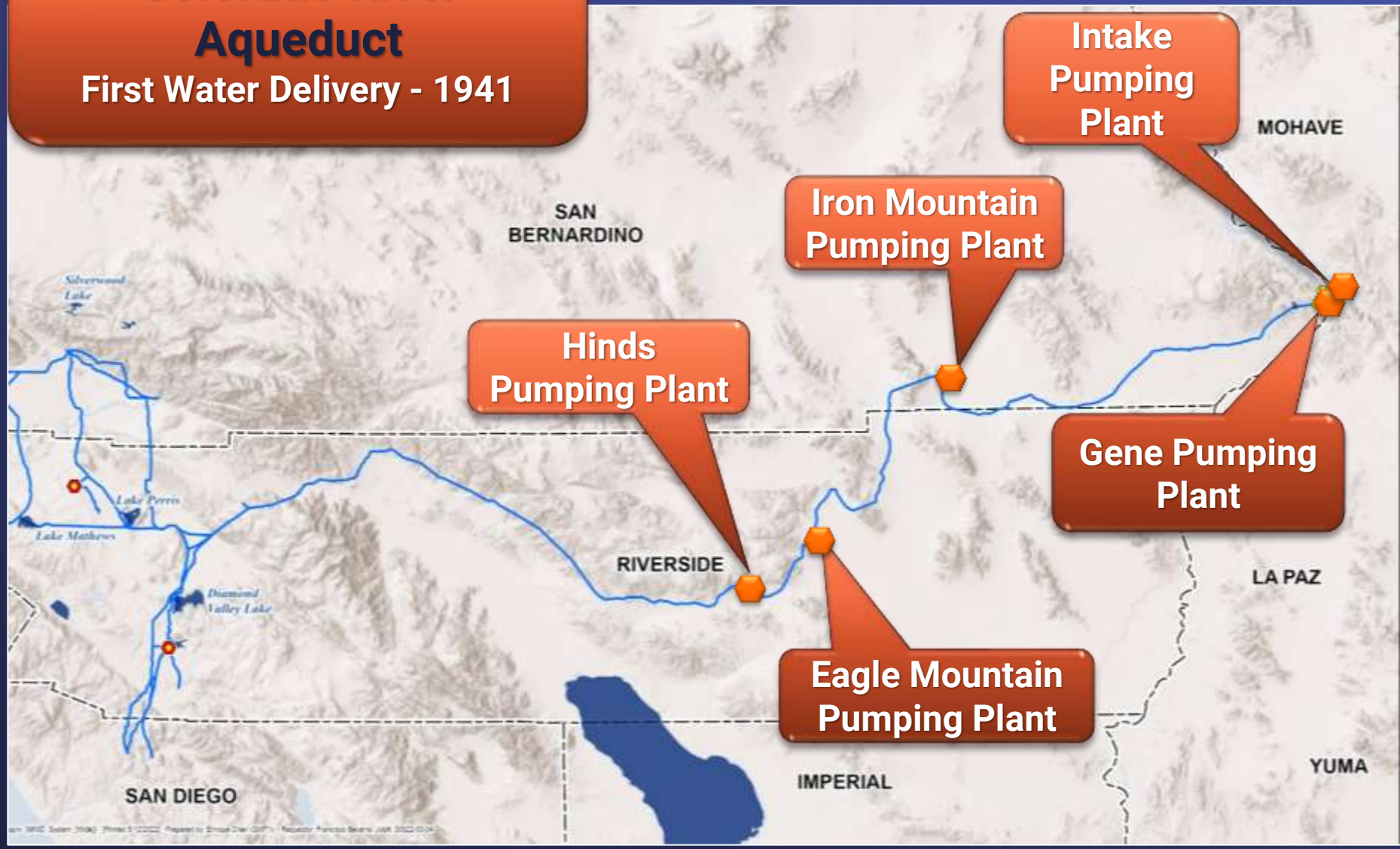
Desert Section Overview



Intake Pump Plant

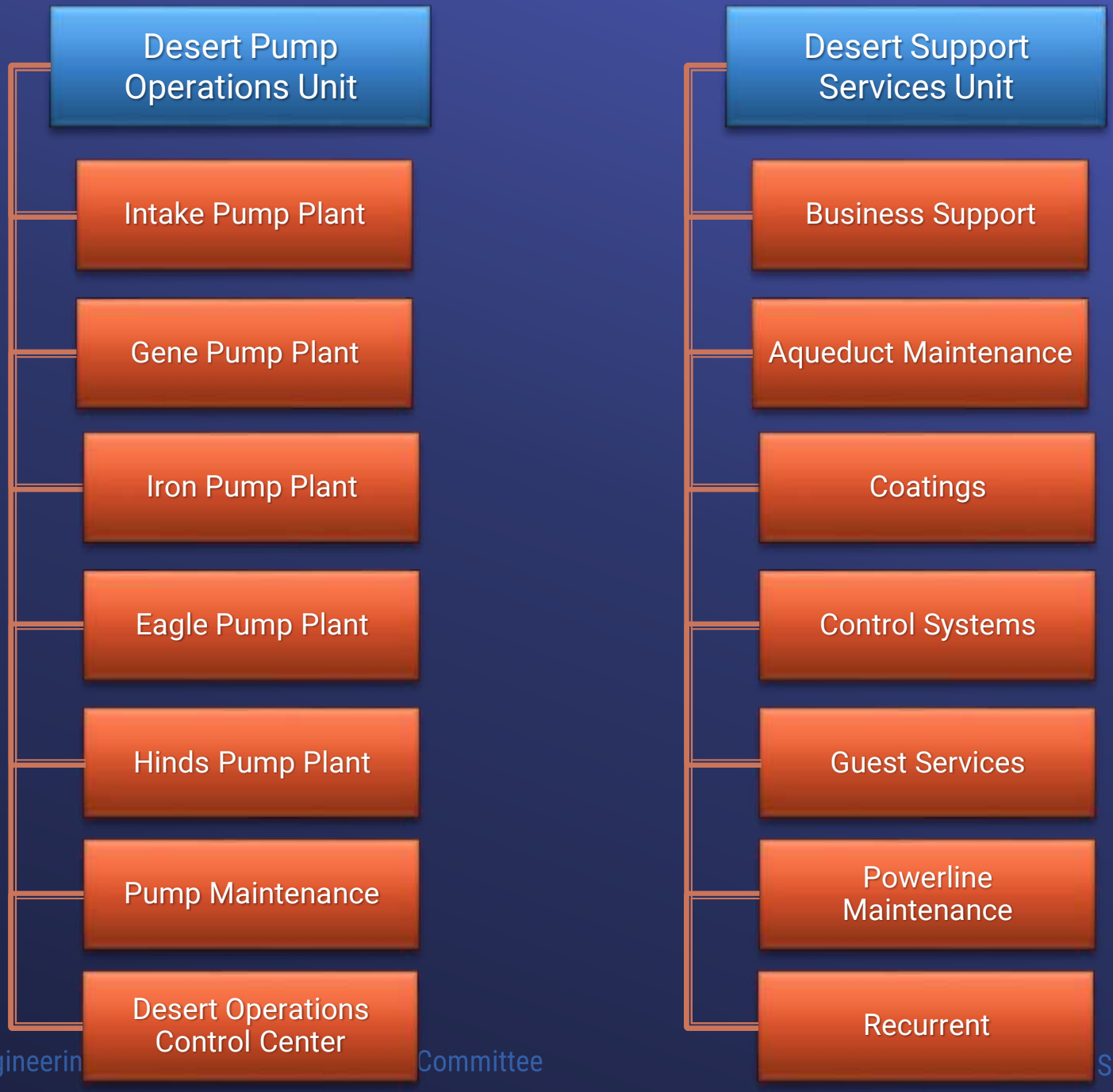
Colorado River Aqueduct

First Water Delivery - 1941



Desert Section Organization

The Desert Section comprises 132 employees across 5 facility locations. Area of responsibility from the Intake Pump Plant to Mile Marker 167.68.



Diverse Operations

The challenges of operating a series system with individual component facilities, each having their own priorities and obstacles.

Aqueduct Maintenance

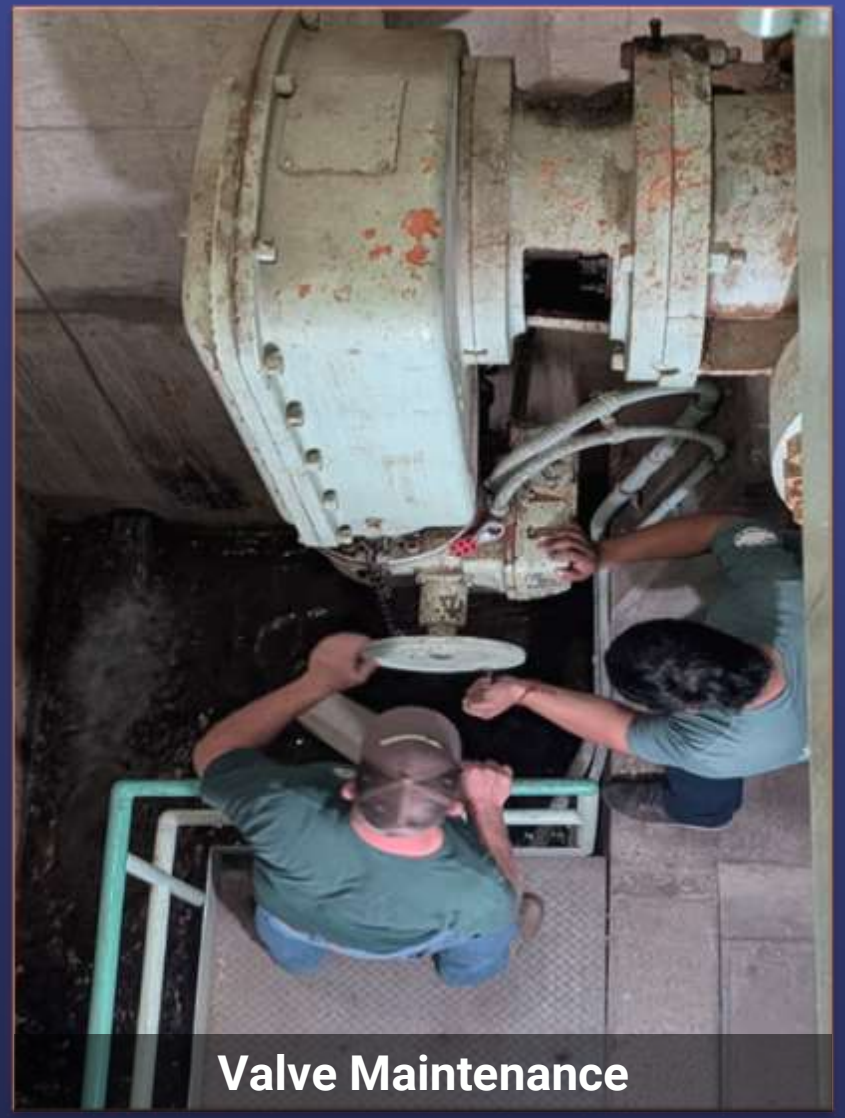
High Voltage Operations and Maintenance

Village Drinking Water Operations and Water Quality Testing

Adaptability

Flexible and adaptable teams shift priorities daily to ensure each facility is operable. Time lost to travel and mobilization is a constant challenge inherent to Desert logistics.

Vertical Turbine Pump Repair



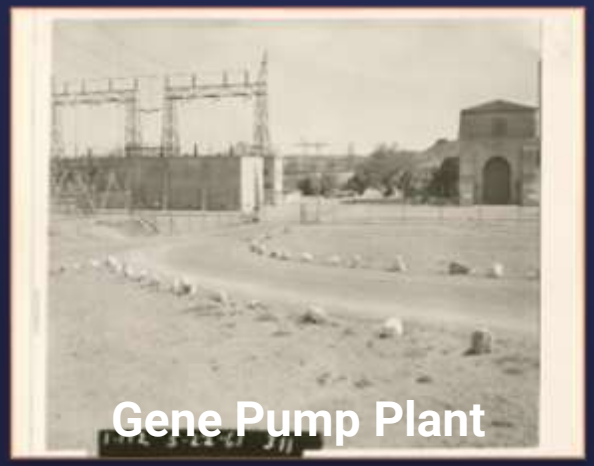
Valve Maintenance

Emergency Response

Emergency response poses a challenge as you never know where in the service area a problem will arise. Maintaining a large stock of renewal parts and components is vital to rapid response. Storing heavy equipment in strategic locations minimizes response time.

Village Sewer Repairs

230 kV Transmission Line Repairs



Gene Pump Plant

CRA Shutdown

Extensive planning and coordination is required to facilitate an entire CRA Shutdown once a year and accomplish all critical tasks within a short window of time.


