

The Metropolitan Water District of Southern California

Agenda

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

EOT Committee

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

Engineering, Operations, and Technology Committee - Final - Revised

1

Meeting with Board of Directors *

February 10, 2025

9:00 a.m.

Agendas, live streaming, meeting schedules, and other board materials are available here:

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

If you have technical difficulties with the live streaming page, a listen-only phone line is available at 1-877-853-5257; enter meeting ID: 862 4397 5848.

Members of the public may present their comments to the Board on matters within their jurisdiction as listed on the agenda via in-person or teleconference. To participate via teleconference 1-833-548-0276 and enter meeting ID: 815 2066 4276 or to join by computer [click here](#).

**Monday, February 10, 2025
Meeting Schedule**

**09:00 a.m. EOT
11:00 a.m. LEG
12:00 p.m. Break
12:30 p.m. EOP
03:00 p.m. OWS**

MWD Headquarters Building • 700 N. Alameda Street • Los Angeles, CA 90012

* 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 January 13, 2025 (Copies have been submitted to each Director, any additions, corrections, or omissions) [21-4209](#)

Attachments: [02102025 EOT 2A \(01132025\) Minutes](#)

3. CONSENT CALENDAR ITEMS - ACTION

- 7-1 Award a \$2,556,478.19 construction contract to MasTec Network Solutions LLC for upgrades to the Desert microwave communications system; award a \$1,531,044 procurement contract to Logicalis Inc. for communications sites network equipment; authorize an increase of \$591,000 to an existing agreement with Nokia of America Corporation, for a new not to exceed amount of \$5,888,000 for network materials and manufacturer's field services; and authorize an increase of \$680,000 to an existing agreement with Hatfield & Dawson Consulting Engineers LLC, for a new not to exceed amount of \$1,410,000 to provide technical support during construction; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA [21-4194](#)

Attachments: [02112025 EOT 7-1 B-L](#)
[02102025 EOT 7-1 Presentation](#)

- 7-2 Award a \$1,931,217 contract to Fencecorp Inc. for perimeter fencing at the housing and playground areas and playground area shade improvements at four Colorado River Aqueduct Pumping Plant villages; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA [21-4195](#)

Attachments: [02112025 EOT 7-2 B-L](#)
[02102025 EOT 7-2 Presentation](#)

- 7-3 Authorize an agreement with Computer Aid, Inc. in an amount not to exceed \$6 million for co-managed support services for the operation and maintenance of the Metropolitan Cybersecurity Operations Center; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. [REVISED SUBJECT 2/4/2025] [21-4196](#)

Attachments: [02112025 EOT 7-3 B-L \(Revised\)](#)
[02102025 EOT 7-3 Presentation](#)

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

4. OTHER BOARD ITEMS - ACTION

NONE

5. BOARD INFORMATION ITEMS

NONE

6. COMMITTEE ITEMS

- a. Metropolitan's Emergency Response to January 2025 Wildfires. [21-4291](#)
[ADDED ITEM 1/29/2025]

Attachments: [02102025 EOT 6a Presentation](#)

- b. Power Operations and Planning Update [21-4211](#)

Attachments: [02102025 EOT 6b Presentation](#)

7. MANAGEMENT ANNOUNCEMENTS AND HIGHLIGHTS

- a. Engineering Services activities [21-4213](#)
Information Technology activities
Water System Operations activities

Attachments: [02102025 EOT 7a Engineering Services Activities](#)
[02102025 EOT 7a Information Technology Activities](#)
[02102025 EOT 7a Water System Operations Activities](#)
[02102025 EOT 7a Presentation](#)

8. SUBCOMMITTEE REPORTS AND DISCUSSION

- a. Discuss and provide direction to Subcommittee on Pure Water Southern California and Regional Conveyance [21-4214](#)

9. FOLLOW-UP ITEMS

NONE

10. FUTURE AGENDA ITEMS

11. ADJOURNMENT

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

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

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

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

MINUTES

ENGINEERING, OPERATIONS & TECHNOLOGY COMMITTEE

January 13, 2025

Chair Erdman called the teleconference meeting to order at 9:01 a.m.

Members present: Chair Erdman, Directors Alvarez, Bryant, Camacho, Dennstedt, Faessel, Fong-Sakai, McMillan (entered after roll call), Miller, Morris, Petersen, and Seckel.

Members absent: Director Crawford.

Other Board members present: Directors Ackerman, Armstrong, Cordero, DeJesus, Dick, Fellow, Garza, Goldberg, Gray, Katz, Kurtz, Luna, Ortega, Phan, Pressman, Ramos, and Sutley.

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

1. OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE COMMITTEE ON MATTERS WITHIN THE COMMITTEE'S JURISDICTION

None

CONSENT CALENDAR ITEMS -- ACTION

2. CONSENT CALENDAR OTHER ITEMS - ACTION

A. Approval of the Minutes of the Engineering, Operations, and Technology Committee for December 9, 2024.

3. CONSENT CALENDAR ITEMS - ACTION

- 7-1** Subject: Authorize an increase of \$5.55 million to an agreement with Arcadis U.S. Inc. for a new not-to-exceed total amount of \$7.55 million for final design to rehabilitate the finished water reservoirs at the Henry J. Mills and Joseph Jensen Water Treatment Plants; 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 increase of \$5.55 million to an agreement with Arcadis U.S. Inc. for a new not-to-exceed amount of \$7.55 million for final design to rehabilitate the finished water reservoirs at the Henry J. Mills and Joseph Jensen Water Treatment Plants.

Director Morris made a motion, seconded by Director Seckel, to approve the consent calendar consisting of items 2A and 7-1 option 1.

The vote was:

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

The motion passed by a vote of 12 ayes, 0 noes, 0 abstentions, and 2 absent.

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

4. OTHER BOARD ITEMS ACTION

None

5. BOARD INFORMATION ITEMS

Chair Erdman recused himself for presentation and discussion for 9-2. Vice Chair Camacho stepped in.

9-2 Subject: Update on the Colorado River Aqueduct High-Voltage Transformers Replacement Project
Presented by: Patrizia Hall, Sr Engineer, C&D Program Management, Engineering Services Group

Ms. Hall reported on the following topics and themes:

- CRA High Voltage Transformers Replacement Project Update
- Construction sequencing, installation plan, update on negotiations, and overview of cost and schedule
- Plan to replace 35 transformers across all five desert pumping plants
- Admin Code 8510 was used to procure the transformers under a “best value” approach: qualifications, technical ability, guaranteed performance, contract terms and condition, and delivery schedule
- Staff plans to finalize contract negotiations with Siemens to achieve overall best value

- Plan to return to the Board in Spring 2025 to award a procurement contract

The following Directors provided comments or asked questions:

- 1 Miller
- 2 Lefevre

Staff responded to the Directors' questions and comments.

McMillan entered the meeting.

6. COMMITTEE ITEMS

- a. Subject: Update on Prestressed Concrete Cylinder Pipe Program
Presented by: Tom Campbell, Unit Manager, C&D Program Management,
Engineering Services Group

Mr. Campbell reported on the following topics and themes:

- Staff implemented the PCCP Rehabilitation program to manage the risk of aging PCCP lines.
- PCCP management strategy includes regular inspection, repair of distressed segments, and planning and executing long-term rehabilitation.
- The north reaches of the Sepulveda Feeder must be relined before the second stage of the Sepulveda Pump Station project is put into service.
- Program budget and schedule

The following Directors provided comments or asked questions:

- 1 Fong Sakai
- 2 Seckel
- 3 Ortega

Staff responded to the Directors' questions and comments.

- b. Subject: Update on Invasive Mussels in the State Water Project
- Presented by: Ying Wu, Team Manager, Reservoir Management Team,
Treatment & Water Quality Group
- Ms. Wu reported on the following topics and themes:
- Metropolitan’s quagga mussel control program for the CRA
 - Discovery of quagga mussels in West Branch of State Water Project and operational impacts
 - Discovery of new invasive golden mussels in the Delta and State Water Project
 - Next steps in Metropolitan’s overall management of invasive mussels

The following Director provided comments or asked questions:

- 1 Dick

Staff responded to the Director’s questions and comments.

- c. Subject: Quarterly Cybersecurity Update [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)]
- Presented by: Closed Session Presentation

7. MANAGEMENT ANNOUNCEMENTS AND HIGHLIGHTS

- a. Subject: Engineering Services activities
Information Technology activities
Water System Operations activities
- Presented by: John Bednarski, Interim Assistant General Manager, Water Resources and Technical Services
Shane Chapman, Assistant General Manager, Operations

Mr. Bednarski reported on the following:

- Staff will update Committee on development of tariffs

Mr. Chapman reported on the following:

- Current operating conditions including modest increase in SWP allocation to 15% allocation
- Efforts to maintain reliable operations at Garvey Reservoir with deteriorating cover at end of its useful life
- Metropolitan’s emergency response to wildfires; detailed report will be provided in February

8. SUBCOMMITTEE REPORTS AND DISCUSSION

- a. There was no discussion or direction to the Subcommittee on Pure Water Southern California and Regional Conveyance.

9. FOLLOW-UP ITEMS

None

10. FUTURE AGENDA ITEMS

None

11. ADJOURNMENT

The next meeting will be held on February 10, 2025.

Meeting adjourned at 10:54 am.

Dennis Erdman
Chair



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

2/11/2025 Board Meeting

7-1

Subject

Award a \$2,556,478.19 construction contract to MasTec Network Solutions LLC for upgrades to the desert microwave communications system; award a \$1,531,044 procurement contract to Logicalis Inc. for communications sites network equipment; authorize an increase of \$591,000 to an existing agreement with Nokia of America Corporation, for a new not-to-exceed amount of \$5,888,000 for network materials and manufacturer's field services; and authorize an increase of \$680,000 to an existing agreement with Hatfield & Dawson Consulting Engineers LLC, for a new not-to-exceed amount of \$1,410,000 to provide technical support during construction; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

Metropolitan's desert region microwave radio communications system spans over 300 miles. It transmits voice, data, video, and supervisory control and data acquisition (SCADA) data between the desert facilities and all other Metropolitan facilities. The existing microwave radios have reliability issues that cause intermittent network communication failures and shortcomings that limit the amount of data reliably transmitted through the communication system.

This action awards a construction contract for upgrades to the desert microwave communications system and a procurement contract for network equipment in support of the microwave system upgrades. This action also amends two existing agreements to provide manufacturer's field services during construction and specialized technical support during construction. 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

- a. Award a \$2,556,478.19 construction contract to MasTec Network Solutions LLC for upgrades to the desert microwave communication tower sites;
- b. Award a \$1,531,044 procurement contract to Logicalis Inc. for communications site network equipment;
- c. Authorize an increase of \$591,000 to the agreement with Nokia of America Corporation for a new not-to-exceed amount of \$5,888,000 for network materials and manufacturer's field services; and
- d. Authorize an increase of \$680,000 to the agreement with Hatfield & Dawson Consulting Engineers LLC for a new not-to-exceed amount of \$1,410,000 to provide specialized technical support during construction and commissioning.

Fiscal Impact: Expenditure of \$8.3 million in capital funds. All costs will be incurred in the current biennium and have been previously authorized. (The not-to-exceed contract amount for the agreement with Nokia of America

Corporation includes a previously board-authorized amount of \$5.297 million for microwave radio equipment.)

Business Analysis: This option will enhance the reliability of the desert region's communications system, which serves the Colorado River Aqueduct (CRA) facilities and power transmission protection systems.

Option #2

Do not proceed with this project at this time.

Fiscal Impact: None

Business Analysis: This option would extend the present risk of communications failures in the desert region, including the SCADA system. Depending on the failure type, the results can vary from minor communication issues to the inability to monitor or control the flow of water, pumps, valves, and flowmeters, which could result in system damage or unplanned CRA outages.

Alternatives Considered

During this project's planning phase, staff examined an alternative of undertaking an in-place rehabilitation of the existing desert microwave radio wireless wide area network (WAN) sites. This alternative would include removing and replacing individual components of the system to upgrade as many of the existing components as possible while leaving in place some of the critical structural elements of the existing systems. Staff determined that the replacement of key components may extend the life of the WAN system for a limited time but would not achieve the long-term rehabilitation goals of the project because many of the 17-year-old components would remain in place. Replacement of the microwave radio WAN equipment also allows for standardizing the systems across the desert region, thus minimizing the capital cost, simplifying maintenance, and improving the interchangeability of parts. It also increases the system's overall reliability, reduces the risk of communications interruptions, and streamlines future system maintenance and operational requirements.

Applicable Policy

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

Metropolitan Administrative Code Section 8140: Competitive Procurement

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

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

By Minute Item 52438, dated July 13, 2021, the Board authorized the procurement of equipment and specialized technical and design support services to upgrade the wide area network for Metropolitan's desert region facilities.

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 is exempt from CEQA because it involves the operation, repair, and maintenance 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 the 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. Finally, the proposed action is exempt from CEQA because it consists of minor public or private alterations in the condition of land, water, and/or vegetation that do not involve the removal of healthy, mature, scenic trees except for forestry or agricultural purposes. (State CEQA Guidelines Sections 15301, 15302, and 15304.)