Discharge Valve Install


Delivery Line Mortar Repair


Tunnel Cleaning Machine


230 kV Transformer Testing

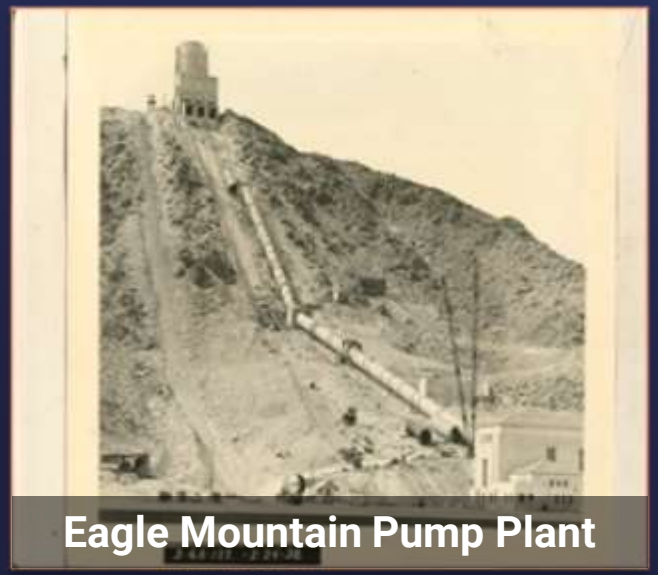
Challenges

Aging Infrastructure → Increased CM to PM ratio, Major Rehabilitation Projects

Staffing → Succession Planning, Employee Retention, Small Teams

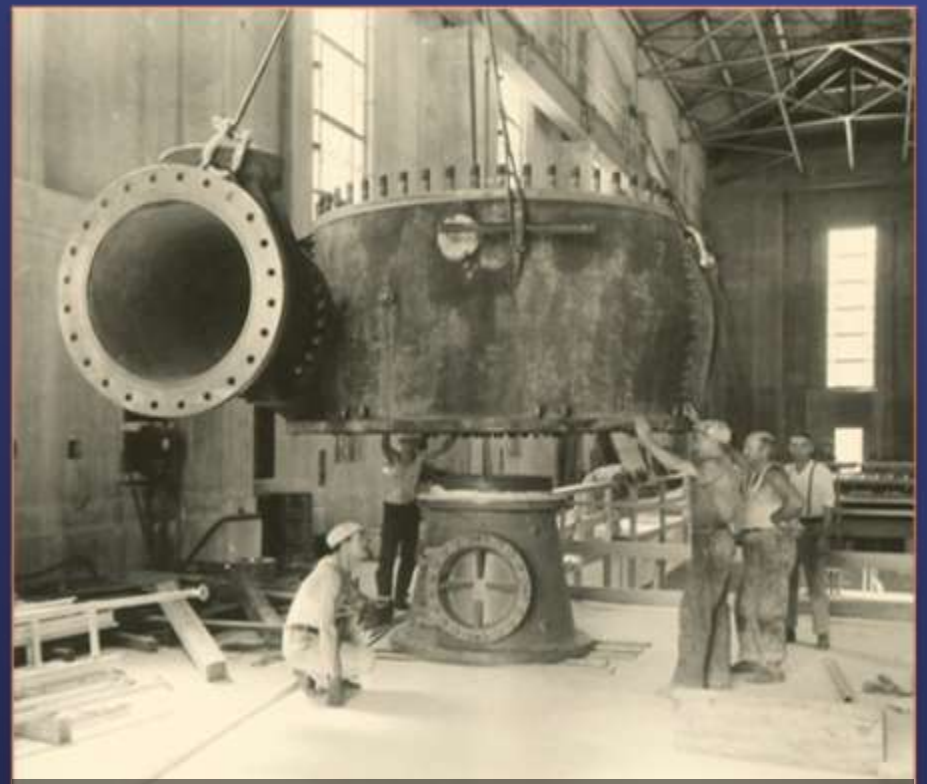
Regulation → Environmental, Water Quality, Safety

Rising Costs → Increased Labor & Materials Cost



Eagle Mountain Pump Plant

Aging Infrastructure



Main Pump Installation 1939

Main Pump Removal 2024

System Refurbishment

As equipment ages, the scope of work and technical expertise required to perform corrective maintenance increases. “Quick Fixes” become large scale repairs that require additional downtime.

Eagle Mtn Construction

Eagle Unit 9 Refurbishment

Iron Unit 5 Discharge Valve Rehab

Cooling Water Piping

Thank you


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

Update on Surface Water Storage Study

Item 6b

May 12, 2025

Item 6b
Surface Water Storage Study Update

Subject

Surface Water Storage Study Update

Purpose

Review Phase 2 findings and outline planned Phase 3 work

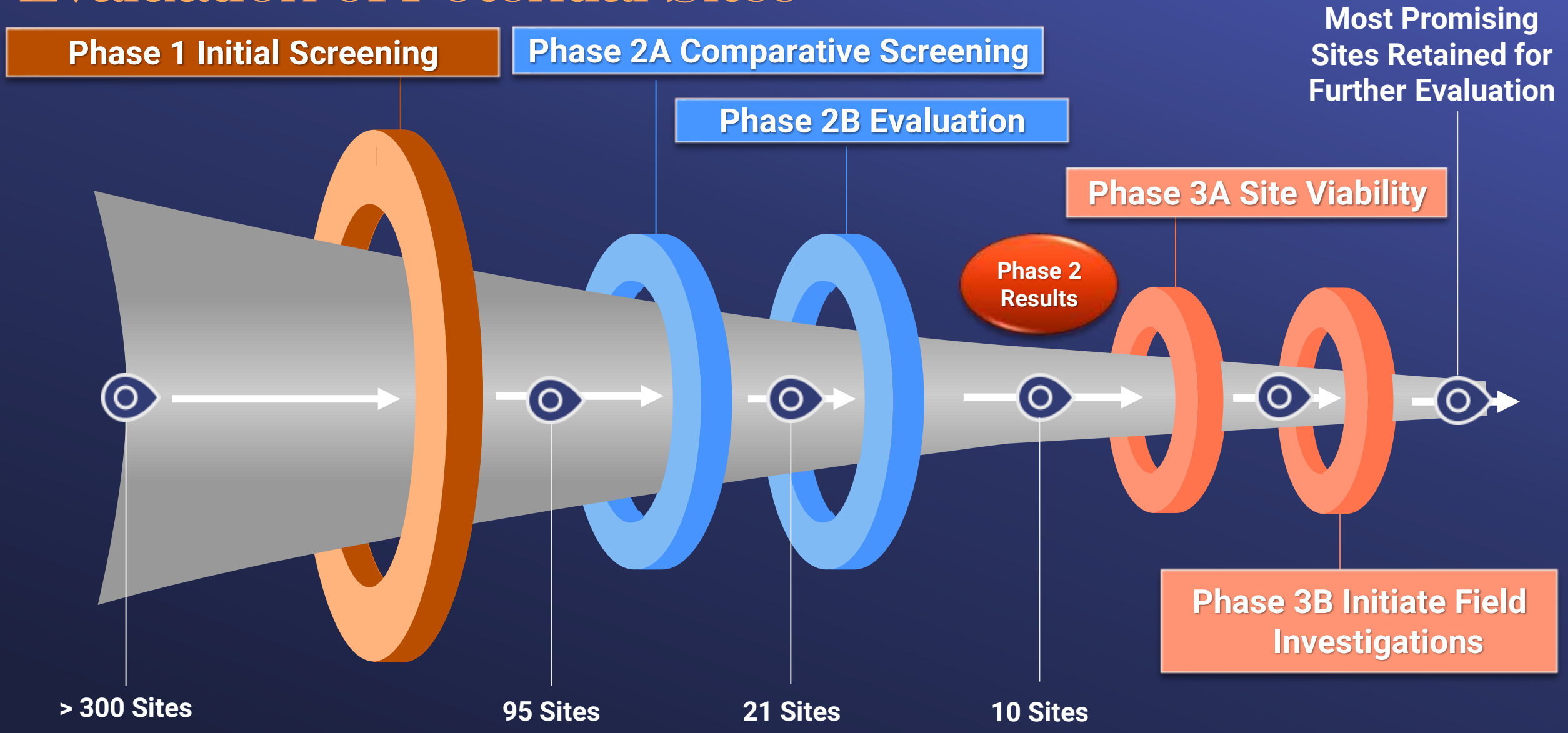
Next Steps

- Finalize Phase 2 study of potential sites
- Proceed to site-specific assessments (Phase 3)

Drivers, Objectives, & Approach

- **Drivers**
  - Highly variable State Water Project (SWP) supply conditions
  - Challenges to mitigate severe droughts & manage excessive surplus
  - Core supply identified as a time-bound target in CAMP4W annual report
- **Objectives**
  - Improve SWP supply reliability
  - Enhance regional resilience
  - Incorporate climate adaptation to align with CAMP4W objectives
- **Study Approach**
  - Phase 1 – inventory & screening - *completed*
  - Phase 2 – comprehensive evaluation - *completed*
  - Phase 3 – site-specific assessment - *next step*

Evaluation of Potential Sites



Phase 2B Evaluation Process

Phase 2B Sites

Category	Key Criteria/Metrics
Facility Characteristics	• Storage efficiency & potential for sediment inflow • Facility relocations
Water Quality	• Inflow water quality • Risks of stored water impairment
System-Wide Considerations	• Contribution to storage objective • Operational flexibility
Constructability	• Capital cost per acre-foot of storage capacity • Construction risk/complexity
Geologic Risk	• Seismicity, liquefication & landslide risk
Environmental Risk	• Environmental compliance risk & complexity
Climate Adaptability & Reliability	• Pumped storage potential • Seismic resilience, fire & heat risk
Critical Risks	• Dam height constraints • Relocations, site hazards

Phase 2B Evaluation Results

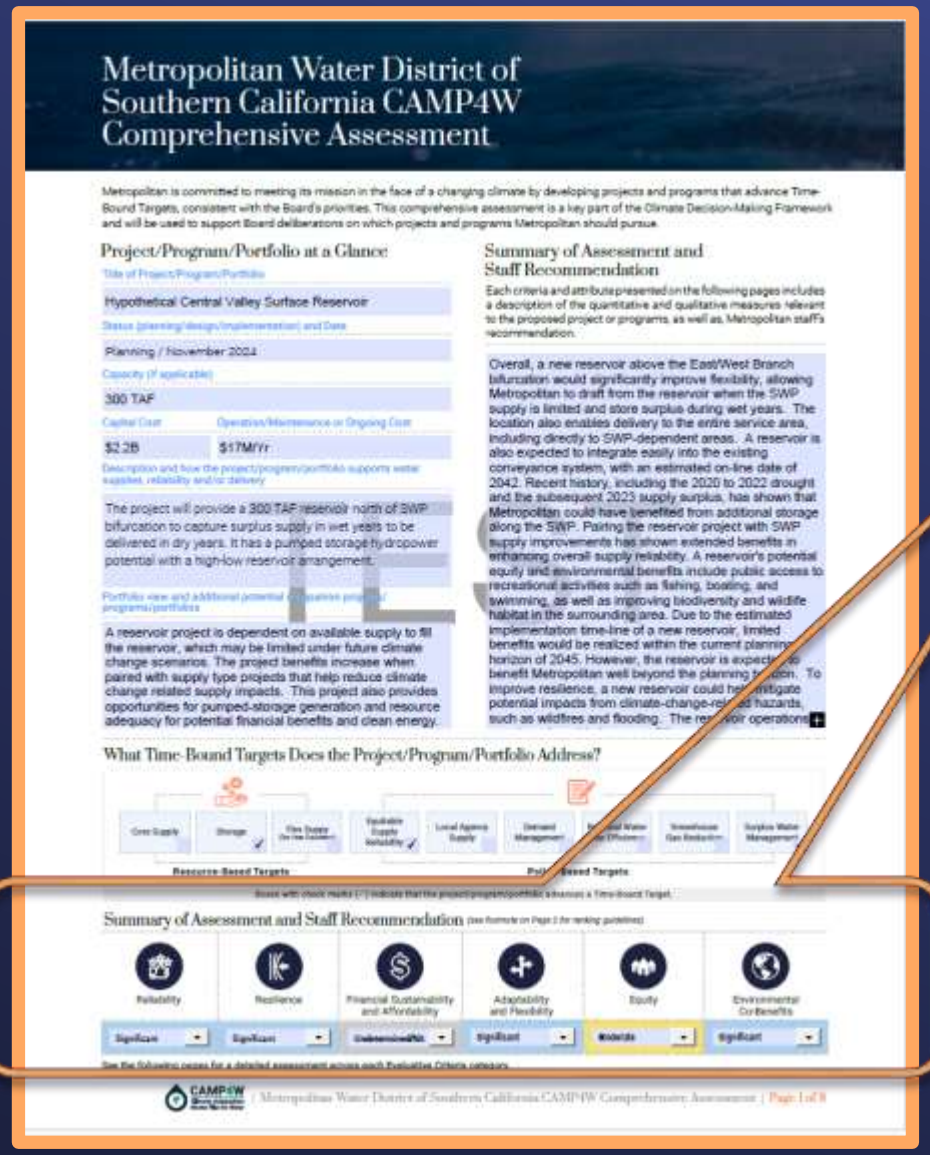
Site Scoring & Ranking

- **Detailed site evaluation using consistent methodology & criteria**
- **Each criterion scored from 1 (least favorable) to 5 (most favorable)**
- **Site rankings developed from scores:**
  - **Technical & non-technical criteria**
  - **North & South of East Branch/West Branch Bifurcation**

Sites Retained

Site Name	Storage Capacity (TAF)
Ingram Creek	300
Del Puerto Creek Large	330
Crow Creek	140
Lower Garzas Creek	330
Lower Garzas Creek Large	650
Upper Quinto Creek	500
Kettleman Plain	100
Sunflower Valley	340
Freeman Canyon	110
Eagle Valley Round	210

CAMP4W Assessment – Surface Storage Reservoir Example*



Metropolitan Water District of Southern California CAMP4W Comprehensive Assessment

Metropolitan is committed to meeting its mission in the face of a changing climate by developing projects and programs that advance Time-Bound Targets, consistent with the Board's priorities. This comprehensive assessment is a key part of the Climate Decision-Making Framework and will be used to support Board deliberations on which projects and programs Metropolitan should pursue.

Project/Program/Portfolio at a Glance

Hypothetical Central Valley Surface Reservoir

Planning / November 2024

300 TAF

$2.2B | $17M/Yr

The project will provide a 300 TAF reservoir north of SWP bifurcation to capture surplus supply in wet years to be delivered in dry years. It has a pumped storage hydropower potential with a high-low reservoir arrangement.

A reservoir project is dependent on available supply to fill the reservoir, which may be limited under future climate change scenarios. The project benefits increase when paired with supply type projects that help reduce climate change related supply impacts. This project also provides opportunities for pumped-storage generation and resource adequacy for potential financial benefits and clean energy.

Summary of Assessment and Staff Recommendation

Each criteria and attribute presented on the following pages includes a description of the quantitative and qualitative measures relevant to the proposed project or programs, as well as, Metropolitan staff's recommendation.

Overall, a new reservoir above the East/West Branch bifurcation would significantly improve flexibility, allowing Metropolitan to draft from the reservoir when the SWP supply is limited and store surplus during wet years. The location also enables delivery to the entire service area, including directly to SWP-dependent areas. A reservoir is also expected to integrate easily into the existing conveyance system, with an estimated on-line date of 2042. Recent history, including the 2020 to 2022 drought and the subsequent 2023 supply surplus, has shown that Metropolitan could have benefited from additional storage along the SWP. Pairing the reservoir project with SWP supply improvements has shown extended benefits in enhancing overall supply reliability. A reservoir's potential equity and environmental benefits include public access to recreational activities such as fishing, boating, and swimming, as well as improving biodiversity and wildlife habitat in the surrounding area. Due to the estimated implementation time-line of a new reservoir, limited benefits would be realized within the current planning horizon of 2045. However, the reservoir is expected to benefit Metropolitan well beyond the planning horizon. To improve resilience, a new reservoir could help mitigate potential impacts from climate-change-related hazards, such as wildfires and flooding. The reservoir operations

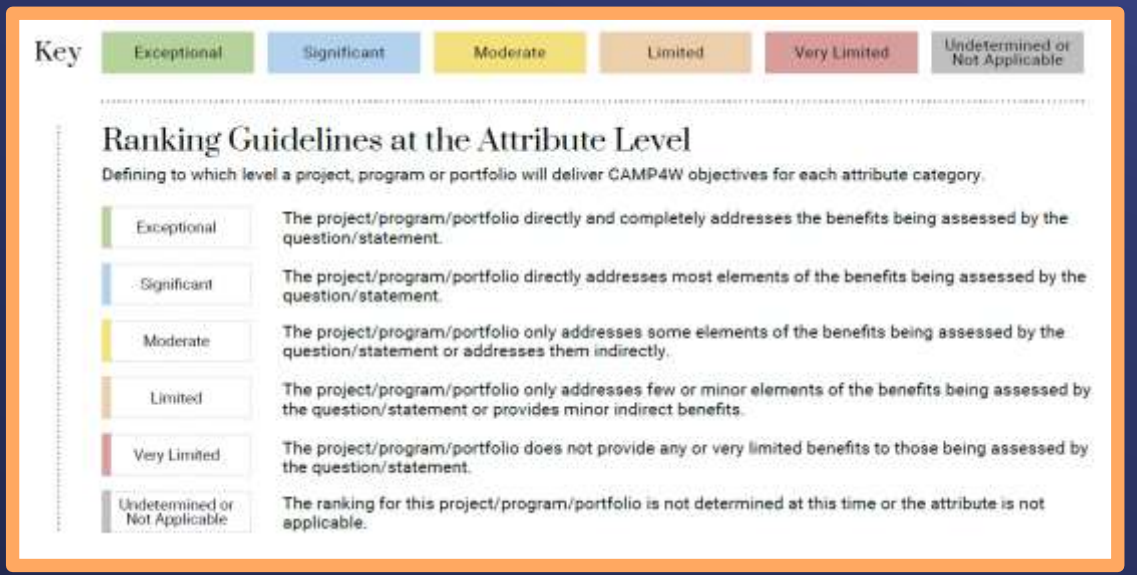
What Time-Bound Targets Does the Project/Program/Portfolio Address?

Summary of Assessment and Staff Recommendation

Reliability | Resilience | Financial Sustainability and Affordability | Adaptability and Flexibility | Equity | Environmental Co-Benefits

Significant | Significant | Significant | Moderate | Significant

CAMP4W | Metropolitan Water District of Southern California CAMP4W Comprehensive Assessment | Page 1 of 8



Key: Exceptional | Significant | Moderate | Limited | Very Limited | Undetermined or Not Applicable

Ranking Guidelines at the Attribute Level

Defining to which level a project, program or portfolio will deliver CAMP4W objectives for each attribute category.

Exceptional	The project/program/portfolio directly and completely addresses the benefits being assessed by the question/statement.
Significant	The project/program/portfolio directly addresses most elements of the benefits being assessed by the question/statement.
Moderate	The project/program/portfolio only addresses some elements of the benefits being assessed by the question/statement or addresses them indirectly.
Limited	The project/program/portfolio only addresses few or minor elements of the benefits being assessed by the question/statement or provides minor indirect benefits.
Very Limited	The project/program/portfolio does not provide any or very limited benefits to those being assessed by the question/statement.
Undetermined or Not Applicable	The ranking for this project/program/portfolio is not determined at this time or the attribute is not applicable.

**Presented as an example at the November 2024 CAMP4W Task Force meeting to test evaluative criteria*

Phase 3 Study

- **Objective:**
  - Retain limited sites for further technical & environmental evaluations
- **Phase 3A – Site Viability:**
  - Reconnaissance-level visual surveys by subject matter experts
  - Coordination with DWR
  - Discussions with other reservoir development proponents
  - Operational analysis of SWP and Metropolitan supply
- **Phase 3B – Initiate Field Evaluations:**
  - Initial discussions with landowners
  - Preliminary geologic & environmental investigation
  - Refine technical requirements and constructability
  - Develop environmental compliance strategy

Next Steps

- **Complete Phase 2 Evaluation:**
  - Incorporate final review comments
  - Issue Phase 2 report
- **Initiate Phase 3 Evaluation:**
  - Develop detailed Phase 3 plan & scope of work
  - Initiate Phase 3A
  - Perform site-specific evaluations to identify limited sites for detailed technical & environmental evaluation
  - Return to Board at the conclusion of Phase 3A


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
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Engineering Services Group

- **Engineering Services Monthly Activities for April 2025**

Summary

This monthly report provides a summary of Engineering Services Group activities for April 2025 in the following key areas:

- Colorado River Aqueduct (CRA) Program
- Dams & Reservoirs Program
- Distribution System Program
- Additional Facilities and Systems Program
- Prestressed Concrete Cylinder Pipe (PCCP) Program
- Water Treatment Plants Program
- Pure Water Southern California
- Drought Mitigation – State Water Project Dependent Areas
- Value Engineering Program
- Career Launch Program

Purpose

Informational

Attachments

Attachment 1: Detailed Report - Engineering Services Group's Monthly Activities for April 2025

Date of Report: May 12, 2025

Engineering Services Group's Monthly Activities for April 2025

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. In addition, Engineering Services provides technical services to enhance reliable system operation and real property planning, valuation, acquisition, and disposition services to protect Metropolitan's assets. Engineering Services empowers our staff and partners with our business partners and the communities we serve to accomplish Metropolitan's mission.

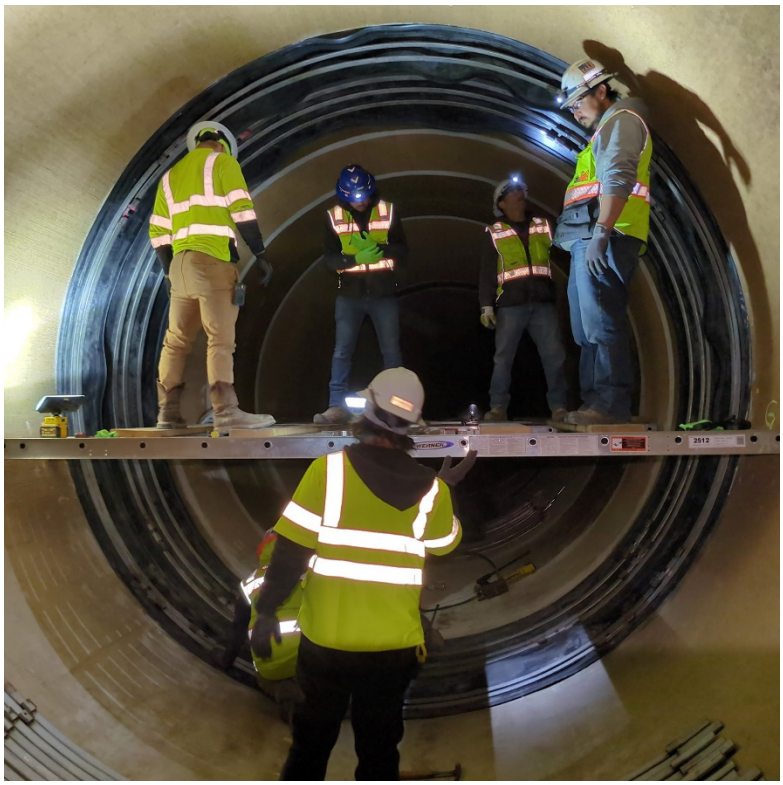
Recent key activities on CIP programs and other key engineering functions are described below.

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

Colorado River Aqueduct (CRA) Program

The CRA program is composed of CIP projects to replace or refurbish facilities and components of the CRA system to reliably convey water from the Colorado River to Southern California.

- CRA Freda Siphon Seals Installation — This project installs internal seals at 49 locations along the Freda Siphon Barrel No. 1. Construction was completed during the 2025 CRA shutdown in March.
- Main Transformer Procurement — This project replaces thirty-five 230 kV and 69 kV step-down transformers that are used to operate the main pumps at all five of Metropolitan's CRA pumping plants. Preliminary design was completed in June 2023. The transformer procurement was advertised as a best-value procurement contract, and staff has completed negotiations of the contract terms. Award of a procurement contract and authorization of a consulting agreement for final design are scheduled for a May 2025 board action.
- Eagle Mountain and Hinds Utilities Improvements — This project will replace the existing potable water, non-potable water, and sewer lines at the Eagle Mountain and Hinds Pumping Plants. Final design was completed in April 2025, with a board action to award a construction contract to follow.



CRA Freda Siphon Seals Installation — Contractor Adjusting Retention Bands on the Seal

Dams & Reservoirs Program

The Dams & Reservoirs Program is composed of CIP projects to upgrade or refurbish Metropolitan's dams, reservoirs, and appurtenant facilities to reliably meet water storage needs and regulatory compliance.

- Garvey Reservoir Rehabilitation — This project will replace the aging reservoir floating cover and liner, structurally strengthen the 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. Final design is approximately 75 percent complete. Garvey Reservoir is currently out of service, and staff are developing approaches to expedite construction completion.
- Lake Skinner Drainage Improvements — This project will replace the existing drainage ditch at Lake Skinner Dam with an improved trapezoidal drainage ditch to improve stormwater drainage. The contractor is currently demolishing the existing drainage ditch and excavating for the new ditch. Construction is scheduled to be complete by September 2025.
- Diamond Valley Lake (DVL) Secondary Inlet Valve Refurbishment — This project will rehabilitate the 72-inch inline sleeve valve and inlet piping and replace the instrumentation at the DVL Reservoir secondary inlet. Metropolitan staff is currently rehabilitating the sleeve valve at the La Verne Shops and will deliver the valve to DVL in April 2025. Installation is scheduled to be complete in June 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 the construction of a new PCS with a bypass pipeline alongside the existing forebay and upgrading the

electrical system to accommodate future power needs. This project utilizes a progressive design-build (PDB) project delivery method. An RFQ for Phase 1 design-build services is anticipated to be advertised in mid-2025, and the Phase 1 contract will be awarded by the end of 2025. The project is anticipated to be completed by 2031.

Distribution System Program

The Distribution System Program is composed of CIP projects to replace, upgrade, or refurbish existing facilities within Metropolitan's distribution system, including pressure control structures, hydroelectric power plants, and pipelines, to reliably meet water demands.

- Service Connection OC -88 Chillers Replacement — This project replaces deteriorated cooling equipment, including three chillers and two chilled water pumps that provide cooling for the pump station's pump motors and air conditioning system. The contractor has completed the installation of all three chillers and both chilled water pumps and is currently performing the start-up and commissioning of the new chillers' control systems. Construction is approximately 97 percent complete and is scheduled to be complete in May 2025.
- Foothill Hydroelectric Plant and Control Building Seismic Upgrade — This project enhances the facility's structural integrity to better withstand a significant seismic event. Major scope items included the removal and replacement of the roofing system, installation of concrete column encasements to enlarge and strengthen existing structural members, and reinforcement of shallow foundations. In addition, improvements such as the construction of a new walkway on the south side of the hydroelectric building have been finalized. Construction is complete and the facility is now fully operational with enhanced seismic resiliency.
- Santa Monica Feeder Cathodic Protection — This project will install cathodic protection for a steel portion of the Santa Monica Feeder to address corrosion detected during a 2018 inspection of the pipeline. This project will install two 400-foot-deep anode wells along with rectifiers and remote monitoring equipment along the feeder. The contractor continued installation of conduit for the anode cables and began installing power conduits. Construction is 85 percent complete and is scheduled to be complete by June 2025.
- San Jacinto Diversion Structure Gate Replacement — This project will replace the three existing cast iron slide gates at the San Jacinto Diversion Structure with Metropolitan-furnished stainless steel slide gates. The project will also include the replacement of gate guides, stems, actuators, and structural improvements to support the loads of the new equipment. Final design is 90 percent complete and scheduled to be complete by April 2025.