CEQA determination for Option #2:

None required

Details and Background

Background

Metropolitan's microwave WAN was constructed in the late 1990s and transmits telephone, voice, data, and video communication between all Metropolitan facilities. Critical system data transmitted over the WAN include automated meter readings, security camera video and alarms, high-voltage transmission line tele-protection system communications, and SCADA system data. The WAN also provides staff at remote sites access to email, geographical information systems, Oracle financials, timekeeping, PeopleSoft, and other applications. Many of these systems run 24 hours per day, 7 days per week, as system operators rely on real-time communications to monitor and control Metropolitan's water delivery system.

The WAN presently comprises a network of 72 transmission tower sites throughout Southern California, including 22 in Metropolitan's desert region that support the CRA and its 230 kV electrical power transmission system. Along the CRA, microwave transmission towers are typically located on hilltops 20 to 50 miles apart. Microwave radio relays transmit signals between two locations on a line-of-sight radio path to provide point-to-point communication links along a network of paths that extend nearly 300 miles. Each transmission site typically has a steel lattice tower and a small communication building nearby. Directional antennas, which receive and transmit signals, are mounted on the tower and feed signals to the microwave radio and network equipment housed in the communication building. Fiber optic cables carry signals between the network equipment in the communication building and a nearby worksite or facility.

Metropolitan's microwave radio WAN is approaching the end of its useful service life. Typical life expectancy for microwave radios ranges from 12 to 15 years, and Metropolitan's equipment was last updated in 2007. Reliability issues are causing intermittent network communication failures in the desert portion of the radio WAN system. Additionally, the existing microwave radio WAN does not provide carrier-grade transmission capabilities, a shortcoming that limits the amount of data reliably transmitted through the communication system. Finally, given the lack of private internet service providers along the CRA's remote and isolated facilities, Metropolitan's WAN is this region's primary, and in some cases, the sole data transmission and electronic communications system. A malfunction of a single tower along the desert region WAN can disrupt communications to all desert facilities.

The Desert Microwave Tower Sites Upgrade project will not only replace outdated and obsolete microwave radio equipment with higher capacity ones but will also upgrade the system with a connection to a privately-owned communications site in Las Vegas, Nevada (the SUPERNAP site), that will tie the northeastern end of the WAN system to commercial internet service, thereby providing system redundancy. In addition, all desert region microwave towers will be upgraded with two antennas instead of one, providing additional signal strength. Metropolitan has reserved a radio frequency license from the Federal Communications Commission; the license requires that the system be brought online by April 2026. Design for this project is complete, Metropolitan-furnished equipment that will be installed by the contractor has been fabricated, and staff recommends upgrading the desert microwave system at this time.

Desert Microwave Tower Sites Upgrade – Construction

This project will upgrade microwave radio and network equipment at 22 existing communications sites throughout the desert for increased system reliability and extend the WAN to one new communication site in Las Vegas, Nevada, for system redundancy. Contractor work entails upgrades at the 22 existing communications sites, including demolition of existing equipment and installation of Metropolitan-furnished microwave radios, antennas, feedhorns, and waveguides; and installation of a Metropolitan-furnished standby generator at the Camino communications site. Metropolitan forces will install microwave radio equipment at two sites: the new SUPERNAP site and one of the existing communications sites. They will also install new network equipment, such as routers and switches, at all 23 communications sites to interface the new radio equipment with existing communications lines.

A total of \$8.3 million is allocated for this work. Allocated contract work includes \$2,556,478.19 for installation of network equipment; \$1,531,044 for Logicalis Inc. for furnishing network equipment, including estimated sales tax; \$591,000 for Nokia of America Corporation (Nokia) for equipment and manufacturer's field services, and \$680,000 for Hatfield & Dawson Consulting Engineers LLC (H&D), for technical support during construction, as described below; and \$253,000 for Lee & Ro Inc. under an existing board-authorized on-call agreement for engineering support during construction and preparation of record drawings. Allocated funds for work by Metropolitan staff include: \$1,049,000 for Metropolitan force work; \$478,000 for submittal review and preparation of record drawings; \$451,000 for construction management and inspection; \$628,000 for contract administration, environmental support, and project management, and \$82,477.81 for remaining budget.

Attachment 1 shows the allocation of the required funds.

Award of Construction Contract (MasTec Network Solutions LLC)

Specification No. 2062 to upgrade the Desert microwave communication tower sites was advertised for bids on October 17, 2024. As shown in **Attachment 2**, one bid was received and opened on January 14, 2025. The sole bid from MasTec Network Solutions LLC, in the amount of \$2,556,478.19, complies with the requirements of the specifications. The engineer's estimate for this project was approximately \$3,160,000. Staff attributes the lone bid to a limited pool of qualified contractors, the remote location, and the need for contractor licenses from multiple states. For this contract, Metropolitan established a Small Business Enterprise participation level of 20 percent of the bid amount. MasTec Network Solutions LLC has agreed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**.

This action awards a \$2,556,478.19 contract to MasTec Network Solutions LLC for the installation of new Metropolitan-furnished microwave radio equipment at 22 communications sites throughout the desert region; installation of a new Metropolitan-furnished 36 kW standby generator; and a new contractor-furnished 1,000-gallon propane tank at the Camino communications site. 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 greater than \$3 million is 15 percent. For this project, the performance metric for inspection is 4.7 percent. The total construction cost (\$9,642,398), includes the network equipment installation contract (\$2,556,478), communications site network equipment (\$1,531,044), Metropolitan force construction (\$1,049,000), and previously procured microwave equipment (\$4,505,876).

Award of Procurement Contract (Logicalis Inc.)

Metropolitan initiated the procurement for the network equipment under Metropolitan Administrative Code Section 8140(1)(I), which allows Metropolitan to "piggyback" (i.e., gain access to) contracts established by other public agencies that substantially follow Metropolitan's own competitive procurement process. As the lead agency in 2019, the State of Utah Division of Purchasing & General Services completed a competitive request for proposals for Data Communications Products & Services. Currently, 32 states participate in this cooperative purchasing program, known as the National Association of State Procurement Officials (NASPO) ValuePoint Cooperative Purchasing Program for Data Communications Products & Services (Master Contract Number AR3227), including the State of California. Metropolitan's Office of the General Counsel has determined that the competitive process under which this contract was established substantially complies with Metropolitan's competitive procurement process.

Metropolitan utilized the NASPO contract to obtain discounts for network equipment through further competition by soliciting pricing from six authorized distributors identified in Master Contract Number AR3227. Out of the six firms invited to participate, two responses were received: from ConvergeOne Inc. and from Logicalis Inc. Staff has compared the submitted prices under this contract and determined Logicalis Inc. provided the best pricing.

This action authorizes a \$1,531,044 procurement contract, including estimated sales tax, to Logicalis Inc. under the State of California Participating Addendum Number 7-20-70-47-01 Utah NASPO ValuePoint Master

Agreement Number AR3227 to furnish Cisco network equipment including, but not limited to, routers, switches, and software licenses for communications system upgrades to all 23 desert region WAN communications sites.

Manufacturer's Field Services (Nokia of America Corporation) – Amendment to Existing Agreement

In July 2021, Metropolitan's Board awarded a \$5.297 million procurement and design support agreement with Nokia for new microwave radio equipment and design support for the desert WAN. Nokia equipment and services were procured under Metropolitan Administrative Code Section 8140(1)(1), allowing Metropolitan to access contracts established by other public agencies that substantially follow Metropolitan's competitive procurement process. The new equipment has been delivered, and services have been provided per the original agreement. Staff recommends amending the agreement with Nokia to cover manufacturer's field services during installation.

During construction, Nokia will provide start-up, cutover, and commissioning services for Nokia network router devices. This action authorizes an increase of \$591,000 (\$150,000 for additional network materials and \$441,000 for manufacturer's field support services) to an existing agreement with Nokia for a new not-to-exceed total of \$5,888,000. For this agreement, Metropolitan has not established a Small Business Enterprise participation level. There are no subconsultants planned for this work.

Specialized Technical Support (Hatfield & Dawson Consulting Engineers LLC) – Amendment to Existing Agreement

This action authorizes an increase of \$680,000 to an existing agreement with H&D for a new not-to-exceed total of \$1,410,000 to provide technical support services during construction. H&D was initially selected through a competitive process via Request for Proposals (RFP) No. 1179. An agreement with H&D was authorized by Metropolitan's Board in January 2019 for an amount not to exceed \$480,000 to assist with design of the desert region microwave radio WAN system upgrades. In July of 2021, Metropolitan's Board authorized an increase to the amount not to exceed from \$480,000 to \$730,000 for specialized technical support during the procurement and initial development phase. Amending H&D's contract to provide technical support during construction is consistent with the scope of the original RFP.

During construction, H&D will oversee the installation and review final microwave performance tests by the contractor, perform quality assurance tasks, and provide recommendations to resolve problems and field test failures. This work is highly specialized, and Metropolitan has insufficient technical staff in-house to perform this work. For this agreement, Metropolitan has not established a Small Business Enterprise participation level.

Project Milestone

February 2026 – Completion of construction



Mai Hattar
Interim Chief Engineer
Engineering Services

2/3/2025
Date



Deven Upadhyay
General Manager

2/3/2025
Date

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Ref# es12699201

Allocation of Funds for Desert Microwave Tower Sites Upgrade

	Current Board Action (Feb. 2025)
Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	523,000
Submittals Review & Record Drwgs.	478,000
Construction Inspection & Support	451,000
Metropolitan Force Construction	1,049,000
Incidental Expenses	58,000
Professional/Technical Services	
Nokia of America Corporation	591,000
Hatfield & Dawson Consulting Engineers LLC	680,000
Environmental Consultant	47,000
Lee & Ro Inc.	253,000
Contract	
MasTec Network Solutions LLC	2,556,478.19
Logicalis Inc.	1,531,044
Remaining Budget	82,478
Total	\$ 8,300,000.00

The total amount expended to date is approximately \$8.4 million. 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 \$16.7 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on January 14, 2025, at 2:00 P.M.

**Specifications No. 2062
Desert Microwave Tower Sites Upgrade**

The work includes the installation and testing of Metropolitan-furnished microwave radios, antennas, feedhorns, mounts, waveguides, and outdoor enclosures at 23 locations spread across 330 miles; furnishing and installing a power distribution system, a standby generator, 1,000-gallon propane tank, foundation, and fencing; and abatement of materials containing lead and asbestos.

Engineer’s estimate: \$3,160,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
MasTec Network Solutions LLC Coral Gables, FL	\$2,556,478.19	\$1,010,000	40%	Yes

¹ Small Business Enterprise (SBE) participation level established at 20 percent for this contract.

The Metropolitan Water District of Southern California

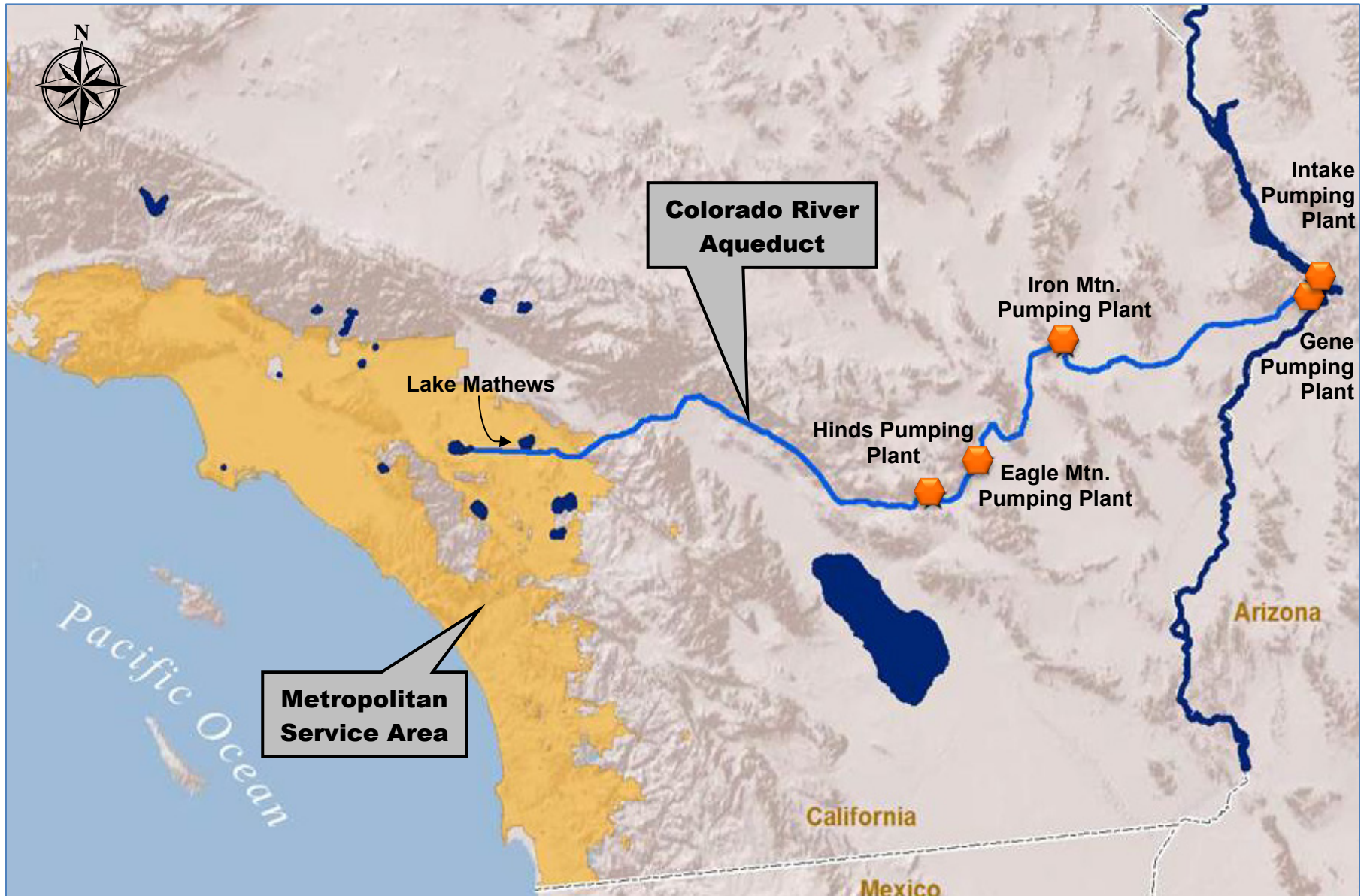
Subcontractors for Low Bidder

**Specifications No. 2062
Desert Microwave Tower Sites Upgrade**

Low bidder: MasTec Network Solutions LLC

Subcontractor	Service Category; Specialty
JJ&S Environmental Services Vista, CA	Asbestos Abatement
RBI Phelan, CA	Civil Work

Location Map





Engineering, Operations, & Technology Committee

Desert Microwave Tower Sites Upgrade

Item 7-1

February 10, 2025

Item 7-1

Desert Microwave Tower Sites Upgrade

Subject

Award a \$2,556,478.19 construction contract to MasTec Network Solutions LLC for upgrades to the desert microwave communications system; award a \$1,531,044 procurement contract to Logicalis Inc. for communications sites network equipment; and amend two agreements for technical support

Purpose

Replace Metropolitan's desert region microwave communication system to enhance the reliability of the communication system, which serves the CRA facilities and power transmission protection systems

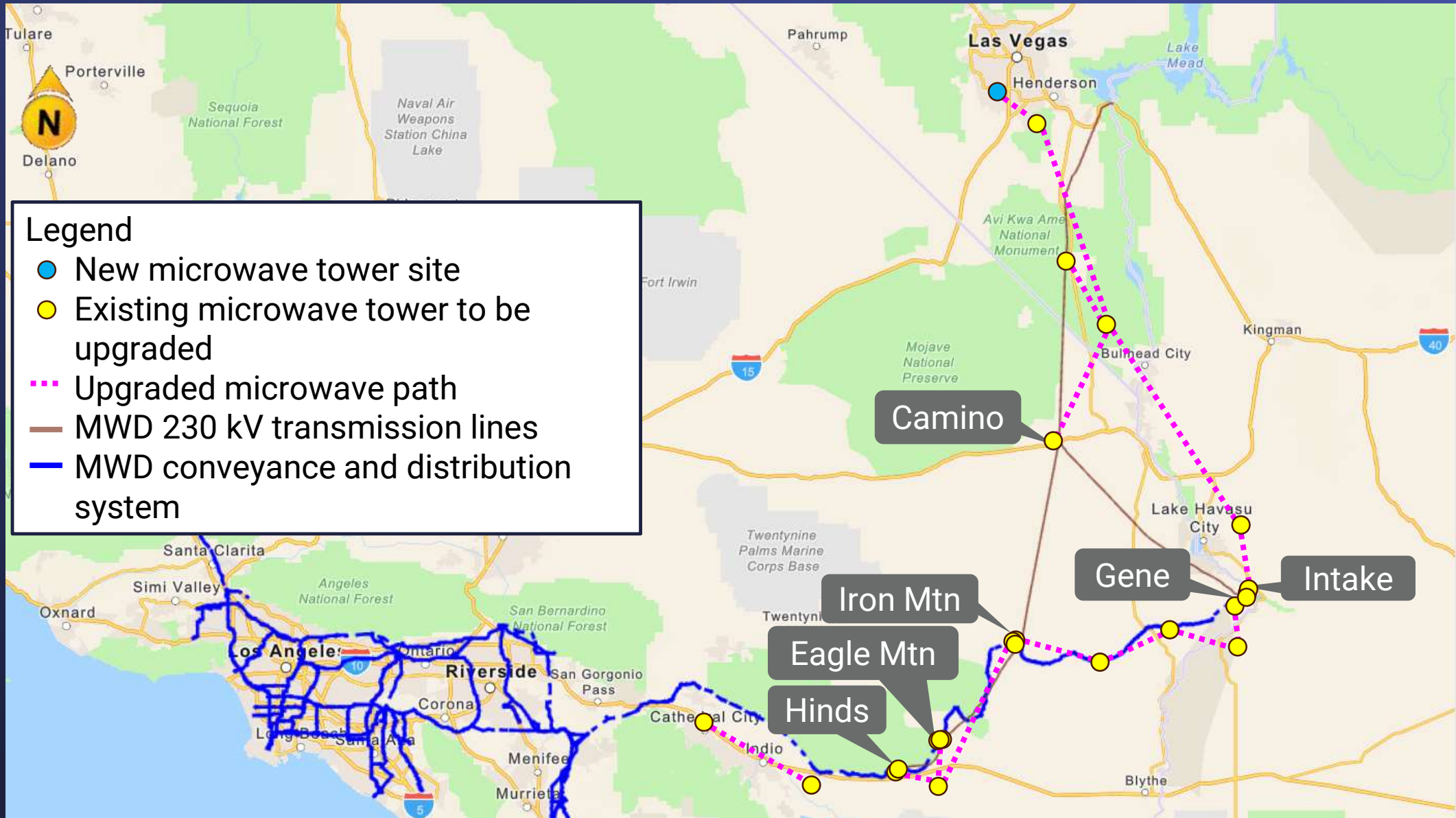
Recommendation and Fiscal Impact

Award the construction and procurement contracts, and amend the existing agreements

Fiscal Impact of \$8.3 M

Budgeted

Location Map



Background

- Microwave radio WAN in service for more than 17 years
 - Backbone for desert communication
 - Provides tele-protection for 230kV system
 - Equipment at end of useful life
- Design & procurement authorized in 2021
- System must be online by April 2026 to meet FCC requirements



Microwave Radio Equipment



Antennas

Desert Microwave Tower Sites Upgrade

Alternatives Considered

- Considered: Remove & replace individual components as they fail
 - Would need to maintain equipment from several manufacturers
 - Replacement parts no longer available
 - Higher risk of communication interruptions
- Selected Alternative: Full replacement
 - Standardizes microwave equipment
 - Simplifies maintenance & operations
 - Reduces risk of communication interruptions

Desert Microwave Tower Sites Upgrade

Scope of Work - Contractor

- Replace current microwave system with a high-capacity carrier-grade system at 22 sites
 - Install antennas, waveguides, & microwave radio equipment
 - Upgrade electrical & power systems as needed

Desert Microwave Tower Sites Upgrade

Scope of Work - Metropolitan

- Install microwave system at one new site and one existing site
- Install Cisco routers & switches, & batteries at 23 sites, & network management system
- Project & construction management
- Contract administration
- Construction support
- Quality assurance & submittal reviews



Cisco Router



Cisco Switch

Bid Results – Microwave Tower Upgrades

Specifications No. 2062

Bids Received	January 14, 2025
No. of Bidders	1
Lowest Responsible Bidder	MasTec Network Solutions LLC
Low Bid	\$2,556,478.19
Engineer's Estimate	\$3,160,000
SBE Participation*	20%

*SBE (Small Business Enterprise) participation level set at 20%

Bid Results – Business Network Equipment

NASPO Value Point Master Agreement No. AR3227

Bids Received	November 6, 2024
No. of Bidders	2
Lowest Responsible Bidder	Logicalis Inc.
Low Bid	\$1,531,044
Other Bid	\$1,745,264
Scope	Procure business network equipment including, routers & switches, for all 23 communication sites

Desert Microwave Tower Sites Upgrade

Nokia of America Corporation – Agreement Amendment

- Scope of Work
 - Waveguides, spare parts, & other ancillary materials
 - Manufacturer's field services
- Amendment amount: \$591,000
- New NTE amount: \$5,888,000

Desert Microwave Tower Sites Upgrade

Hatfield & Dawson Consulting Engineers LLC – Agreement Amendment

- Scope of Work
 - Assist in installation oversight
 - Review microwave performance tests
 - Perform quality assurance
- Amendment amount: \$680,000
- New NTE amount: \$1,410,000

Allocation of Funds

Desert Microwave Tower Sites Upgrade

Metropolitan Labor

Owner Costs (Proj. Mgmt., Contract Admin., Envir.)	\$	523,000
Construction Inspection & Support		451,000
Force Construction		1,049,000
Submittals Review, Tech. Support, Record Dwgs.		478,000

Incidentals

58,000

Contracts

MasTec Network Solutions LLC		2,556,478
Logicalis Inc.		1,531,044
Hatfield & Dawson Consulting Engineers LLC		680,000
Nokia of America Corporation		591,000
Lee & Ro Inc. and Environmental Consultant		300,000

Remaining Budget

82,478

Total \$ 8,300,000

Project Schedule



Board Options

- Option #1
 - a. Award a \$2,556,478.19 construction contract to MasTec Network Solutions LLC for upgrades to the desert microwave communication tower sites;
 - b. Award a \$1,531,044 procurement contract to Logicalis Inc. for communications site network equipment;
 - c. Authorize an increase of \$591,000 to the agreement with Nokia of America Corporation, for a new not-to-exceed amount of \$5,888,000 for network materials and manufacturer's field services; and
 - d. Authorize an increase of \$680,000 to the agreement with Hatfield & Dawson Consulting Engineers LLC for a new not-to-exceed amount of \$1,410,000 to provide specialized technical support during construction and commissioning.

Board Options

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

Staff Recommendation

- Option #1





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

2/11/2025 Board Meeting

7-2

Subject

Award a \$1,931,217 contract to Fencecorp Inc. for perimeter fencing at the housing and playground areas and playground area shade improvements at four Colorado River Aqueduct Pumping Plant villages; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

Metropolitan maintains employee housing, kitchens, and short-term lodging facilities at the Colorado River Aqueduct (CRA) pumping plant villages. These facilities are showing signs of deterioration and require replacement. In response, Metropolitan has initiated an improvement program for the CRA pumping plant villages that will be completed in multiple stages. In November 2024, the Board approved an agreement amendment for design and architectural services for Stage 1 improvements of the District Housing and Property Improvements Program. As an interim measure to ensure clean and safe living conditions at the CRA villages while the multi-stage program is being implemented, a Desert Housing and Recreation Interim Action Plan (DHRIAP) was initiated and focuses on making various near-term improvements at the four villages. As part of the DHRIAP, 68 houses have been identified for the installation of perimeter fencing, and three playground areas have been identified for the installation of both perimeter fencing and shade structure improvements.

This action awards a \$1,931,217 construction contract for the installation of perimeter fencing at 68 houses and three playground areas, as well as the addition of shade structures at three playground areas, within four CRA pumping plant villages. 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 \$1,931,217 contract to Fencecorp. Inc. for perimeter fencing for housing and playground areas and shade improvements for the playground area at four CRA pumping plant villages.

Fiscal Impact: Expenditure of \$2,800,000 in capital funds. All costs will be incurred in the current biennium and have been previously authorized.

Business Analysis: This option will preserve Metropolitan assets and maintain an appropriate standard of living for staff stationed at Metropolitan's desert facilities.

Option #2

Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: This option would forgo an opportunity to preserve Metropolitan assets at the desert facilities.

Alternatives Considered

Alternatives considered for completing the fencing and shade structure improvements included the work within the Desert Housing and Recreation Improvement Project. However, the work involves rehabilitation of existing facilities and can be completed expeditiously at this time. In addition, moving forward with this work now addresses the immediate needs of employees working at the desert facilities.

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 52179, dated November 10, 2020, the Board authorized preparation of conceptual master plan and to conduct property assessments for District housing.

By Minute Item 52381, dated May 11, 2021, the Board authorized two new agreements for environmental documentation and geotechnical services in support of the District Housing and Property Improvements.

By Minute Item 52448, dated July 13, 2021, the Board authorized an increase to an agreement with Roesling Nakamura Terada Architects for preliminary design and architectural services in support of the District Housing and Property Improvements.

By Minute Item 52980, dated September 13, 2022, the Board authorized an increase to an agreement with Roesling Nakamura Terada Architects for final design and architectural services in support of the District Housing and Property Improvements.

By Minute Item 53598, dated April 8, 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.