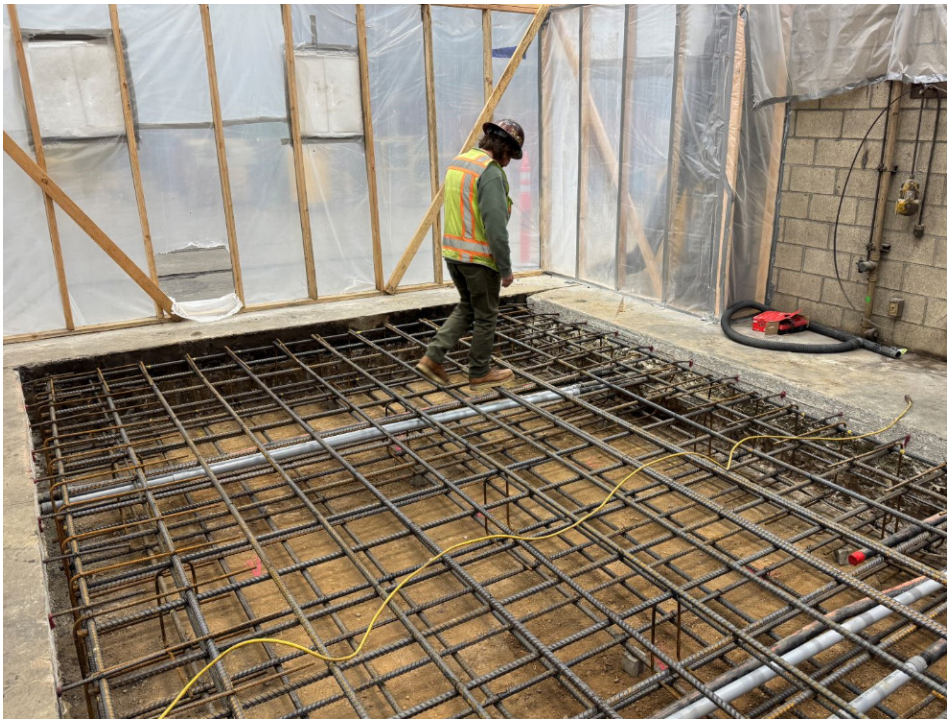
Service Connection OC -88 Chillers Replacement — Contractor Installing New Chilled Water Pump

Santa Monica Feeder Cathodic Protection — Contractor Performing Slurry Backfill of the Anode Cables

Additional Facilities and Systems Program

The Additional Facilities and Systems Program is composed of CIP projects to refurbish, replace, upgrade, or provide new facilities and systems that support Metropolitan's business and district-wide operations.

- La Verne Shops Improvements — This project improves the La Verne Shops building and installs Metropolitan-furnished shop equipment. The contractor completed installation of the plasma cutter, roof access ladders, air compressor equipment, and new waterjet system. The contractor continued installation of the new Unit Power Center and grading for the band saw foundation. Construction is approximately 97 percent complete and is scheduled to be complete in December 2025.
- La Verne Warehouse — Metropolitan's Central Stores and warehouses are located at the Weymouth Treatment Plant site in the city of La Verne. This project replaces the current main warehouse and annex building with a new warehouse building of 55,000 sf and outdoor canopies of 30,000 sf. Preliminary design is approximately 20 percent complete and is scheduled to be complete by December 2025.



La Verne Shops Improvements — Inspecting Reinforcement for the Vertical Saw Foundation

Prestressed Concrete Cylinder Pipe (PCCP) Program

The PCCP Program is composed of CIP projects to refurbish or upgrade Metropolitan's PCCP feeders to maintain water deliveries without unplanned shutdowns.

- Second Lower Feeder Valves — This procurement contract provided 13 conical plug valves for the Second Lower Feeder PCCP rehabilitation. All thirteen valves were delivered as of December 20, 2024.

Three 48-inch valves were recently installed as part of the Reach 3 Second Lower Feeder PCCP Rehabilitation Project in March 2025 and went into service in late April 2025. The remaining ten 54-inch valves are being stored at the Lake Mathews Valve Warehouse.

- Second Lower Feeder PCCP Rehabilitation Reach 3B — This project installs 3.7 miles of steel lining and three conical plug valves along a portion of the Second Lower Feeder that traverses the cities of Lomita, Los Angeles, and Torrance. The contract completed installation of the three conical plug valves and installation of steel lining in April 2025. Work continues at the valve vaults to complete the remaining electrical and SCADA work to be followed by site restoration. Construction is 87 percent complete and is scheduled to be complete in September 2025.
- Yorba Linda Feeder and Sepulveda Feeder Inspections — Regularly scheduled electromagnetic and visual inspections of PCCP portions of the Yorba Linda Feeder and Sepulveda Feeder (Reach 2) were performed in April 2025. Inspection results will be available from the consultant in late May.

Second Lower Feeder PCCP Rehabilitation Reach 3B — Contractor Installing 12-Inch Bypass Piping

Yorba Linda Feeder PCCP Electromagnetic Inspection

Water Treatment Plants Program

The Water Treatment Plants Program is composed of CIP projects to replace or refurbish facilities and components at Metropolitan's five water treatment plants to continue to reliably meet treated water demands.

- 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, and outlet drop gates. Rehabilitation work also includes seismic upgrades of basin walls and inlet channel, hazardous material abatement, and replacement of inlet gates in Basins 1-4 and filter valves and actuators in Filter Building No. 2. The contractor completed all rehabilitation work in Basins 5–8, including structural wall modifications, mechanical piping, and equipment testing. The contractor began work in Basins 1–4, including the replacement of inlet gates and electrical equipment. Construction is approximately 93 percent complete and is scheduled to be complete in December 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 98 percent complete and is scheduled to be complete in June 2025.

- Diemer Filter Rehabilitation — This project rehabilitates the 48 filters at the Diemer plant to enhance filter performance, minimize filter media loss, and rehabilitate or replace aging components. Planned upgrades include replacing filter media, filter valve actuators, and instruments; modifying the filter upstream influent weir and surface wash laterals; and improving the coal grit removal facilities for the east and west sides of the plant. Final design is approximately 97 percent complete and is scheduled to be complete in July 2025.
- Mills Electrical Upgrades, Stage 2 — This project upgrades the electrical system with dual-power feeds to key process equipment to comply with current codes and industry practices, 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 4.16 kV switchgear, and replace the standby generator switchgear and the emergency generator programmable logic controller. Riverside Public Utilities energized the second incoming service to the plant. The contractor completed system-level testing and facility switchover to the permanent system. Construction is approximately 95 percent complete and is scheduled to be complete in August 2025.

Weymouth Basins 5–8 and Filter Building No. 2 Rehabilitation — Torquing upgraded backwash valves at Filter 44

Adapt to changing climate and water resources

Pure Water Southern California

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

- Environmental Planning — The environmental planning phase began in 2020. Technical studies have been completed to support the effort. The draft EIR is currently scheduled for publication in May 2025, with board certification of the document in early 2026.
- Program Management — PWSC program management efforts lead the planning for the PWSC 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.
    - In December 2024, the Board authorized entering into an agreement with USBR to accept up to $125,472,855 in funding under the USBR Large-Scale Water Recycling Program grant. The agreement was executed on January 10, 2025. The first two invoices were submitted in March, and USBR promptly paid Metropolitan approximately $15.6 million.
    - Program internal governance and program plans are currently being developed. Technical studies are underway to support planning of DPR implementation, and development of program phasing options, including treated water augmentation.
    - Metropolitan staff met with member agency managers to discuss the potential terms for future agreements between the member agencies that would directly receive pure water and Metropolitan.
- Advanced Water Purification Facility — The AWPF will purify treated wastewater from LACSD's A.K. Warren Water Resource Facility using membrane bioreactors (MBRs), reverse osmosis, and ultraviolet/advanced oxidation. With its expertise in biological wastewater treatment, LACSD will assume the responsibility of implementing the AWPF pretreatment, including the MBR facilities.
    - A draft conceptual facilities plan has been prepared to document key assumptions of AWPF components. The final draft plan is currently being prepared.
    - Southern California Edison has completed the Method of Services study to identify infrastructure needed to meet AWPF power requirements.
    - Staff is preparing a Request for Qualification document for the procurement of a PDB entity to progress the design of the AWPF.

- Direct Potable Reuse — The California Division of Drinking Water published the final DPR regulations in December 2023. On August 6, 2024, the California Office of Administrative Law approved these DPR regulations, which took effect on October 1, 2024. Metropolitan has completed bench-scale testing to screen the potential DPR treatment processes that could be used for the program. Planning of pilot-scale and demonstration-scale testing is in progress. Key testing equipment will be procured in mid-2025 to facilitate design of the pilot/demonstration system.
- Conveyance Pipeline System — The PWSC conveyance system consists of the backbone pipeline that extends over 40 miles from the AWPF in the city of Carson to as far north as the city of Azusa, repurposing an existing pipeline owned by the San Gabriel Valley Municipal Water District, and constructing a new DPR pipeline to convey water from the backbone eastward for raw water augmentation at Metropolitan's Weymouth plant in the city of La Verne. It also includes several pump stations, service connections, isolation valves, and other pipeline appurtenances. As part of the current environmental planning phase efforts, the project team is preparing the Conveyance Facilities Conceptual Design Report to support the environmental studies and permitting processes required by CEQA. The final report is anticipated to be complete next month. In addition, preliminary design of the first two pipeline reaches is currently underway and is anticipated to be complete by the end of the year. Staff is also conducting a market-sounding for conveyance projects through early April, with plans to advertise for Construction Management / General Contractor (CM/GC) alternative delivery pre-construction services for Reaches 1 and 2 as early as July 2025.

  In January, the Southern California Edison (SCE) executive council authorized their staff to move forward with drafting a lease agreement for Metropolitan's usage of SCE right-of-way, effectively allowing us to co-locate our pure water backbone pipeline within their transmission corridor along the San Gabriel River. This, in turn, minimizes the overall impact on cities and communities along the backbone alignment. Additional progress updates are provided below.

  - Reach 1 — This reach is approximately 6.3 miles long, primarily within public rights of way in the city of Carson, with service connections for LADWP and West Basin MWD. Current work includes utility field investigation and geotechnical work and designing to incorporate more tunneling into this project to minimize construction risks and impacts to the public.
  - Reach 2 — This reach is approximately 7.5 miles long, primarily within public rights of way in the cities of Long Beach and Lakewood, with a service connection for Long Beach Utilities. Current work includes utility field investigation and geotechnical work, development of a preliminary design report and drawings, as well as coordination with the City of Long Beach, Long Beach Utilities, Caltrans, Army Corps, and other permitting entities for the major tunnel crossing of the I-710 and Los Angeles River.

Drought Mitigation—State Water Project Dependent Areas

The Drought Mitigation—State Water Project Dependent Areas Program is composed of CIP projects to replace, refurbish, upgrade, or construct new facilities, which are identified to mitigate the vulnerability experienced by specific member agencies that are affected during shortages of State Water Project supplies.

- Foothill Pump Station Intertie — This project will connect Metropolitan's Inland Feeder to San Bernardino Valley Municipal Water District's Foothill Pump Station. The project is one of four Rialto

Pipeline service area supply reliability improvement projects. Final design was completed in late 2024; however, the project requires permits from CA Fish and Wildlife and US Fish and Wildlife (USFWS) to address impacts to endangered species found at the project site. In April 2025, USBR executed a $5M grant for this project. And as a result, USBR will assist Metropolitan with permit consultation with USFWS. USBR is currently preparing NEPA documentation.

- Wadsworth Bypass — This project installs a bypass pipeline and an isolation valve to interconnect the Wadsworth Pumping Plant with the Eastside Pipeline. This project is also one of the four Rialto Pipeline service area supply reliability improvement projects. The contractor recently completed work associated with the April 2025 shutdown, including replacing depleted sacrificial anodes inside the pipeline and installing the 84-inch butterfly valve. Construction is scheduled to be complete in July 2025.

54-Inch Butterfly Valve for Foothill Pump Station Intertie –Butterfly Valve Factory Testing

Wadsworth Bypass — Installing the 84-inch Butterfly Valve

Sustain Metropolitan's mission with a strengthened business model

Value Engineering Program

Engineering Services conducts a Value Engineering (VE) program to review capital projects and identify opportunities and alternatives to enhance project performance, optimize the use of funding for CIP projects, and demonstrate responsible use of public funds. The objective of the VE program is to improve the overall value of CIP projects by applying an industry-accepted assessment methodology to examine a project's function, design, equipment, material selections, and contracting approach. This comprehensive assessment is conducted at strategic stages in a project's life cycle.

Sepulveda Feeder PCCP Rehabilitation — Reach 9

In April, a Constructability Review workshop was held that focused on the Sepulveda Feeder PCCP Rehabilitation — Reach 9 Project. This project involves rehabilitating approximately 3.5 miles of large-diameter PCCP in the northern section of the Sepulveda Feeder.

The workshop gathered key stakeholders, including representatives from construction management, project management, design, operations, real property, water quality, environmental planning, external affairs, VE and design consultants, and industry subject matter experts, to assess the construction schedule, critical milestones, and risk mitigation strategies.

Strategies were discussed to minimize operational impacts during construction, including contingency planning for unanticipated conditions. Key project risks were identified, such as permitting challenges with the City of Los Angeles for after-hours work and construction near major intersections. Mitigation strategies were outlined to address environmental, regulatory, and technical risks. The workshop provided valuable insights to advance the project efficiently, ensuring a well-coordinated approach to the rehabilitation of the Sepulveda Feeder's northern section.

Sepulveda Feeder PCCP Rehabilitation – Reach 9 (shown in light green)

Empower the workforce

Career Launch Program

The Engineering Services Group's Career Launch Program, which is in its 13th year, provides a series of modules to enhance the onboarding process for new staff members. Recently, for Module 5, new hires had the opportunity to "Meet the Managers" in person at Metropolitan's Headquarters building and learned more in-depth about the organizational structure of the Engineering Services Group and its four sections — Design, Engineering Planning, Infrastructure Reliability, and Program Management. This module was led by Assistant Group Manager Howard Lum and the Section and Unit Managers in Engineering Services. Participants gained more insight into each team's roles and responsibilities and got to know the managers with respect to their personal profiles, including their education, career and leadership experiences, and hobbies. The next and final

module will consist of project highlights and a celebratory culmination to close out this program for the 13th cohort.

Career Launch Program Module 5 with New Engineering Services Staff

Information Technology Group

- **Information Technology Group Monthly Activities for April 2025**

Summary

This report provides a summary of activities related to the Information Technology Group for April 2025.

Purpose

Informational

Detailed Report

Over time, earthquakes have impacted critical infrastructure, both structural and non-structural, throughout the Southern California region. The consequences of non-structural component failures within some Metropolitan facilities could potentially impact the ability to reliably deliver water to member agencies. Non-structural components of a facility include all elements that are not a part of a building's structural system, including architectural details, mechanical, electrical, and instrumentation equipment, plumbing/process piping systems, and miscellaneous furniture and fixtures.

As part of the Metropolitan's seismic resiliency program, a "rapid evaluation" methodology was developed for these non-structural components with an established goal of assessing potential deficiencies and recommending improvements to address their overall structural integrity and safety performance during and after seismic events. Initially, an observation and hazard checklist form was created to document findings from field investigations, but the paper-based format proved to be inefficient and delayed improvement projects. A request was made to develop a software application that could be utilized by staff in the field on mobile devices and improve the technical workflow.

By creating a GIS application, IT streamlined and optimized the workflow by creating smart forms on a tablet and having a central data repository. The standardized smart forms eliminate the laborious paper-based processes and easily capture data anywhere, on any device, from any location. The application consists of drop-down or pick-list type questions for a more intuitive user experience and uses formula-based fields where survey questions will be based on the previous answers. Survey questions are grouped into four categories:

- Architectural components
- Mechanical, electrical, and process/plumbing components
- Furniture, fixtures, equipment, and content
- Emergency systems

There are over 305 non-structural components with checklist questions in the application. Each component may also be repeated multiple times, as well as have photos or PDF attachments. Submissions are synced in real time and are displayed on a GIS web application to visualize and analyze the data in one place. Since the application's release, the team has received positive feedback from our customers, and this has proven to improve efficiency.

Date of Report: 5/13/2025

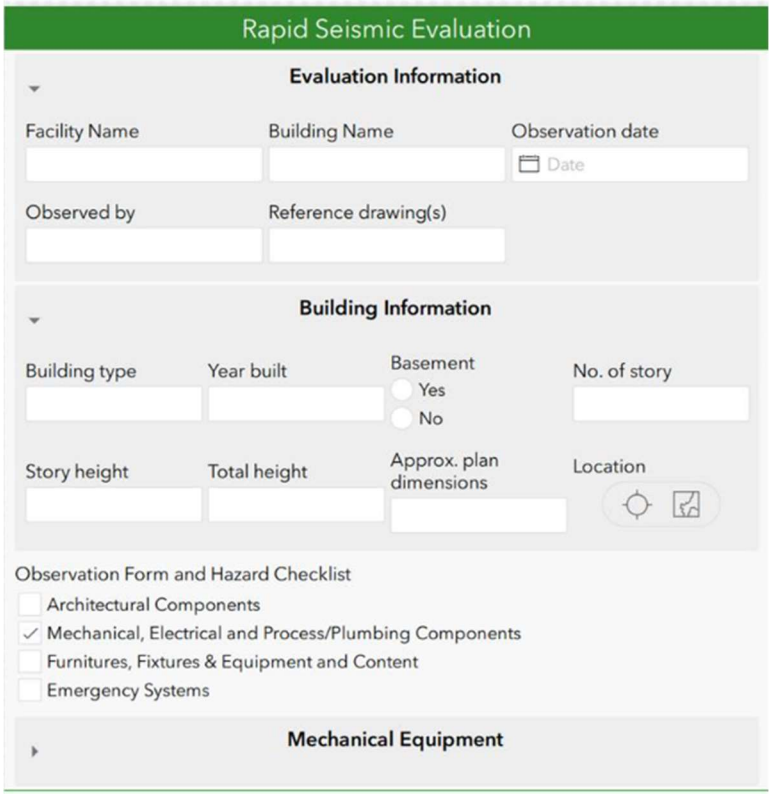


Photo of the application interface

Operations Groups

- **Operations Groups' Monthly Activities Report for April 2025**

Summary

This monthly report for the Operations Groups provides a summary of activities for April 2025 in the following key areas:

- Enhance Workforce Safety
- Manage Business Operations, Budget, and Staffing
- 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
- Optimize Asset and Maintenance Management
- Enhance Emergency Preparedness and Response
- Prepare for Future Legislation and Regulations
- Advance Education and Outreach Initiatives

Purpose

Informational by the Operations Groups on a summary of key activities for the month of April 2025.

Attachments

Attachment 1: Detailed Report – Operations Groups' Monthly Activities for April 2025

Date of Report: May 13, 2025

Operations

Operations Groups

Core Business Objectives

Enhance Workforce Safety

Desert staff attended Incident Command Post training at the Gene facility as part of Metropolitan's emergency response readiness program. Each operational Incident Command Post completes three training exercises per year to keep staff apprised of emergency response communications and provide an opportunity for simulating real-life scenarios through tabletop and functional exercises.

Staff attending ICP training

Staff completed the installation of two new exterior lights at the Palos Verdes Reservoir site. The new lights will enhance safety when staff is completing work at night, such as staging equipment or completing operations and maintenance activities.

Staff pouring concrete base (left) and installing new light fixture (right)

Manage Business Operations, Budget, and Staffing

The Business Management Team (BMT) worked with Operations Groups sections and units to analyze staffing needs and prepare respective Fiscal Year 2025/26 staffing plans. BMT also worked with the Sustainability, Resilience, and Innovation Office to identify research and innovation projects that would be good candidates for external grant funding support.

Provide Reliable Water Deliveries and Manage Storage

Metropolitan member agency water deliveries were 122,000 acre-feet (AF) for April, with an average of 4,100 AF per day, which was about 1,800 AF per day higher than in March. Treated water deliveries were 35,100 AF higher than in March, for a total of 73,700 AF, or 60 percent of total deliveries for the month. This increase was primarily due to the activation of service connection LA-25 by LADWP due to a scheduled outage of their filtration plant. The Colorado River Aqueduct (CRA) is back in service after a regular shutdown and pumped a total of 71,800 AF in April. State Water Project (SWP) imports averaged 2,500 AF per day, totaling about 75,500 AF for the month. The target SWP blend increased to 25 percent for Diemer and Weymouth to accommodate Lake Mathews tower chlorination, while Skinner remained at 0 percent.

Metropolitan has sufficient SWP, Colorado River, and storage supplies to meet demands in 2025 while putting additional water into storage. Water continues to be managed according to Water Surplus and Drought Management principles and operational objectives with an emphasis on positioning SWP supplies to meet future demands in the SWP-dependent area. The California Department of Water Resources increased the SWP Allocation from 35 percent to 40 percent in late March. Metropolitan is continuing to minimize the use of Table A supplies to preserve supplies for the SWP-dependent area. At the same time, Metropolitan is shifting operations to manage surplus supplies, including starting deliveries to member agency cyclic programs and to Desert Water Agency and Coachella Valley Water District.

Develop New Supplies and Optimize System Flexibility

Staff completed a shutdown of the Eastside Pipeline and Wadsworth Pump Plant to allow a contractor to install an 84-inch butterfly valve for the newly constructed Wadsworth Bypass. This valve completes the bypass project, which allows the pump plant to simultaneously release water from Diamond Valley Lake (DVL) into the forebay and pump the water back up the Inland Feeder toward Devil Canyon. This is one of four drought mitigation projects under construction that will allow DVL water to reach areas along the Rialto Pipeline that are currently dependent on SWP supplies.

Staff lowering an 84-in butterfly valve into position for the Wadsworth Bypass

Staff continued baseline monitoring for tertiary membrane bioreactor nitrification-denitrification testing and continued working with the Los Angeles County Sanitation Districts (LACSD) to prepare for procurement and installation of snail mitigation and prevention measures at the Pure Water Southern California Napolitano Innovation Center demonstration plant. A reconfiguration plan was developed to separate the current two-pass reverse osmosis (RO) system into two trains to allow testing of different types of RO membranes. Staff collected microbiological samples from multiple water sources throughout the demonstration plant.

Staff provided representatives from Sydney Water with an overview of the Pure Water Southern California program and a technical tour of the demonstration facility on April 2 at the Napolitano Innovation Center. Sydney Water also has a demonstration facility and is exploring adding recycled water to supplement water supply.

On April 30, the PWSC project team and partners from the LACSD met in person with the state's Division of Drinking Water to further the dialogue on regulatory requirements, continued testing, and permitting considerations for the future full-scale advanced water treatment plant.


Discussion and facility tour with staff from Sydney Water at the PWSC Napolitano Innovation Center


Preparing microbiological samples for analysis (left) and replacing cartridge filters (right) at the PWSC Napolitano Innovation Center

Manage Power Resources and Energy Use in a Sustainable Manner

Staff continued work on Metropolitan's first-ever affected system cluster study for generation developers wishing to connect to transmission systems adjacent to the CRA transmission system. This study encompasses seven generation projects connecting to the Southern California Edison and Western Area Power Administration systems, which impact Metropolitan's 230 kV transmission system. Preliminary results were released on April 17, and a stakeholder meeting was held on April 30 to review the results and field questions from the generation developers. Staff concurrently worked on developing preliminary interim mitigation agreements, or "bridge agreements," to allow generation developers to secure funding by demonstrating a provisional agreement with Metropolitan to allow them to reach commercial operation while permanent mitigations are in development.

A site demonstration coordinated at the Jensen plant allowed a vendor to showcase its portable solar power generation system, demonstrating its capability to deliver up to 1,000 kW of power. The innovative solution aligns with Metropolitan's energy sustainability goals while also serving as a reliable source of emergency power.

Staff viewing the Dragon Wings portable power system demonstration at the Jensen plant

Protect Source Waters and Ensure Water Quality Compliance

Metropolitan complied with all water quality regulations and primary drinking water standards during March 2025.

Metropolitan's Annual Water Quality Report for calendar year 2024 was provided to member agencies ahead of the April 1 deadline. As a wholesale water system, Metropolitan is required to provide its member agencies with the previous year's water quality monitoring data for source waters, plant influents, and plant effluents for use in their annual water quality reporting.

Optimize Water Treatment and Distribution

The SWP target blend entering the Weymouth and Diemer plants increased from zero to 25 percent in April 2025. The SWP blend target for Lake Skinner is zero percent; however, due to an unscheduled temporary outage on the CRA, the SWP blend entering Lake Skinner increased to 40 percent in April 2025 for a period of time.

Flow-weighted running annual averages for total dissolved solids from February 2024 through January 2025 for Metropolitan's treatment plants capable of receiving a blend of supplies from the SWP and the CRA were 590 mg/L, 579 mg/L, and 569 mg/L for the Weymouth, Diemer, and Skinner plants, respectively.

Staff replaced several damaged baffle boards on an out-of-service basin at the Mills plant. This repair will help ensure proper mixing of coagulants for a more effective water treatment process. The basin was not immediately placed into service but is available for operation in anticipation of higher seasonal flows during the warmer months.

Newly replaced baffle boards (left) and crane support lowering new boards into place (right) at the Mills plant

Diemer plant staff installed an automatic transfer switch on the plant sodium hypochlorite feed system. Sodium hypochlorite provides disinfection of water in the event of an ozone outage, such as during a power outage. This automatic transfer switch will allow the sodium hypochlorite feed system to switch to secondary backup power in the event there is a loss of power to both the utility power and the primary backup emergency generator. This addition will provide additional redundancy to ensure reliable operations.

Staff installing an automatic transfer switch on a chemical feed system at the Diemer plant

Skinner plant staff completed refurbishment of the launder troughs at the washwater reclamation plant. Launder troughs skim clarified water from the surface after tube settlers remove solids. The Coatings Team in La Verne refurbished the fiberglass-reinforced polymer troughs, while Skinner staff fabricated and installed new bracket assemblies to protect the joint seals from leaks. This improved configuration will reduce wear on the seals and enhance the long-term reliability of the washwater reclamation plant.

Launder trough with joint leakage (left) and refurbished launders with new joint seal (right)

Newly refurbished launder troughs at Skinner Washwater Reclamation Plant

For the last two and a half years, construction to rehabilitate Basins 5-8 and Filter Valves 25-48 at the Weymouth plant has been taking place. These portions of the treatment process, constructed in 1962, have been in continuous operation for over 60 years. This project, scheduled to be completed in September 2025, will enhance plant reliability through the installation of new basin influent gates, flocculator paddles and motors, a solids removal system, five new valves on each of the 24 filters, and upgrades to the electrical system. During this project, there were several equipment outages and reductions in flow, and Weymouth is currently in its final 45-day "half-plant shutdown." Plant staff partnered with Water Quality and System Operations to ensure that member agency demand would be met during all the outages.