Board Informational Item 9-2, dated July 9, 2024, transmitted the final report from the community planner on the District Housing and Property Improvement Program.

By Minute Item 53788, dated September 10, 2024, the Board awarded a \$1,285,000 contract to Resource Environmental Incorporated for abatement and roof replacement on houses at four Colorado River Aqueduct Pumping Plant villages.

Board Informational Item 6a, dated October 7, 2024, recommended implementing the new CRA housing strategy in four stages.

By Minute Item 53843, dated November 19, 2024, the Board authorized an increase to an agreement with Roesling Nakamura Terada Architects to provide design and architectural services for Stage 1 improvements of the District Housing and Property Improvements Program.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is exempt from CEQA because it involves the operation, repair, maintenance, or minor alteration of existing public structures or facilities 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 Section 15301 and 15303.)

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 in Riverside County. The CRA includes five pumping plants that are in remote, isolated areas of the California desert. The aqueduct system was constructed in the late 1930s and was placed into service in 1941. Since the CRA's inception, Metropolitan has provided lodging or housing to employees involved in the construction, operation, and maintenance of the aqueduct system. Due to the remoteness of the pumping plants, providing housing ensures that staff can respond to emergency events in a timely manner.

Houses, kitchens, and short-term lodging were initially constructed at the CRA pumping plants in the early 1940s. The expansion of the CRA's capacity in the 1950s led to the construction of additional houses. Metropolitan has performed routine maintenance on each of these facilities since they were built, but, following decades of continuous use and exposure to the harsh desert environment, the houses have deteriorated and need replacement. Replacement of these houses, coupled with the development of multiple enhancement features across Metropolitan's CRA pumping plants villages, will provide for employee retention, create an attraction for future employees, and help create a vibrant, healthy, and sustainable community.

In November 2024, the Board approved an agreement amendment for design and architectural services to proceed with Stage 1 of a multi-stage implementation plan to improve employee housing. Stage 1 of the program will: (1) construct eight new 750-square foot townhomes comprised of 1-bedroom and 1-bath at each of the three villages for a total of 24 townhomes; (2) upgrade the existing kitchens and lodges at Eagle Mountain and Iron Mountain; (3) construct a second guest lodge at Gene Pumping Plant; (4) construct three 350-square foot rooms at Hinds village for staff working standby shifts; and (5) provide amenity packages at Eagle Mountain and Iron Mountain villages.

In the interim, to ensure the current housing is clean and safe for the residents while the longer-term efforts are underway, a Housing and Recreation Committee was established in September 2022 consisting of representatives from the Office of the General Manager, Facilities Management, Diversity, Equity and Inclusion, and Water System Operations. After meeting with residents and gathering feedback on immediate housing and recreational needs, the committee initiated the DHRIAP, which consisted of 28 projects with an estimated cost of \$10,000,000. This plan focuses on implementing short-term enhancements to improve living conditions at the desert facilities. Improvements include (1) shade structures for parked vehicles and playgrounds; (2) fencing at homes to improve privacy; (3) installation of air conditioning units for garages; (4) stand-alone freezers for houses to store food for the residents and their families; (5) housing improvements such as roof replacement, kitchen, and bathroom remodeling; and (6) housing demolition. The DHRIAP has expanded from 28 to 37 projects, with 65 percent of the work being completed at the present time. The remaining projects are expected to be finished by the third quarter of 2025. The total cost of the DHRIAP improvements is now estimated at \$15,500,000.

As part of the ongoing short-term housing improvements, staff have identified 68 houses across the four CRA villages that require either replacement of deteriorated perimeter fencing or installation of new fencing. These houses are located at Gene Pumping Plant (29), Iron Mtn. Pumping Plant (19), Eagle Mtn. Pumping Plant (12), and Hinds Pumping Plant (11). Additionally, three playground areas, one each at Iron Mountain, Eagle Mountain, and Hinds, are not equipped with shade structures to provide adequate projection due to the extreme summer weather conditions. These three playground areas also lack perimeter fencing. Staff recommends moving forward with the perimeter fencing and sunshade structure improvements.

CRA Employee Housing Fencing and Shade Structure Improvements – Construction

The scope of the contract includes the installation of approximately 12,700 feet of six- and four-foot chain link fencing with privacy slats and gates at 68 houses at four pumping plants, as well as shade structure improvements and fencing for three playground areas. The total shade structure area will be approximately 11,000 square feet.

A total of \$2,800,000 is required for this work. In addition to the amount of the contract described below, other allocated funds include: \$290,000 for construction management and inspection; \$190,000 for project management, site support, and contract administration; \$47,000 for submittal reviews and record drawings; \$40,000 for Metropolitan force coordination of work at each house; and \$301,783 for the remaining budget. **Attachment 1** provides the allocation of the required funds.


Award of Construction Contract (Fencecorp Inc.)

Specification No. 2081 for Metropolitan Housing Fencing and Playground Shade Improvements was advertised on October 8, 2024. As shown in **Attachment 2**, two bids were received and opened on December 4, 2024. The low bid from Fencecorp Inc. in the amount of \$1,931,217 complies with the requirements of the specifications. The other bid was \$2,166,500, while the engineer’s estimate for this project was approximately \$2,200,000. For this contract, Metropolitan established a Small Business Enterprise participation level of at least 25 percent of the bid amount. Fencecorp Inc. has agreed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**.

This action awards a \$1,931,217 contract to Fencecorp Inc. for the installation of perimeter fencing at 68 houses and three playground areas; and sunshade structures for three playground areas at four CRA pumping plant villages. As described above, Metropolitan staff will perform construction management and inspection. Engineering Services’ performance metric target range for construction management and inspection of projects with construction less than \$3 million is 9 to 15 percent. For this project, the performance metric goal for inspection is 14.7 percent of the total construction cost of \$1,971,217, which includes the contract cost (\$1,931,217) and Metropolitan force support (\$40,000).

Project Milestone

September 2025 – Completion of construction

 <hr/> Keith Nobriga Group Manager Integrated Operations, Planning, and Support Service	2/3/2025 <hr/> Date
 <hr/> Deven Upadhyay Interim General Manager	2/3/2025 <hr/> Date

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Ref# wso12698667

Allocation of Funds for CRA Fencing and Shade Improvements

	Current Board Action (Feb. 2025)
Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	190,000
Submittals Review & Record Drwgs.	47,000
Construction Inspection & Support	290,000
Metropolitan Force Construction	40,000
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
Fencecorp Inc.	1,931,217
Remaining Budget	301,783
Total	<u>\$ 2,800,000</u>

The total amount expended to date for the Desert Housing and Recreation Interim Action Plan (DHRIAP) is approximately \$8.5 million. The total estimated cost to complete the DHRIAP, including the amount appropriated to date, funds allocated for the work described in this action, and future construction costs, is \$15.5 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on December 4, 2024, at 2:00 P.M.

Specifications No. 2081

Colorado River Aqueduct Employee Housing Fencing and Shade Structure Improvements

The work includes installation of perimeter fencing for 68 houses at four pumping plants, and installation of shade structures and perimeter fencing for three playground areas at three pumping plants.

Engineer’s estimate: \$2,200,000

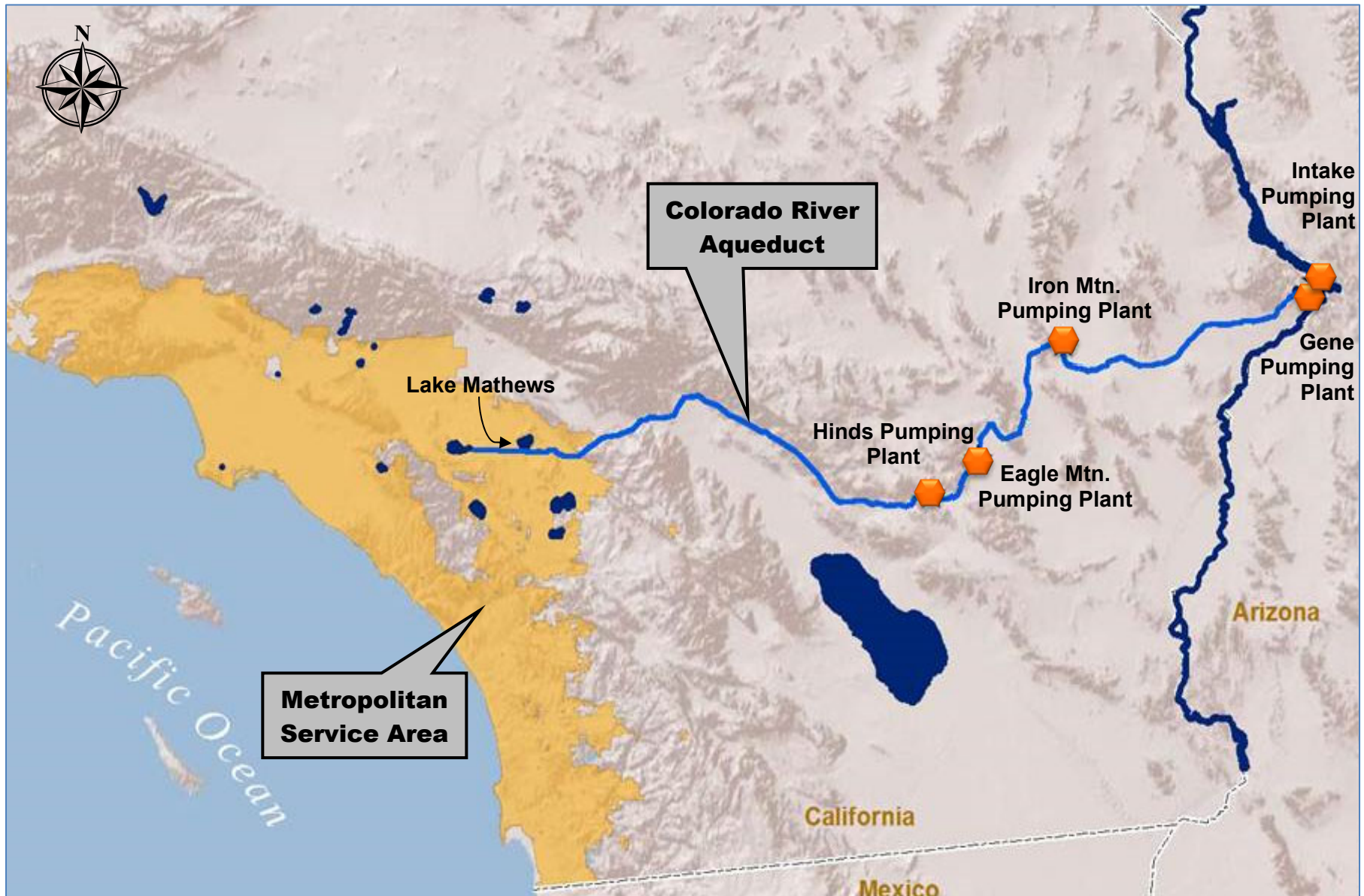
Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
Fencecorp Inc. Fontana, CA	\$1,931,217	\$476,844	25%	Yes
Wakeco Incorporated Temecula, CA	\$2,166,500	-	-	-

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

The Metropolitan Water District of Southern California**Subcontractors for Low Bidder****Specifications No. 2081****CRA Employee Housing Fencing and Playground Shade Improvements****Low bidder: Fencecorp Inc.**

Subcontractor	Service Category; Specialty
Mobile Modular Portable Storage (McGarth Rent Corp)	Field Office
Ultra Engineering Contractors Inc.	Misc. Construction
Underground Solutions, Inc.	Locating Utilities
Zoom Recreation	Shade Sail

Location Map





Engineering, Operations & Technology Committee

Colorado River Aqueduct Housing Fencing and Shade Improvements

Item 7-2

February 10, 2025

Item 7-2

Colorado River Aqueduct Housing Fencing and Shade Improvements

Subject

Award a \$1,931,217 contract to Fencecorp Inc. for perimeter fencing at the housing and playground areas and playground area shade improvements at four Colorado River Aqueduct Pumping Plant villages

Purpose

This action supports the Desert Housing and Recreation Interim Action Plan and includes the installation of perimeter fencing at 68 houses and three playground areas, including the addition of shade structures at three playground areas