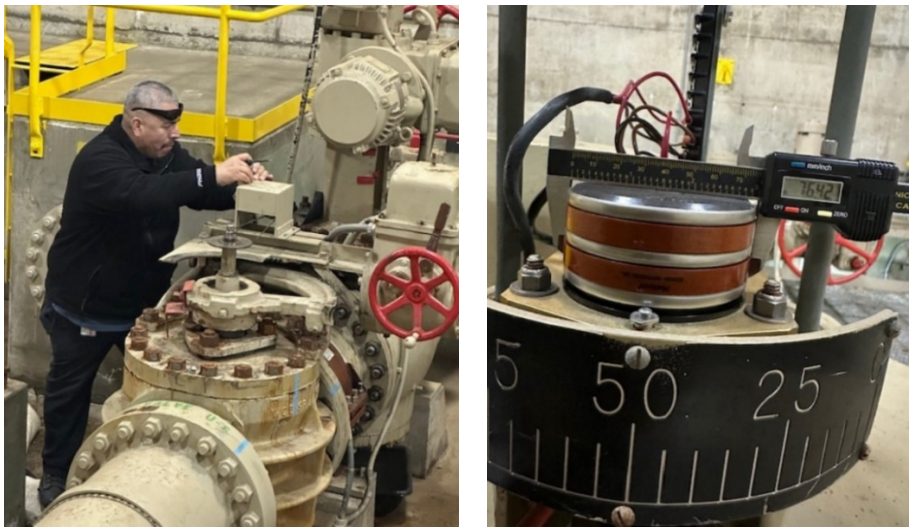
Existing equipment removed from the sedimentation basins at the Weymouth plant


New equipment installed in sedimentation basin (left) and new filter valves installed (right)

Staff completed an unscheduled shutdown of the Middle Feeder from the Weymouth plant to the Covina Pressure Control Structure (PCS) to accommodate the installation of 16 valves. Staff set operational limits for the valve actuators, rewired and tested the electrical functionality of the newly refurbished valves, and updated the valve position indicators at the PCS. During this work, staff also upgraded the 70-year-old original valve potentiometers, which provide SCADA readings of water pressure, flow, and hydraulic grade data essential for operating Metropolitan's distribution system. This rehabilitation effort will support system operations while Garvey Reservoir remains offline for cover replacement.

Staff installing a new 12-inch lubricated plug valve (left) and hoisting a refurbished 16-inch hydraulic globe valve for installation (right) at Covina PCS

Staff setting valve limits (left) and rewiring and testing valves (right) at Covina PCS



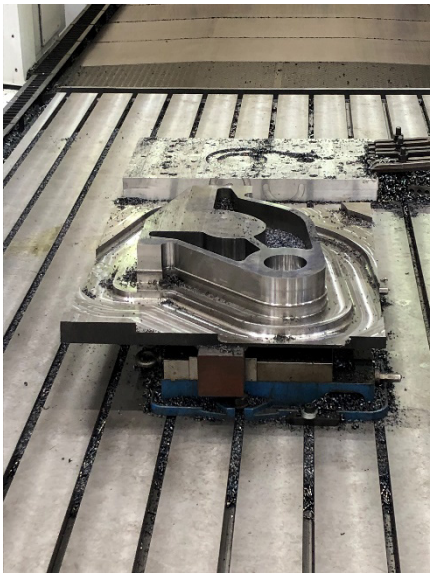
Staff measuring existing potentiometer (left) and potentiometer (right) at Covina PCS

Jensen plant staff completed the installation of new valve position displays at the Beverly Hills PCS. The upgraded displays will provide onsite operators with real-time information on valve operation to make quick and accurate adjustments. Previously, valve position was not visible to onsite operators, requiring field adjustments to be closely coordinated with Operations Control Center staff at Eagle Rock, who relayed valve position feedback over the phone. The installation was successfully completed and will streamline local operations of the facility.

Staff installing valve position displays at Beverly Hills PCS

The La Verne Shops manufactured replacement parts for an Iron Mountain Unit 5 Discharge Valve. Staff collaborated to identify all components in need of replacement due to failure of the plug shaft and to develop the technical requirements for each part. The newly manufactured parts, including the plug shaft, rotator, lift nut, and lift lever, replace parts that are more than 70 years old and will be installed in the coming months to help ensure CRA resiliency and reliability.

Broken discharge valve plug shaft



Fractured rotator (left), machining new rotator (center), and test fit of new lift nut to new plug shaft (right)

Protect Infrastructure and Optimize Maintenance

Staff sawcut and trenched for a new electrical feed at the Iron Mountain fuel island to accommodate fuel-pump upgrades. During extreme summer temperatures, the fuel islands vapor lock and will not dispense fuel unless kept almost completely full. These upgrades will provide greater operational flexibility and improve the reliability of the fuel pumps.

Staff installing a new conduit run for the Iron Mountain fuel island

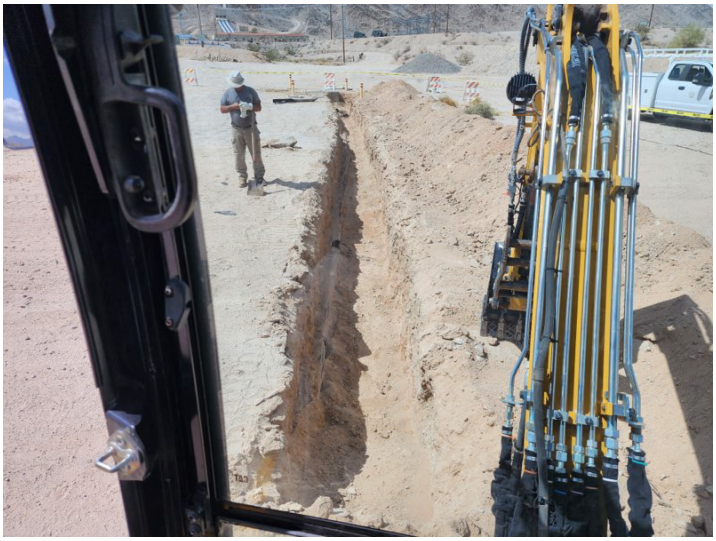
Staff installed new radio and antenna equipment to facilitate additional gauging stations along the CRA. Gauging stations allow staff to monitor the depth of water in the CRA. This is critical data for monitoring and maintaining a consistent flow along the canal. The new gauging stations will provide additional data to the Desert Operations Control Center to better monitor CRA operations.

Staff installing new radios and antennas for CRA gauging stations

Staff continue the refurbishment of the Gene Unit 1 Discharge Valve, including coating equipment needed for the discharge valve operations and maintenance. Along with the discharge valve components, staff are coating related equipment such as handrails. Components were blasted and then coated to ensure corrosion resistance for many years.

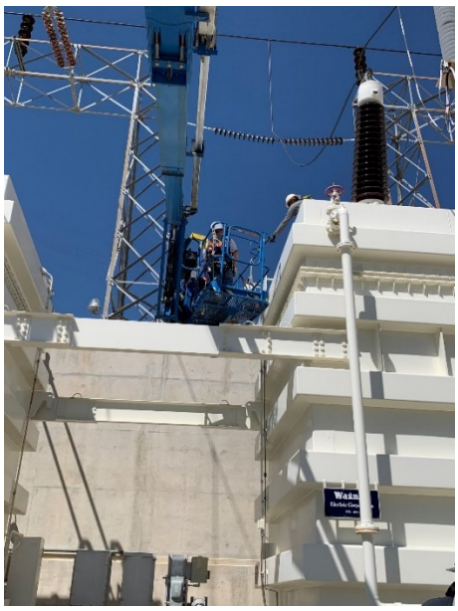
Gene Unit 1 discharge valve pit handrail before (left) and after (right) coating

Staff continue to replace sewer lines at Iron Mountain. The sewer system is scheduled for replacement, but the aging system requires frequent repair and maintenance. Sections of the system are being relined, and other portions are being replaced to minimize urgent repairs.



Staff replacing a section of sewer line at Iron Mountain

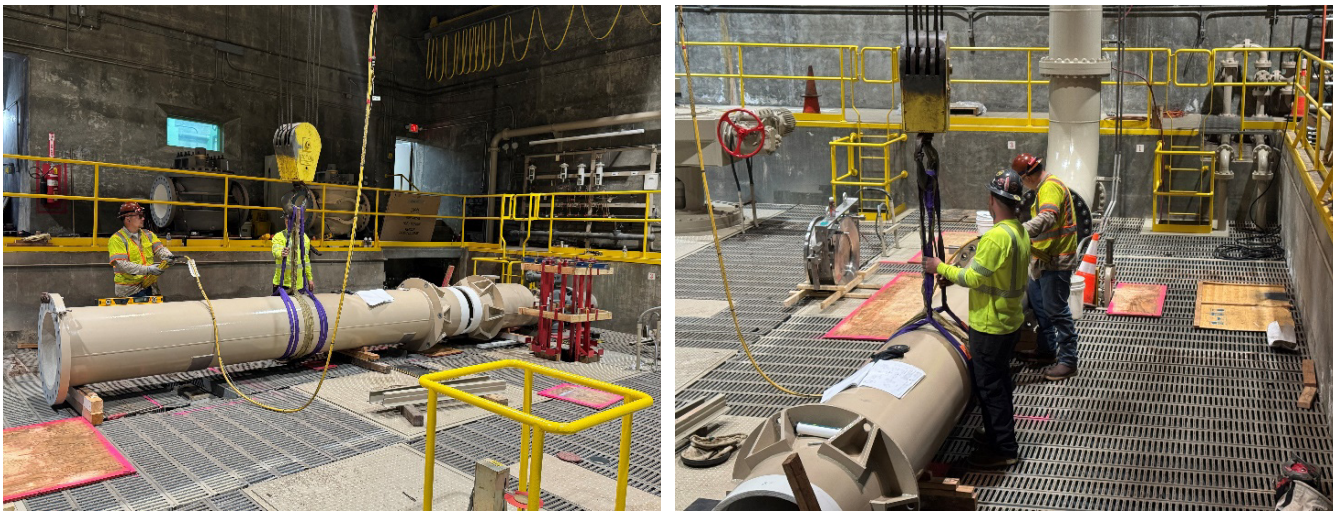
Due to a failure of the neutral bushing on the Hinds 1A 230kV transformer, the spare transformer was put in service. Staff fabricated new copper bus, completed all bus work connections, terminated associated control and auxiliary equipment, and removed the neutral bushing from the 1A transformer for repair. The failed bushing has been sent to the La Verne Shops for refurbishment so it can be used as a spare in the future to help ensure reliable CRA operations.



Staff connecting 230kV bus to Hinds spare transformer (left) and installing spare transformer neutral CT (right)

Staff installing spare transformer neutral CT (left) and fabricating bus for neutral CT connection (right) at Hinds pumping plant

The Second Lower Feeder was returned to service following a lengthy shutdown for PCCP relining. To prepare the pipeline for service, staff reinstalled a replacement 16-inch lubricated plug valve, a 24-inch check valve, the rehabilitated pipe section, and a coupling on Service Connection WB-40 within the Oak Street PCS.

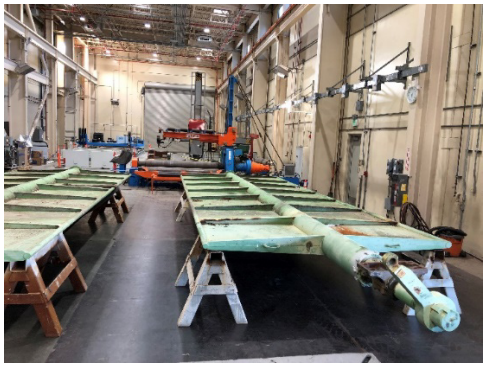


Staff hoisting pipe section into place at the Oak Street PCS

Staff continued work on replacing older copper communication lines throughout the district at remote locations. The new fiber optic cables will allow for higher bandwidths, enhanced security capabilities, and improved reliability in areas that frequently experience communication issues. A crew at the Temescal Hydroelectric Plant along the Lower Feeder began work to allow the fiber optic cable to be installed.

Staff installing new brackets and conduit for fiber optic cable at the Temescal HEP

The La Verne Shops completed a request to refurbish two flow control wing gates for the Department of Water Resources' John E. Skinner Delta Fish Protective Facility, a fish diversion facility that significantly reduces the quantity of fish passing through the Banks Pumping Plant. Each gate is 10 feet wide by 30 feet tall and weighs 8,000 lbs. This work included removing and replacing corroded sections of the gates, manufacturing various internal components and two 30-foot-long center shafts, and coating both gates with corrosion-resistant industrial coating. DWR plans to send another pair of gates for refurbishment after the installation of the recently completed gates.



As received condition of wing gates (left) and typical corrosion damage (right)

Completed manufacturing of center posts (left) and machining of the gate's lower bearing (right)

Test fit of internal components (left) and completed gate with finished coating (right)

Optimize Asset and Maintenance Management

Staff conducted eight workshops to evaluate the maturity of Metropolitan's asset management practices. Facilitated by a consultant, these sessions engaged managers and staff from key areas across the organization, including Operations, Engineering, Information Technology, Finance, Human Resources, Administrative Services, Office of Sustainability, Resilience and Innovation, and Office of Safety, Security, and Protection.

Held both in-person and virtually to maximize participation, each workshop focused on increasing staff awareness of how asset management supports their daily work, assessing current practices, and defining target maturity levels to reach over the next five years. Discussions covered core areas such as planning, programming, project and O&M delivery, condition monitoring, culture, data, technology, and information systems. A briefing with executive management is scheduled for mid-May 2025 to provide an overview of the findings and gain additional insights. Participants collaboratively identified critical gaps and improvement opportunities to advance Metropolitan toward a best-in-class asset management program for the water industry. Insights from these workshops will directly inform the upcoming update to the Strategic Asset Management Plan, scheduled for completion in mid-2026.