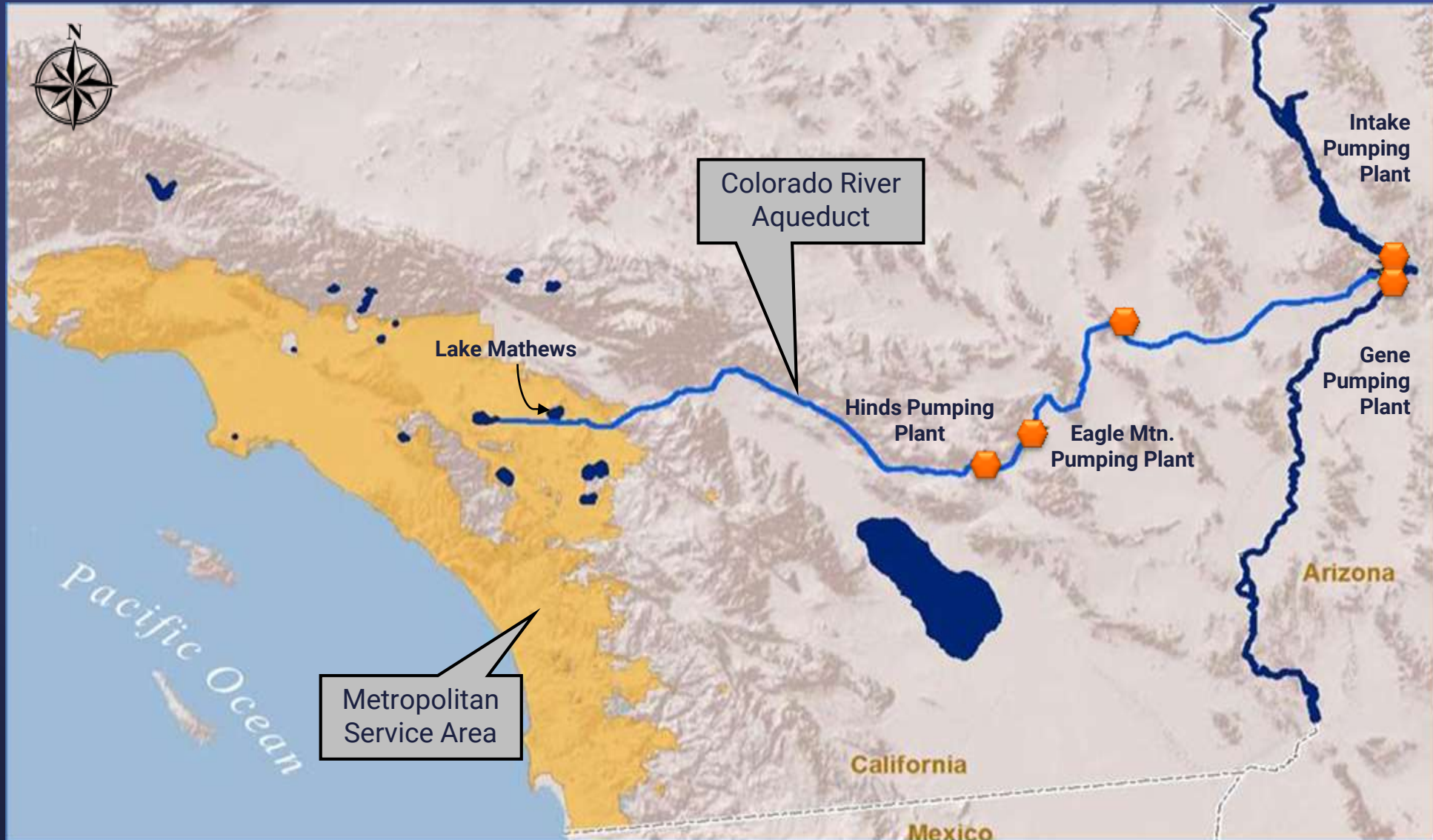
Recommendation and Fiscal Impact

Award a construction contract to perform Colorado River Aqueduct housing improvements

Fiscal Impact of \$2,800,000

Budgeted

Location Map



Committed to Supporting Desert Staff

Background Colorado River Aqueduct Housing & Facility Improvements



Iron Mtn. Lodge &
Kitchen

- Housing provided due to remoteness & timely response
- Houses aging after decades of use in the harsh desert environment
- Two efforts to improve housing are underway
 - District Housing and Property Improvement Program
 - Desert Housing & Recreation Interim Action Plan

Long-term District Housing and Property Improvement Program



Stage 1: Community Planning and Design

- Identify long-term housing options, kitchen, & lodging facilities
- July 2024 - Community planning study completed
- November 2024 Board Action - Agreement Amendment for Design and Architectural services for Stage 1 improvements
 - Townhomes
 - Kitchens and lodges
 - Studio units
 - Village amenities

Desert Housing & Recreation Interim Action Plan

Urgent

Near-term improvements began September 2022



Resident Feedback Session

Housing Improvements

- Refurbishments
- Roof replacements
- Demolition of surplus houses
- Carports
- Eagle Mt. chiller
- **Fencing*

**Today's board action*

Recreation Improvements

- Recreation facilities at each village
- Archery ranges
- Community gardens
- Swimming pool improvements
- **Playground Shade Structures*

Desert Housing & Recreation Interim Action Plan - Work Completed



Resurfaced Sports Courts



Archery Range Shade Structures



Gene Community Center

Desert Housing & Recreation Interim Action Plan - Work Completed



Wellness Center



Carports



Pool Improvements

Desert Housing & Recreation Interim Action Plan - Work Completed



Exterior Paint and Windows



Interior Refurbishment



Bathroom Remodel



Kitchen Remodel

Desert Housing & Recreation Interim Action Plan



Copper Basin House Yard



Copper Basin House Patio

Copper Basin House

- Complete interior & exterior refurbishment
- Utility improvements
- Synthetic turf
- Patio shade (In Progress)

Desert Housing & Recreation Interim Action Plan

Interim Action Plan Summary

- Original scope: 28 projects (\$10 M)
- Revised scope: 37 projects (\$15.5 M)
- Total spend to date: 25 of 37 projects are complete (\$8.5 M)



**THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA**

**DESERT HOUSING AND RECREATION
INTERIM ACTION PLAN (DHRIAP)
SEPTEMBER 2022**

Housing Summary

Pumping Plant	Current Houses	Scheduled Demo	Remaining Houses	New Manufactured Houses*	Refurbishment Complete*	Refurbishment (In Progress)	Refurbishment (Future)
Intake	5	5	0	0	0	0	0
Gene/Copper Basin	43	10	33	2	20	1	10
Iron Mtn.	30	4	26	4	15	3	4
Eagle Mtn.	17	1	16	2	6	1	7
Hinds	13	0	13	3	6	2	2
TOTALS	108	20	88	11	47	7	23

* 58 of 88 houses complete (66% complete)

Desert Housing & Recreation Interim Action Plan

Current Action: Project Scope of Work



Playground Shade Structure and Fencing
(Hinds Village, Eagle Mtn., Iron Mtn.)



Perimeter Fencing w/Privacy Slats
(68 houses)

Scope of Work

- Contractor
 - Installation of fencing and shade structures
- Metropolitan
 - Resident engagement
 - Submittal review
 - Construction management



Sample Structure



Perimeter Fencing with Privacy Slats

Bid Results

Specifications No. 2081

Bids Received	4-Dec-2024
No. of Bidders	2
Lowest Responsible Bidder	Fencecorp Incorporated
Low Bid	\$1,931,217
Other Bid	\$2,166,000
Engineer's Estimate	\$2.2 M
SBE Participation	25%

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

Allocation of Funds

Colorado River Aqueduct Housing Fencing and Shade Improvements

Metropolitan Labor

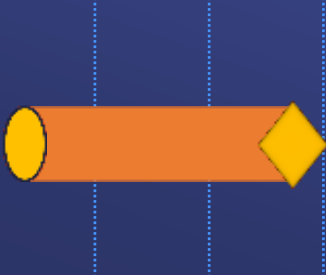












Owner Costs (Proj. Mgmt., Contract Admin., Envir. Support)	\$	190,000
Construction Inspection & Support		290,000
Submittal Review & Tech Support		47,000
Metropolitan Force Construction Support		40,000

Contracts

Fencecorp Inc.		1,931,217
Remaining Budget		301,783

Total	\$	2,800,000
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Project Schedule

Project	2025				
Colorado River Aqueduct Housing Fencing and Sunshade Structures					
<table><tr><td data-bbox="563 782 1009 853"> Construction</td><td data-bbox="1462 782 1933 853"> Board Action</td></tr><tr><td data-bbox="563 886 1009 958"></td><td data-bbox="1462 886 1933 958"> Completion</td></tr></table>		 Construction	 Board Action		 Completion
 Construction	 Board Action				
	 Completion				

Board Options

- Option #1
Award a \$1,931,217 contract to Fencecorp. Inc. for perimeter fencing for housing and playground areas and shade improvements for the playground area at four CRA pumping plant villages.
- Option #2
Do not proceed with the project at this time.

Staff Recommendation

- Option #1





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

2/11/2025 Board Meeting

REVISED 7-3

Subject

Authorize an agreement with Computer Aid, Inc. in an amount not to exceed \$~~5.756~~ million for co-managed support services for the operation and maintenance of the Metropolitan Cybersecurity Operations Center; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

This action awards an agreement for operation and maintenance of Metropolitan's enterprise-wide Cybersecurity Operations Center (CSOC) for a three-year period beginning March 1, 2025, with options to renew for two one-year periods not to exceed five total years on the contract.

The purpose of this contract is to provide continuous cybersecurity threat monitoring, detection, and response capability. Metropolitan safeguards its information and operational technology infrastructure through a combination of cybersecurity services, monitoring, anti-malware technologies, next-generation firewalls, enhanced zero trust access control, and employee awareness education. The electronic security system integrates data from access control, intrusion detection, and anti-malware tools. The CSOC functions 24 hours per day, seven days per week, 365 days per year to detect, identify, contain, and remediate cybersecurity threats to Metropolitan's computers, data, and industrial control systems used to store, treat, and deliver water.

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

Staff Recommendation: Option #1

Option #1

Authorize an agreement with Computer Aid, Inc. (CAI) in an amount not to exceed \$~~5.756~~ million for co-managed support services for the operation and maintenance of the Metropolitan Cybersecurity Operations Center.

Fiscal Impact: Expenditures of \$~~5.756~~ million in Operations and Maintenance (O&M) funds for FY 2024/2025 and 2025/2026

Business Analysis: This option will implement cybersecurity recommendations made by internal staff and the Department of Homeland Security and address cyber threats affecting business computer systems and Supervisory Control and Data Acquisition (SCADA) systems. This all-inclusive approach will comprehensively strengthen Metropolitan's cybersecurity.

Option #2

Do not proceed with the service at this time.

Fiscal Impact: No additional expenditure of O&M funds

Business Analysis: This option would forgo an opportunity to reduce cyber threats and increase information security risks.

Alternatives Considered

Not applicable

Applicable Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

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 53354, dated August 15, 2023, the Board authorized an agreement with Computer Aid in an amount not to exceed \$1,750,000 for staff augmentation support services.

By Minute Item 53749, dated August 20, 2024, the Board authorized an increase of \$875,000 to the existing agreement with Computer Aid to a new not-to-exceed amount of \$2,625,000 for staff augmentation support services.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is exempt from CEQA because there is no potential for the activity in question to have a significant effect on the environment. (State CEQA Guidelines Section 15061(b)(3)).

CEQA determination for Option #2:

None required

Details and Background

Background

Each year, Metropolitan faces hundreds of thousands of attempted compromises to Metropolitan's networks. While Metropolitan's cybersecurity tools block most of these attempts, some attacks have and will continue to succeed to some degree which could result in lost staff hours, costs associated with remediation and temporarily reduced operational capacity. It is conceivable that such threats, if not detected in a timely manner, could possibly have a catastrophic impact on Metropolitan's information and water management systems.

In 2018, Metropolitan started a project to design, construct and implement the operation of a CSOC. The construction of the CSOC facility was finished in March of 2023. Work was completed on the installation and configuration of the underlying technologies needed for the CSOC to perform its functions in November 2022. Prior to the CSOC, there was no ability for Metropolitan to continuously monitor for and respond to cybersecurity threats. However, Metropolitan is not staffed to operate the CSOC, nor is it feasible to hire and retain the skill sets needed under the existing job classifications and pay scales. For the CSOC to operate at the level it was intended, a contracted managed service is required to conduct the continuous operation.

The Cybersecurity Operation Center centrally monitors, detects, analyzes, mitigates, and responds to cyber threats on the Metropolitan Enterprise Information Technology and SCADA systems. For a year and a half, Metropolitan cybersecurity staff, with assistance under a temporary staffing contract, have operated to gather and analyze information from data centers, the disaster recovery facility, workstation networks, physical security, SCADA systems, water operations systems, and field equipment. Data is also collected and analyzed from private and government agencies such as Computer Emergency Readiness Teams and Information Sharing and Analysis Centers. Correlating this data to find suspicious activity can be extremely challenging and often only occurs long after an incident happens.

Metropolitan issued a request for proposals (RFP) in February of 2024 for CSOC co-managed services to continue to meet current staffing requirements and the requirements created by increasingly more sophisticated cyber threats. This is the main purpose of the CSOC co-managed support services. Once in place, this management model will improve real-time situational awareness, resulting in Metropolitan's increased capabilities to detect, identify and respond to cyber threats. A secondary function of the CSOC will be to provide critical intelligence information to Metropolitan's member agencies to enhance the overall cybersecurity posture of Metropolitan's system.

A review panel evaluated each proposal. Based on the panel evaluation, staff initiated contract negotiations with the top respondents as authorized in the RFP. Staff was unable to reach agreeable contracting terms with the top two respondents. Metropolitan was able to reach agreeable contracting terms with CAI to perform the required services within Metropolitan's operating budget.

Approval of this contract will create a mechanism for Metropolitan to better meet the demands of a dynamically changing cyber threat landscape while ensuring there is more than adequate staffing to monitor for cyber threats on a continuous basis, reducing the risk to the security and stability of the water supply managed by Metropolitan. The CSOC project was executed under the Capital Investment Plan (CIP). The CIP covered the procurement and implementation of the required technologies and the actual construction of the CSOC facility. CIP funding is not available for the co-managed services agreement. Funds for this action are available within Metropolitan's IT Group, Operations and Maintenance budget for fiscal biennial 2024-2026.

Once in place, CAI shall perform work at the primary Metropolitan CSOC facility located in La Verne, CA. As part of the agreement, eight personnel will operate from the Metropolitan CSOC facility twenty-four hours per day, seven days per week, and 365 days per year. Metropolitan will coordinate clearance for and grant physical access by qualified and cleared personnel into the CSOC premises and facilities and other Metropolitan sites.

This action authorizes ~~\$5.756~~ million for the co-managed support services for the operation and maintenance of the Metropolitan Cybersecurity Operations Center. The total project budget includes funds for awarding a new contract with CAI for ~~\$5.756~~ million for professional and technical services.

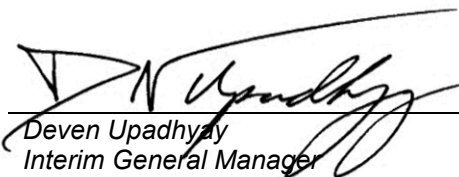
Project Milestone(s)

March 2025: Onboard of co-managed service vendor and transition to co-managed services and 24x7x365 monitoring coverage

June 2025: Co-managed services vendor fully integrated with Metropolitan CSOC and conducting cybersecurity operational support services.



Charles Eckstrom
Group Manager, Information Technology
2/4/2025
Date



Deven Upadhyay
Interim General Manager
2/4/2025
Date



Engineering, Operations, & Technology Committee

Agreement with Computer Aid Incorporated for Cybersecurity Operations Center (CSOC) Co-Managed Services

Item 7-3

February 10, 2025

Item 7-3

Agreement with Computer Aid Incorporated

Subject

Establish agreement with Computer Aid Incorporated (CAI) for CSOC Co-Managed Services

Purpose

Provides information relevant to the Board for approval of an agreement with CAI for CSOC Co-Managed Services

Next Steps

Establishment of an agreement with CAI contract provide CSOC operational support and management services

Current Action

Authorize an agreement with Computer Aid, Inc. in an amount not to exceed \$6 million for co-managed support services for the operation and maintenance of the Metropolitan Cybersecurity Operations Center; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Background

- Metropolitan issued a request for proposals (RFP) in February of 2024 for CSOC co-managed services to continue to meet current staffing requirements and the requirements created by increasingly more sophisticated cyber threats. This is the main purpose of the CSOC co-managed support services.
- A review panel evaluated each proposal. Based on the panel evaluation, staff initiated contract negotiations with the top respondents as authorized in the RFP. Staff was unable to reach agreeable contracting terms with the top two respondents. Metropolitan was able to reach agreeable contracting terms with CAI to perform the required services within Metropolitan's operating budget.

Reasons for this action

- Currently, there is an agreement in place with CAI for temporary staff-augmentation services for CSOC staffing. This agreement provides for the following:
 - Cyber Analyst to monitor for threats
 - Active monitoring only occurs during Metropolitan's work week, during off periods and holidays, monitoring is conducted passively
- This action will provide under a new agreement
 - Cyber analyst will actively monitor for threats 24x7x365
 - Incident management and threat intelligence services are provided

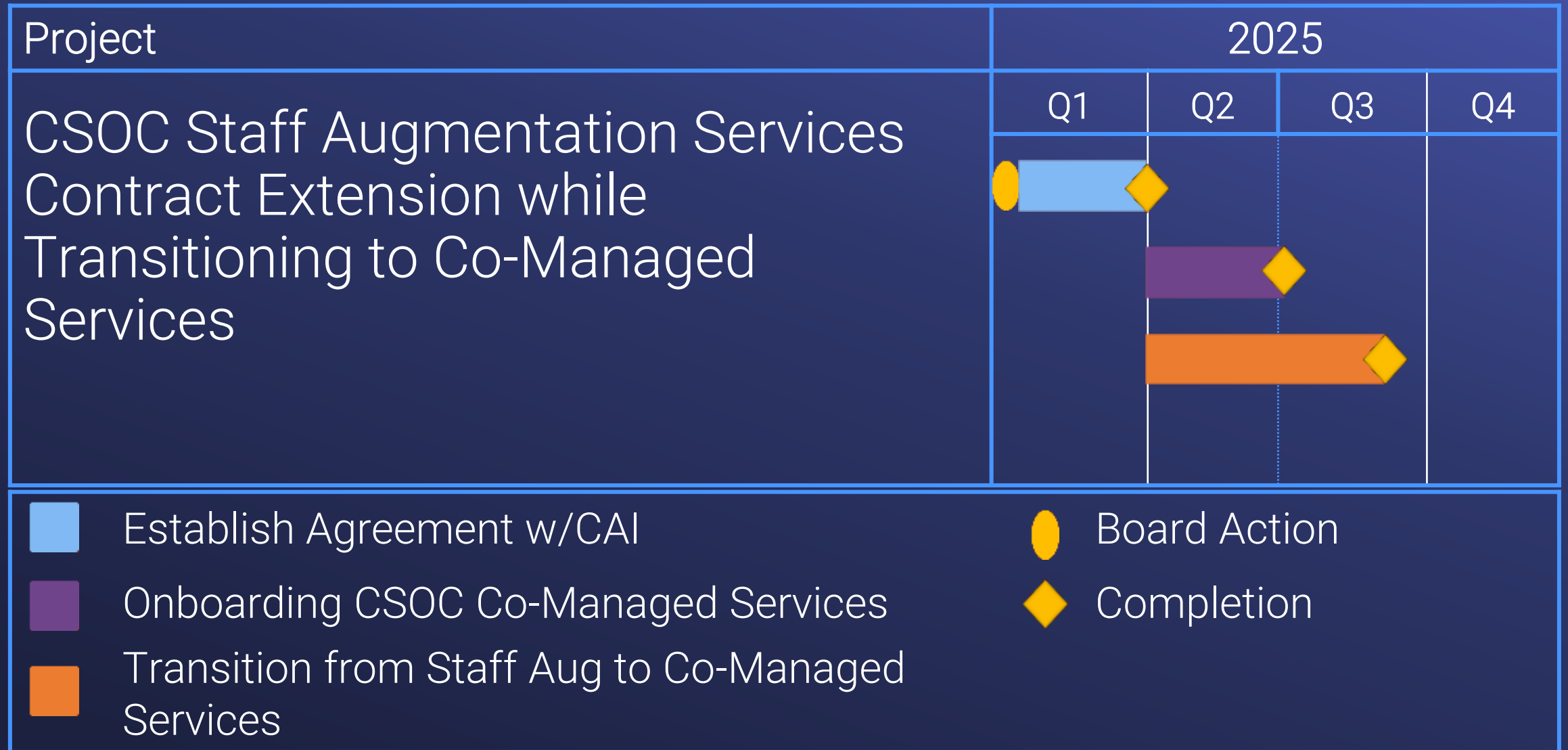
Agreement Scope

- CAI will manage and maintain the CSOC services including but are not limited to:
 - Monitoring and Analysis Support
 - Cyber Event Assessment and Incident Response
 - Cyber Intelligence Support
 - CSOC Service Delivery Management
 - Provide Analysis and Recommendations related to CSOC Performance and Investment Metrics
 - Support for Continuity of Operation
- CAI will provide on-site cyber analysts to monitor Metropolitan's IT and OT Networks for threats 24x7x365

Project Cost

Not to Exceed Value	\$6,000,000
Total Contract Value (3 year term)	\$5,855,987
Annual Cost:	
Year 1	\$1,894,589
Year 2	\$1,951,427
Year 3	\$2,009,970
Monthly Cost	
Year 1	\$157,882
Year 2	\$162,619
Year 3	\$167,498

Project Schedule



Board Options

- Option # 1
Authorize an agreement with Computer Aid, Inc. (CAI) in an amount not to exceed \$6 million for co-managed support services for the operation and maintenance of the Metropolitan Cybersecurity Operations Center
- Option # 2
Do not proceed with this project at this time. This option would eliminate staffing for the CSOC. This would place Metropolitan at much greater risk for cyber attacks. The systems would continue to function, but after-hours cyber attack or malicious activity would go unmanaged until the next business day.

Staff Recommendation

- Option # 1





Engineering, Operations, & Technology Committee

Metropolitan's Emergency Response to January 2025 Wildfires

Item 6a

February 10, 2025

Item 6a

Metropolitan's Emergency Response to January 2025 Wildfires

Subject

Metropolitan's Emergency Response to January 2025 Wildfires

Purpose

Update the Board on Metropolitan's emergency response to the 2025 wildfires, including EOC evacuation, safety priorities, communications, operational changes, and mutual assistance.

Next Steps

Conduct Lessons Learned sessions with Metropolitan staff and member agencies. Provide updates to board and member agencies, as needed, on follow-up actions and recovery efforts.

Wildfires January 2025

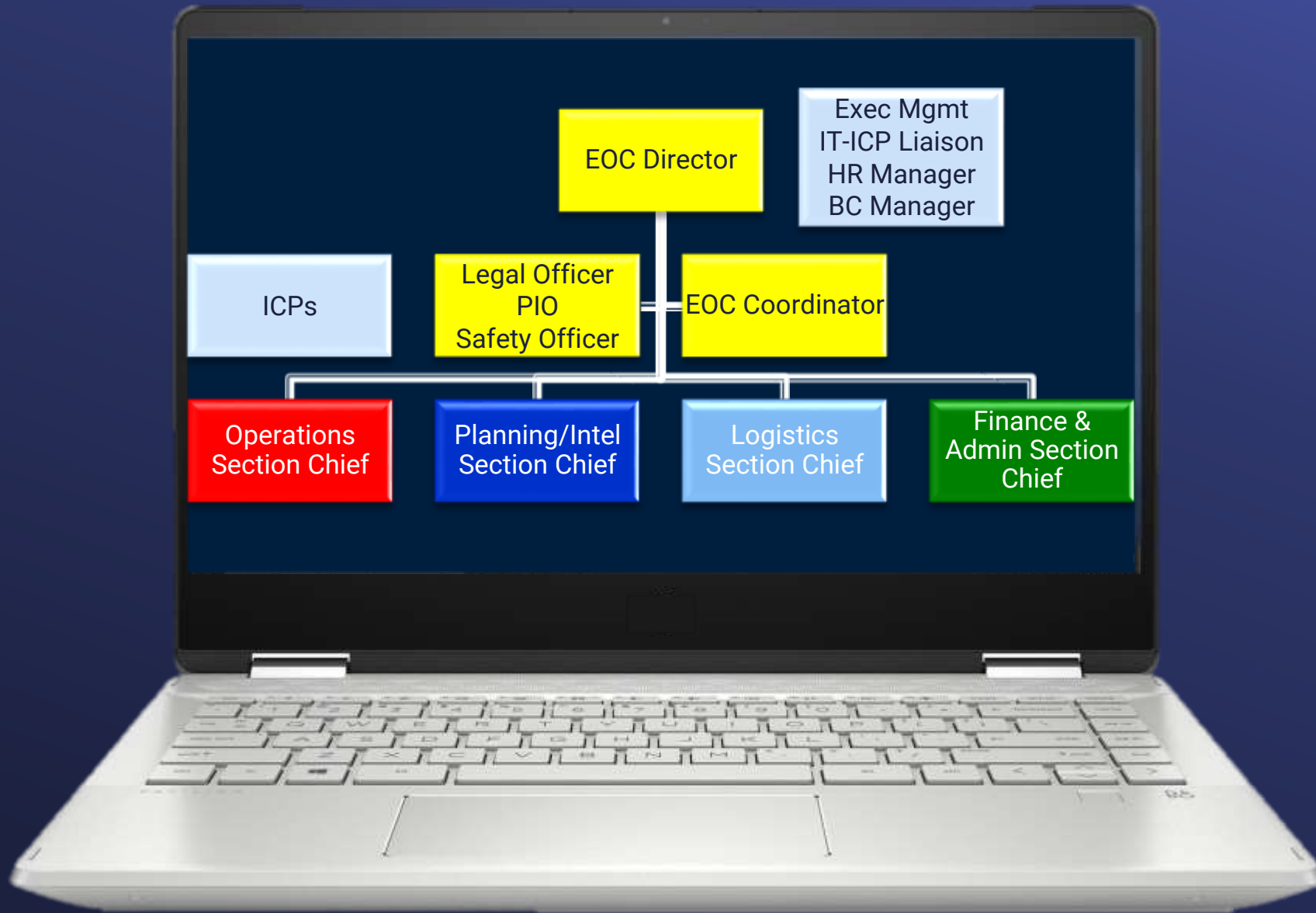


Source: CNN

Metropolitan's Emergency Response

- Activated **Emergency Operations Center Level II** and **Incident Command Posts**
- Coordinated with **first responders** and **emergency management agencies**
- Made **operational adjustments** for greater system flexibility and resilience
 - **No significant impacts or damage to Metropolitan facilities**
- Ensured **safety** and **water quality** through site assessments, safety bulletins, and virtual meetings
- Provided **mutual assistance** and support to impacted agencies