Enhance Emergency Preparedness and Response

Weymouth plant staff and the Los Angeles County Fire Department (LACFD) participated in a Chemical Response Training as part of an Incident Command Post training exercise. The training scenario simulated a valve leak on a chlorine railcar. Participants donned the proper personal protective equipment, identified the leak, and applied specialized chlorine equipment designed to stop a leak. The purpose of the training was to ensure that Metropolitan and local fire officials were knowledgeable in implementing the latest standards to stop a chlorine leak and to build the relationship between Metropolitan staff and local first responders.

Staff inspecting C-Kit to stop a simulated chlorine leak (left) and installing C-Kit with LACFD observing (right)

Staff continued construction of the Diemer Helicopter Hydrant facility. The helicopter hydrant consists of an open-top tank and supporting infrastructure, allowing helicopters to collect water for firefighting quickly. Metropolitan collaborated with the Yorba Linda Water District to develop a project benefiting both agencies. The Yorba Linda Water District is providing up to $500,000 in grant funding, technical support during design and construction, and coordination with the California Department of Forestry and Fire Protection and Orange County Fire Authority to ensure design and operational conditions are acceptable. Metropolitan will own and operate the facility upon its completion this summer.

Staff erecting the helicopter hydrant water tank at the Diemer plant

Prepare for Future Legislation and Regulations

In March, the Environmental Protection Agency (EPA) and the Army Corps of Engineers published their intent to revise the definition of "waters of the United States" (WOTUS) following the Supreme Court's 2023 ruling in *Sackett v. EPA*. The agencies issued a guidance memo on interpreting the WOTUS definition and requested comments to guide any future actions by April 23, 2025. Staff have previously submitted comments urging a broader WOTUS definition during the 2015 Clean Water Rule, the 2020 Navigable Waters Protection Rule, the 2023 Rule, and the Amended 2023 Rule. Staff submitted a comment letter to EPA communicating similar themes (e.g., permit streamlining and source water protection) as the prior letters.

In April 2025, the EPA filed a motion with the DC Court of Appeals requesting an additional 30-day delay in the legal challenges to the EPA's final PFAS MCLs rule. In 2024, AWWA, AMWA, and several chemical industry associations filed Petitions for Review, asking a federal court to decide whether the EPA acted appropriately when setting the MCLs and MCLGs for the six PFAS. The DC Court agreed with EPA's motion "to allow new Agency leadership to review the underlying rule" and granted a stay in litigation challenges until May 12, 2025.

Advance Education and Outreach Initiatives

Staff gave technical presentations on detecting chemicals in recycled water through non-targeted analysis and simultaneous analysis of multiple carbonyl compounds at the AWWA Water Conference of the West in Anaheim. Presentations and technical exchanges at industry conferences provide an opportunity to showcase Metropolitan's innovative research and testing, stay current with emerging technologies and advancements in the field, and foster dialogue and explore potential collaborations with industry professionals and leaders.

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Staff presenting on developing improved chemical detection methods at an AWWA conference

Staff provided tours of the Water Quality Laboratory for Metropolitan employees on April 9 and legislative staff from Washington, D.C. on April 24. These tours and presentations highlight the extensive monitoring that is required to ensure Metropolitan delivers high-quality drinking water that meets or surpasses regulations, and the applied research that ensures Water Quality is properly prepared for future challenges and emerging constituents.

Diemer plant hosted a tour for the California Unified Program Annual Training Conference held at Anaheim. Among the tour attendees are representatives from various fire departments, water agencies, chemical producers, and the California Department of Water Resources.

Diemer staff hosting tour for the California Unified Program Annual Training Conference

Engineering, Operations, & Technology Committee

Management Announcements and Highlights

Item 7a

May 12, 2025

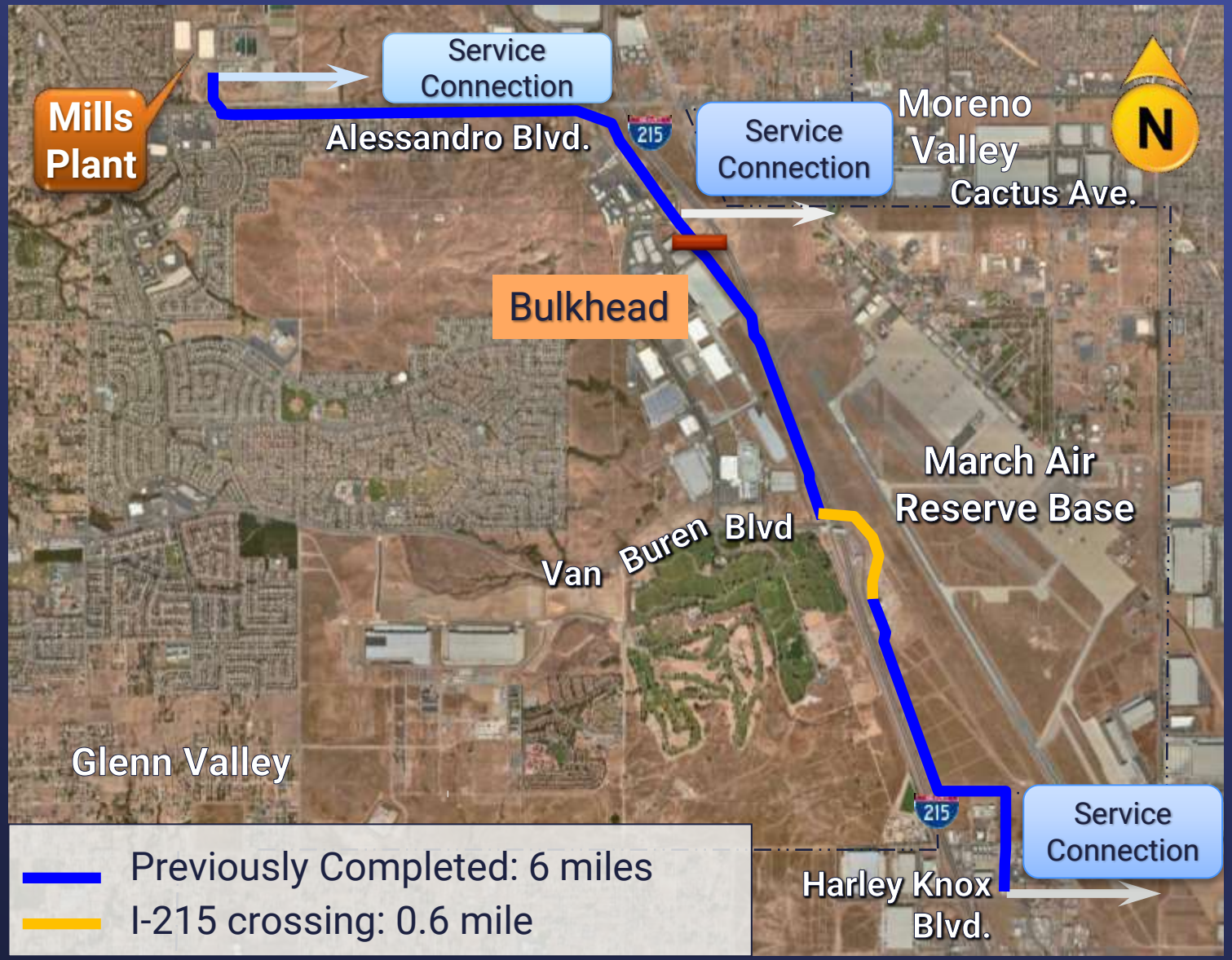
Engineering Services

Engineering's Mentoring Program

- Program launched in 2013
- Matched over 300 pairs of Mentees/Mentors
- Provides opportunities for professional growth, networking, advice and guidance
- Utilize MentorLead cloud-based software expert guidance

Engineering Mentoring Program Resource Table at Metropolitan's Inaugural Workforce Development Summit on May 1, 2025 (Jean Ha Kushi and Linda Skinner)

Perris Valley Pipeline Overview



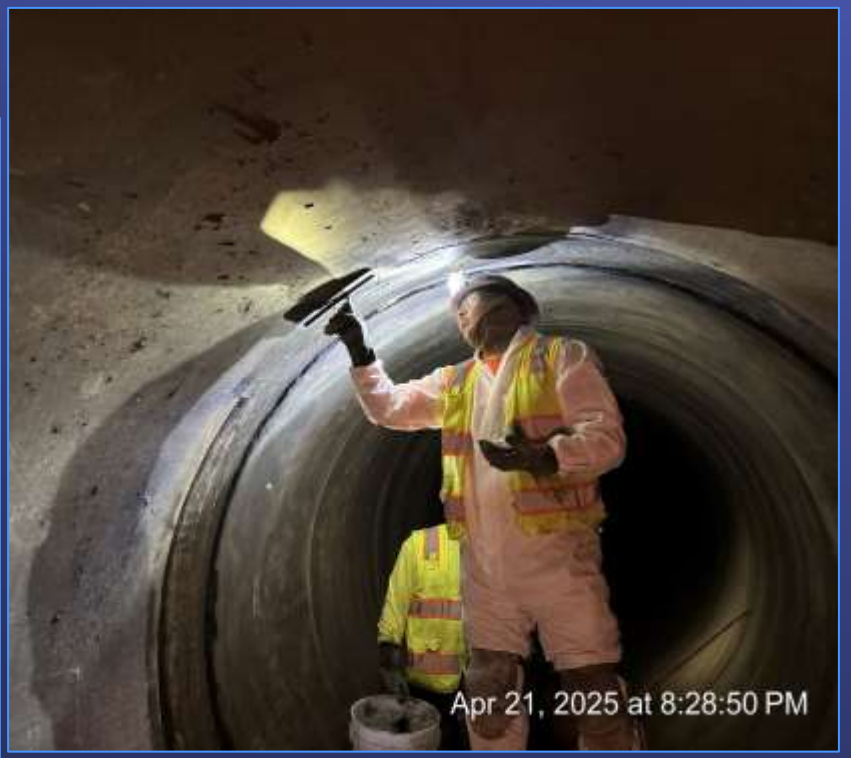
Perris Valley Pipeline – Challenging Construction Completed

Perris Valley Pipeline Project – Shutdown Work Completed

- Construction Contract - $59.5 M
  - Bulkhead removed
  - Overall - 95% complete
  - Expected project completion –July 2025

Tunnel Boring Machine

Welder Cutting Bulkhead



Applying Cement Mortar Lining

Second Lower Feeder PCCP Rehabilitation Reach 3B

- Construction Contract - $ 68.9 M
- Progress
  - All shutdown work completed
  - Relined 3.6 miles of PCCP
  - Replaced three 48-inch sectionalizing valves
- Overall - 94% complete
- Expected completion – Fall 2025

Actuator Installation

Valve Installation

Water System Operations

Managing State Water Project Supplies

Current Operational Conditions

Deliveries to USG-03

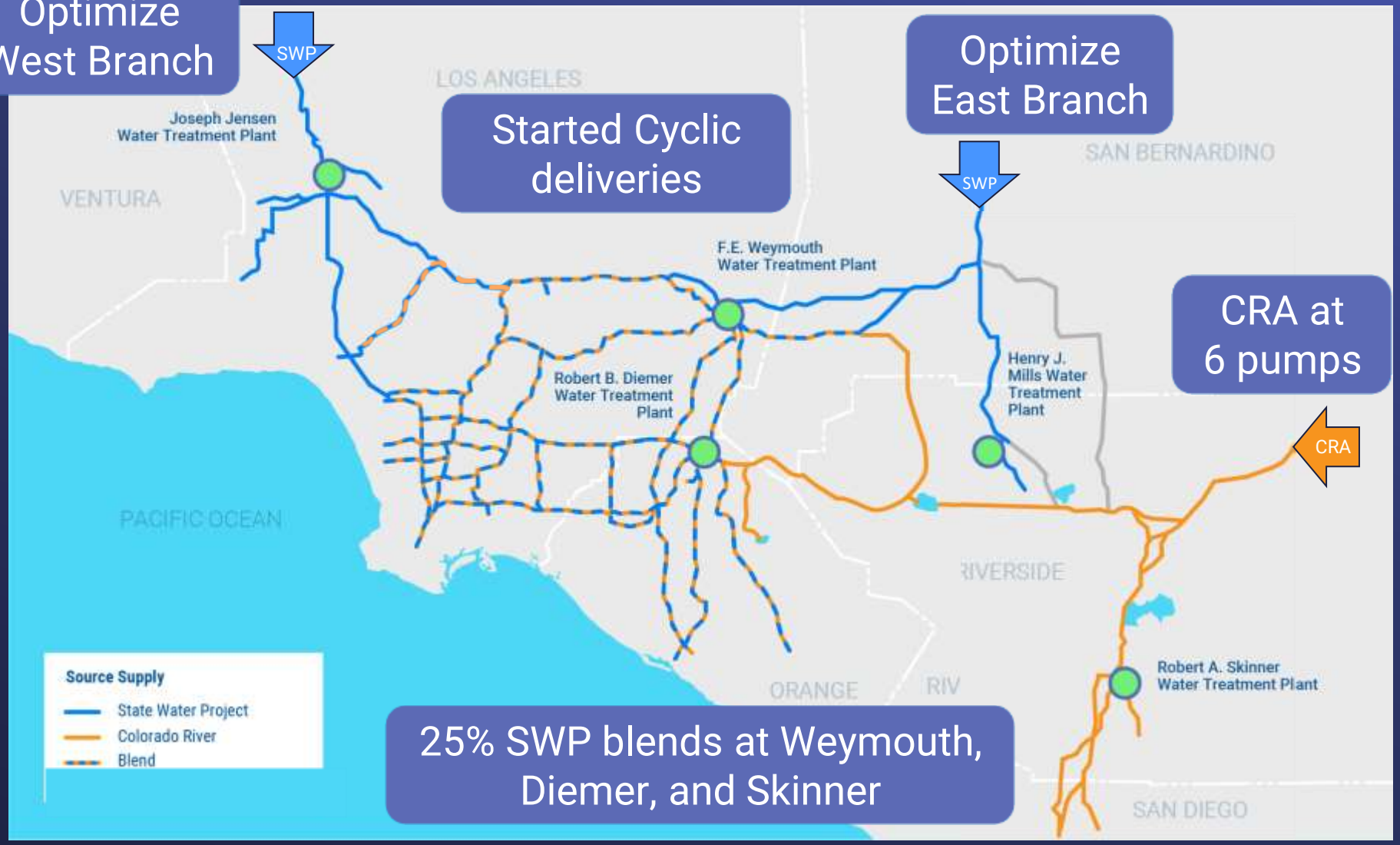
- 2025 SWP Allocation at 50%
- CRA at 6 pump flow
- Deliveries to DWCV at 630 cfs and continue to ramp up
- Deliveries to Cyclic programs
- SWP blend targets are 25% at Weymouth, Diemer, and Skinner
- April 2025 deliveries were 124 TAF, which is 48 TAF higher than April 2024