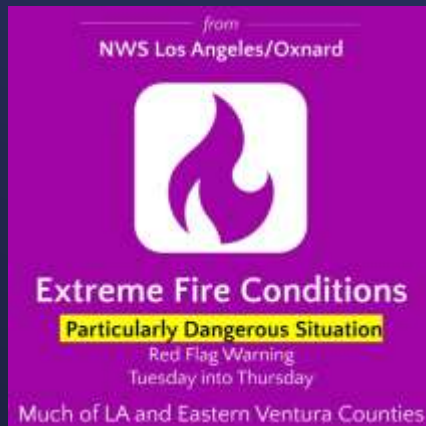
Activating the Emergency Operations Center (EOC) Virtually



EOC Meeting at Field Site

Metropolitan Activated EOC in Response to Unprecedented Fire and Wind Event

- Jan. 8: Remote EOC activation to Level II (7am–7pm), Level III overnight
 - Weymouth, Jensen, and Western C&D ICPs activated
 - Agency Representative embedded in Los Angeles County EOC
- Jan. 9: Emergency response trailer and staff embedded with CalFIRE Incident Management Team for Eaton Fire ICP at Rose Bowl
- Jan. 10: Agency Representative embedded in Palisades Fire ICP
- Jan. 22: Agency Representative embedded in Hughes Fire ICP



Los Angeles NWS issues Particularly Dangerous Situation Red Flag Warning on 1/6 for 1/7-1/9



Kyle Grillot—Bloomberg/Getty Images

Palisades Fire (23,500 acres) starts 1/7 10:30 AM, explodes rapidly, toward Sepulveda PCS by 1/10



Josh Edelson—AFP/Getty Images

Eaton Fire (14,000 acres) starts 1/7 6:18 PM; explodes rapidly, toward Eagle Rock Operations Control Center and Security Water Center



Ruben Granados — Metropolitan C&D

Hurst Fire (800 acres) starts near Jensen 1/7 10:29 PM



Ruben Granados—Metropolitan C&D

Hughes Fire (10,000 acres) starts near Castaic Lake 1/22 10:53 AM

Prioritizing Safety



Safety First



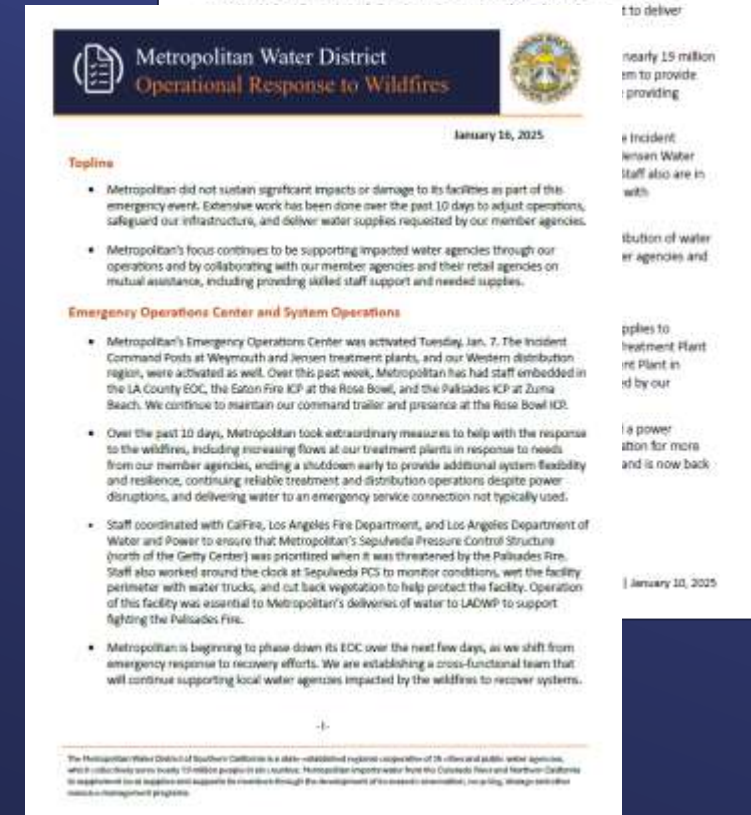
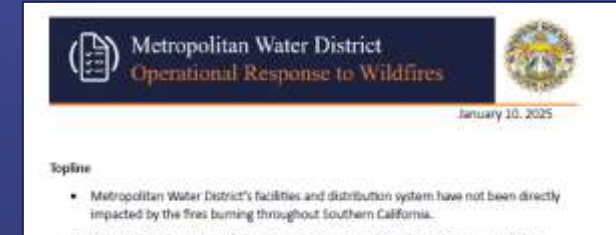
- Relocated Eagle Rock staff to backup OCC at La Verne and Union Station 1/7 – 1/12
- Conducted indoor air quality monitoring to support decisions for remote board meetings and remote work the week of 1/13
- Published several Safety Talks on wildfire smoke and situational awareness for use by Metropolitan employees

Board, Member Agency, and Employee Communications

Frequent and Effective Communications



- Daily EOC Situation Reports
- GM memos
- HR memos
- MetAlerts
- Safety Talks
- Media support for MWD and member agencies





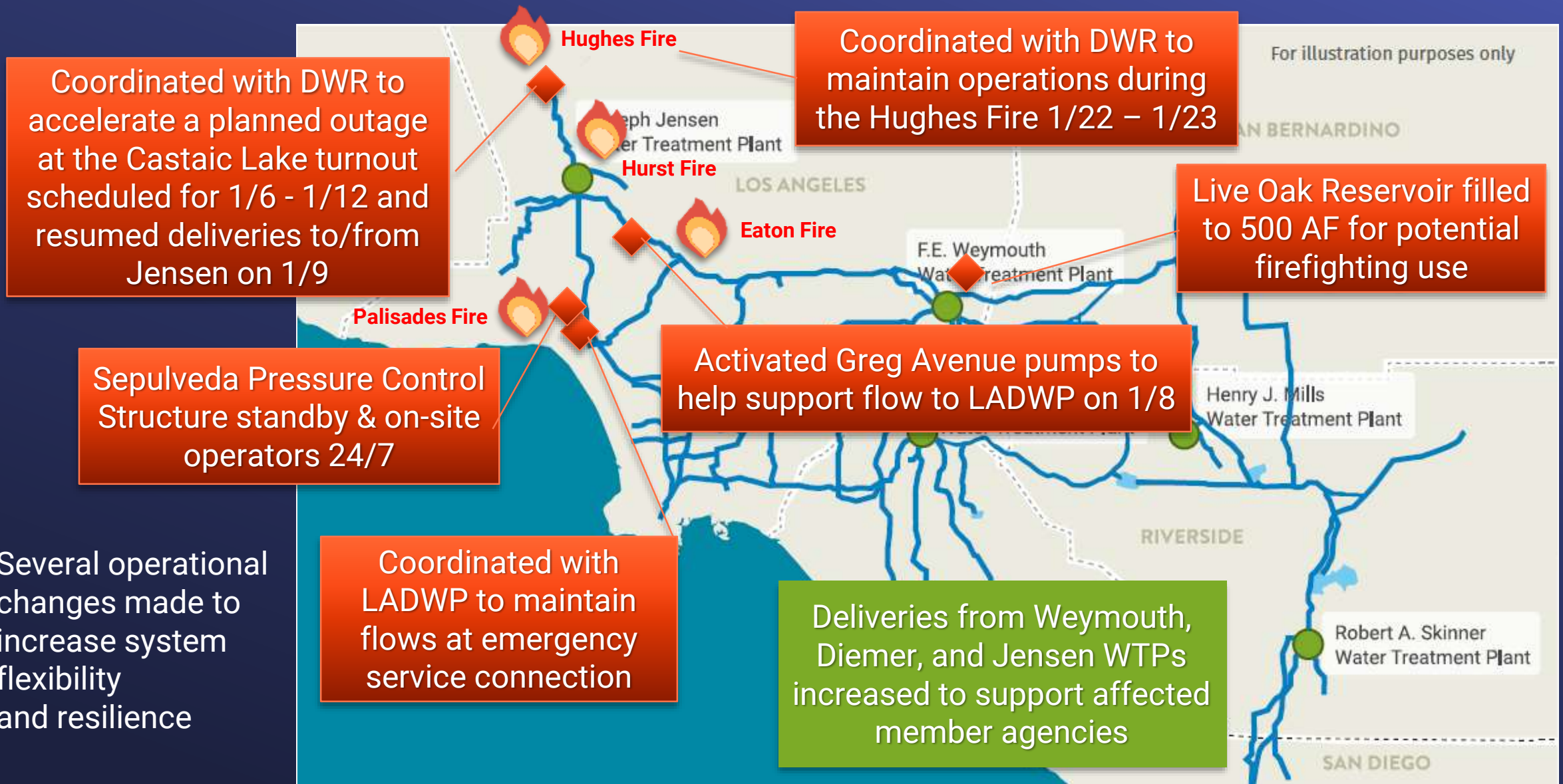
Employee Assistance

For Employees Evacuated (23) or Home Destroyed (3)

HR and Unions Provide Assistance to Impacted Employees

- Compensation for up to 14 days for short-term lodging
- Fully paid temporary housing through hotel or Airbnb (provided by AFSCME)
- Paid administrative leave for impacted employees
- Catastrophic leave donation program
- Employee donations and lodging assistance

Operational Changes in Response to Wildfires



Coordinated with DWR to accelerate a planned outage at the Castaic Lake turnout scheduled for 1/6 - 1/12 and resumed deliveries to/from Jensen on 1/9

Coordinated with DWR to maintain operations during the Hughes Fire 1/22 - 1/23

Live Oak Reservoir filled to 500 AF for potential firefighting use

Sepulveda Pressure Control Structure standby & on-site operators 24/7

Activated Greg Avenue pumps to help support flow to LADWP on 1/8

Coordinated with LADWP to maintain flows at emergency service connection

Deliveries from Weymouth, Diemer, and Jensen WTPs increased to support affected member agencies

Several operational changes made to increase system flexibility and resilience

System Operations



Other Operational Adjustments

- Skinner, Sepulveda Canyon PCS, Foothill PCS, and San Dimas PCS ran on emergency generators due to PSPS outages
- Skinner and Weymouth temporarily switched from ozone to chlorine as primary disinfectant to ensure reliable operations during PSPS events
- Staff ensured facilities had enough diesel fuel for generators and water treatment chemicals

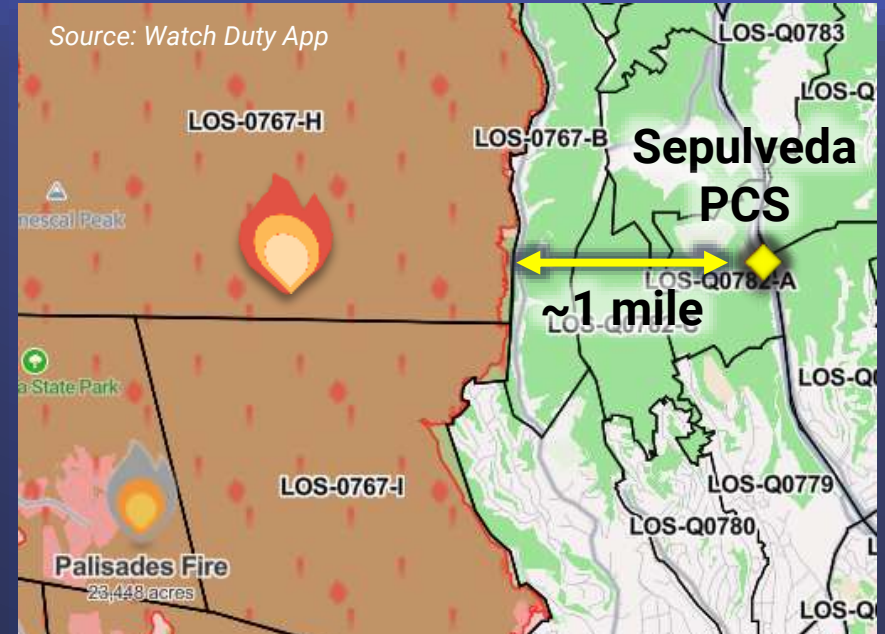
Protecting Sepulveda Canyon Pressure Control Structure

On-site presence to monitor conditions and maintain operations

Facility ran on emergency generator from 1/10 through 1/12



View of Palisades Fire from Sepulveda PCS



Fire reached a mile west of Sepulveda PCS



Wetted facility perimeter for fire protection



Cleared vegetation for defensible space

LA Times: 12 hours of fire that decimated Altadena

It may take months, or even years, to fully understand why the Eaton fire was so devastating. However, an extensive review of firefighter radio transmissions and interviews by The Times offer a horrifying view of how the fire spread over a period of hours, and the life-or-death decisions that firefighters, law enforcement officers and emergency personnel on the ground had to face.