Managing State Water Project Supplies

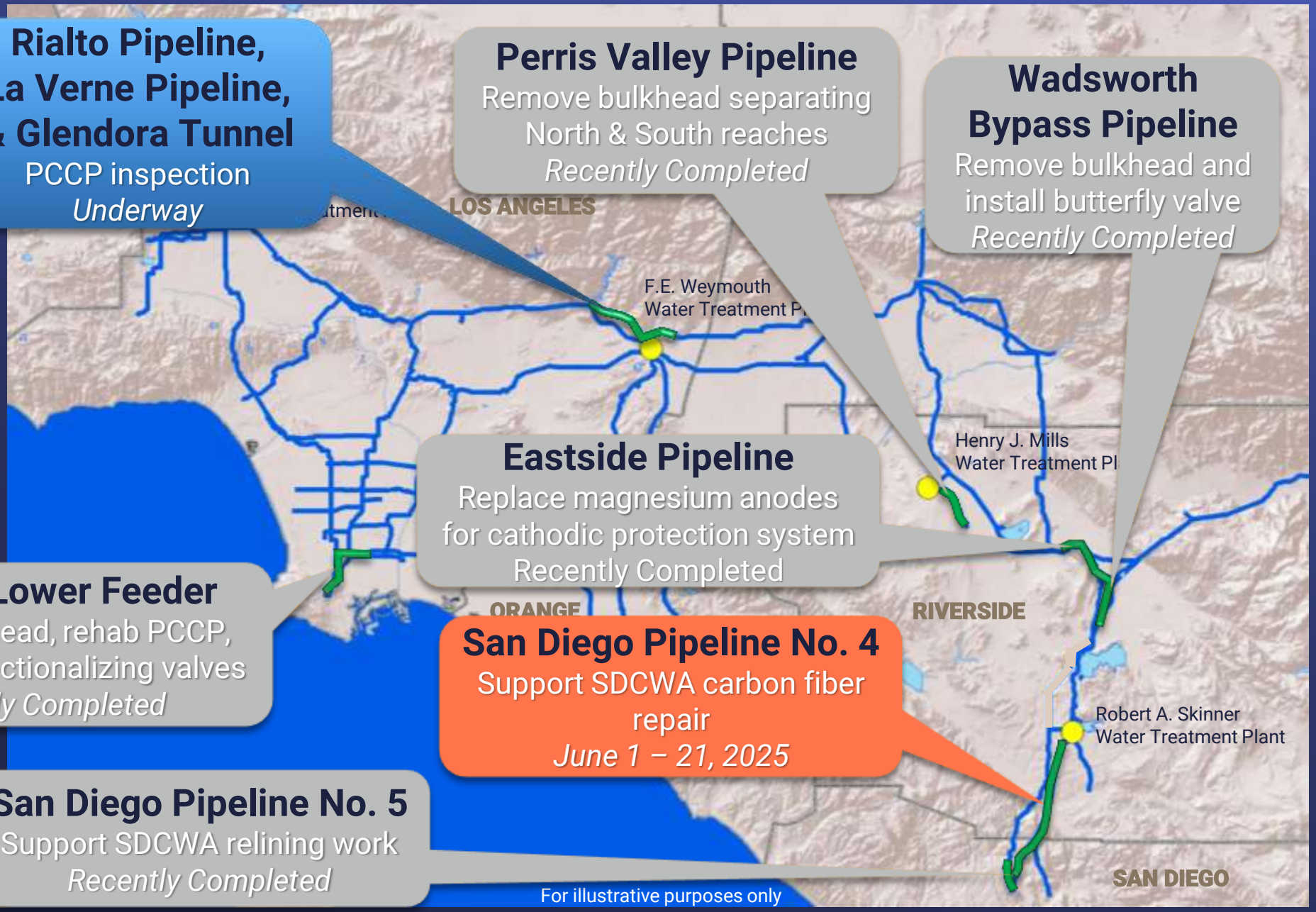
May 2025 Operations

Increasing SWP supplies with improving conditions

Ramped up pumps on CRA



Ensuring Continued System Reliability



Excellence through Collaboration

April 29-30, 2025

DWR and MWD La Verne / CRA Inspection Trip

Facility Tours and Information Exchange

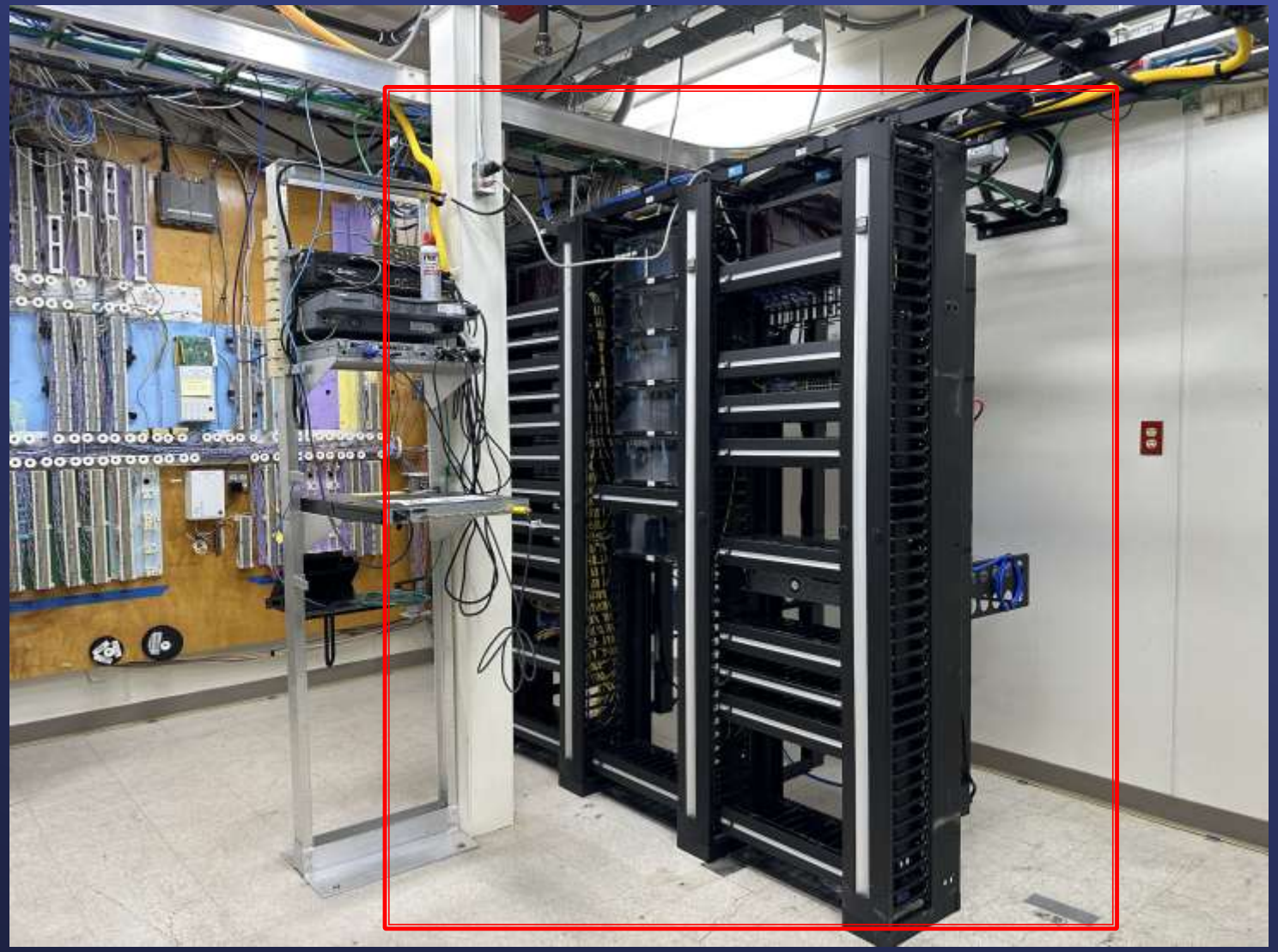
Information Technology

New Fiber Service at Gene Camp

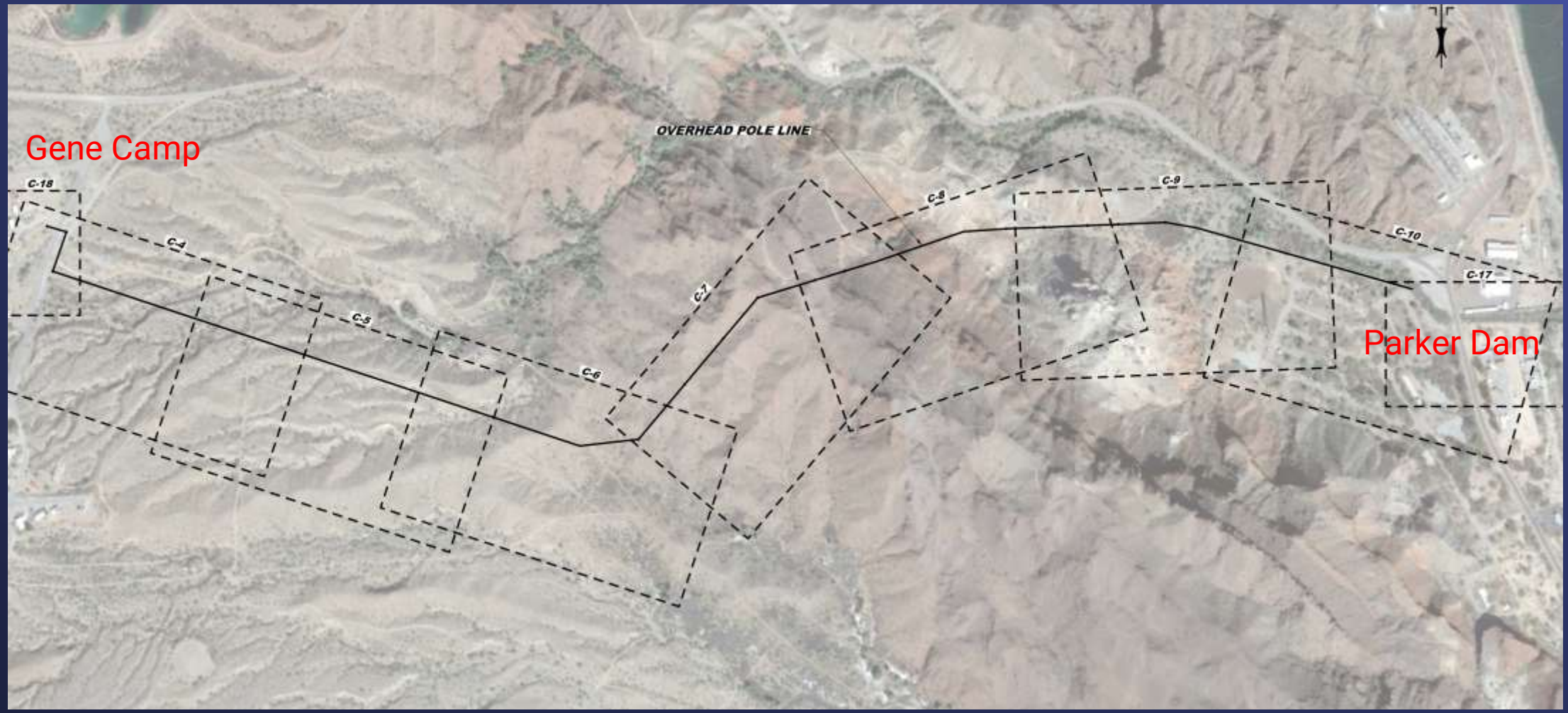
- New fiber service has been activated at Gene Camp to support our business applications
- Supported applications include physical security systems, two-way radio, VoIP/911, SCADA, and the internet
- Improvements to the Desert region will continue as we transition from microwave technology to fiber services, serving as our primary communication channel
- Additional analysis will be conducted to determine potential new features that the fiber services will enable

- Before/after speed test results:

New Network Racks at Gene Camp Admin Building



New Overhead Fiber Path Between Gene Camp and Parker Dam




THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928