The review found:

- The fire immediately threatened hillside homes around Eaton Canyon. Firefighters got to the scene quickly and saved homes, but winds were by then pushing flames and embers west toward the heart of Altadena.
- As the blaze grew, firefighting resources were no match. Aircraft were grounded almost immediately amid intense wind, and fire operations became more about saving lives than protecting structures.
- Embers traveled up to two miles to the west, passing over some neighborhoods but hitting central Altadena hard. Within hours, entire blocks were on fire.
- Early Wednesday, fire officials realized mass evacuations were the only answer. With that, a sickening possibility set in: “I’m going to lose half of my town,” Pasadena Fire Chief Chad Augustin recalled.

<https://www.latimes.com/california/story/2025-01-17/chaotic-first-hours-eaton-fire-timeline-maps>



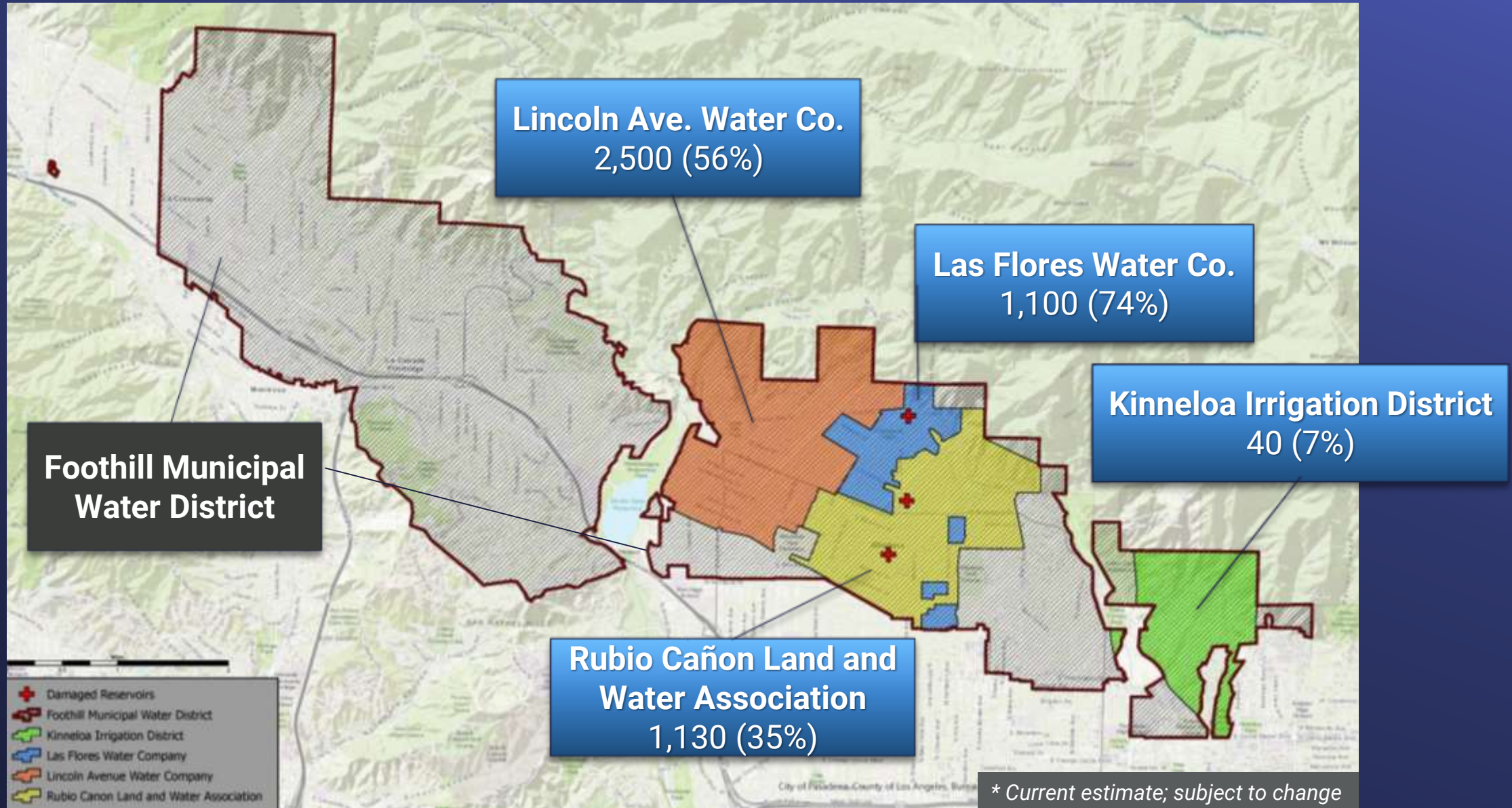
Support Foothill MWD, Pasadena Water and Power, and Impacted Water Utilities

Eaton Fire Incident Emergency Response

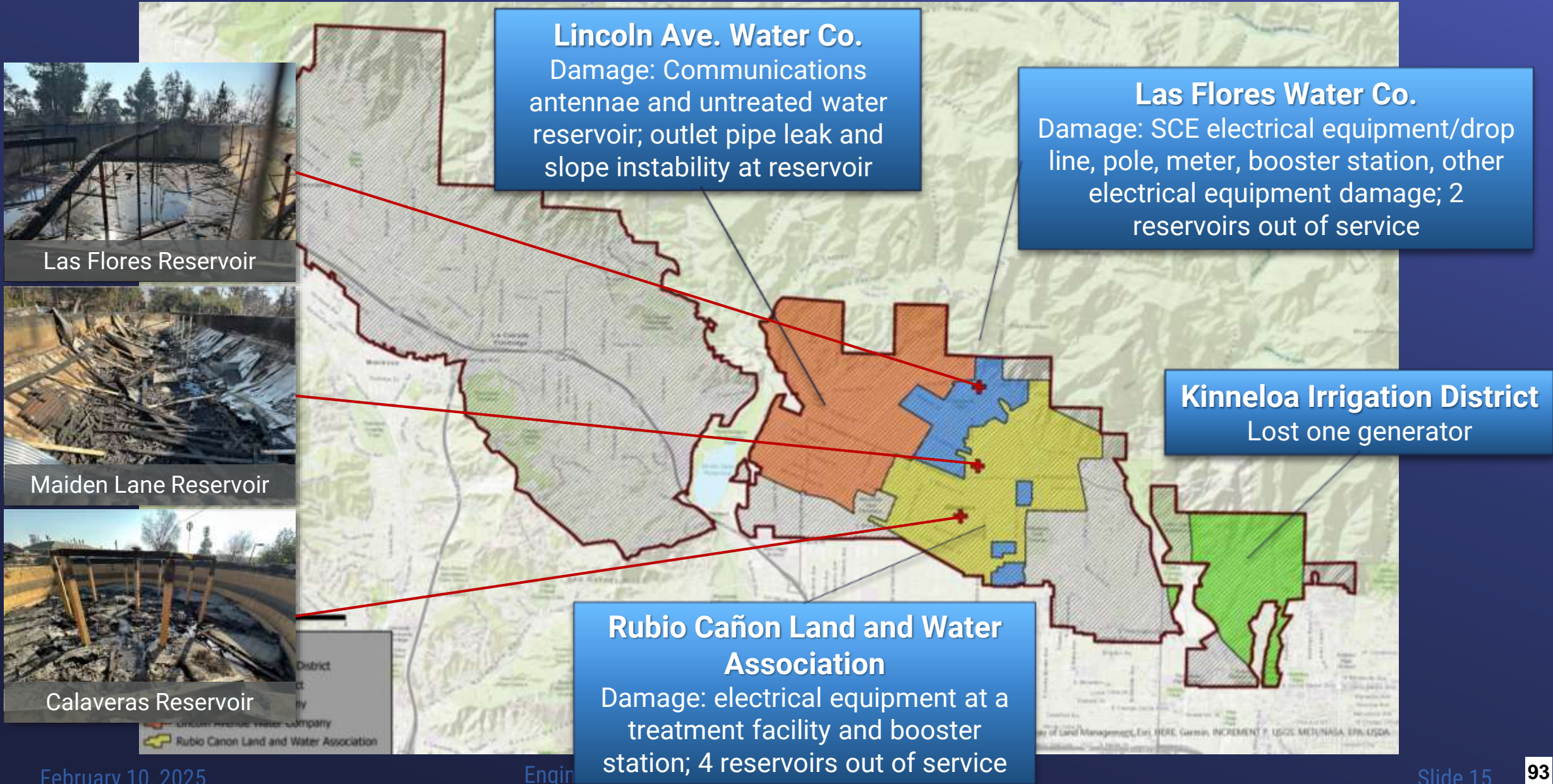


- Immediate assessment and resource deployment (e.g., standby generator support, fuel, pumps)
- Embed in CalFIRE Incident Management Team along with CUEA
- Assist with supporting Foothill MWD emergency management function
 - Planning and logistics support
 - Operations support (e.g., initial damage assessments)

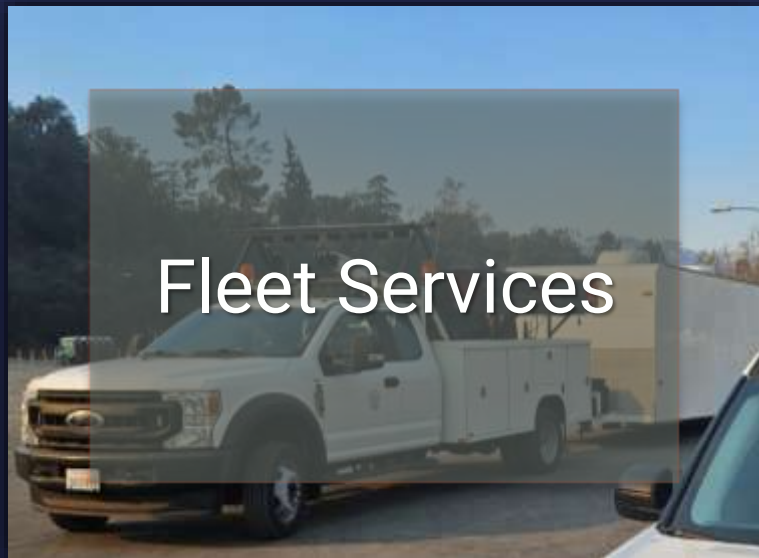
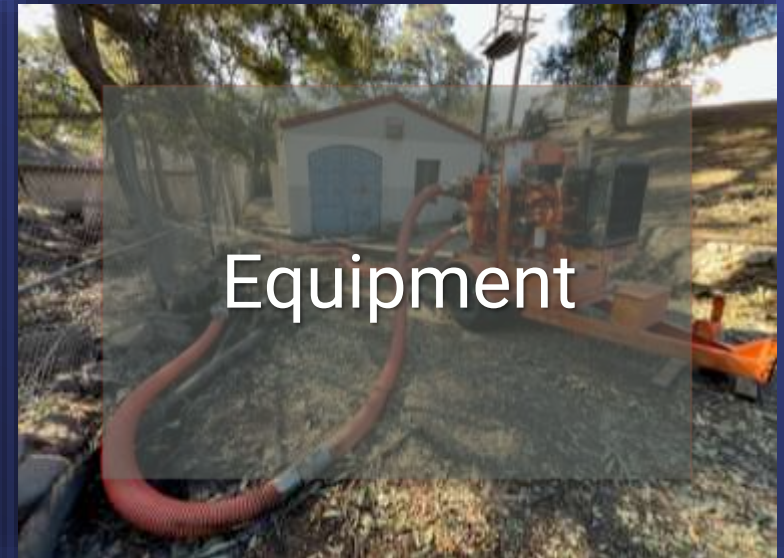
Four Impacted Water Utilities – Connections Lost (% Total) *



Initial Damage Assessment – Critical Infrastructure Lost



Six Mutual Assistance Missions



Coordination of Mutual Assistance for Impacted Water Utilities at Eaton Fire Incident Command Post (Rose Bowl)



Metropolitan Command Trailer



Repopulation Meeting



Eaton Fire ICP at Rose Bowl



Command Trailer



Cooperating Agencies Meeting



Command Trailer

Mutual Assistance for Impacted Water Utilities



Rainbow MWD operations team



MWD planning/logistics support



MWD ops support at FMWD Pump Station



FMWD ICP water utility coordination



Water utility coordination at Eaton Fire ICP at Rose Bowl

Provided Equipment and Supplies to Impacted Water Utilities: Operations

Mutual Assistance



1,000-gal fuel tank for standby generator support

- Provided generators, fuel, pumps, tanks, valves
- Deployed skilled electricians and mechanics to help with response & recovery
- Delivered additional supplies and resources

Provided Assistance to Impacted Water Utilities: Operations

Mutual Assistance



Metropolitan staff helped establish a temporary water truck refilling station at Foothill Municipal Water District's pump station near the Rose Bowl

Provided Technical Services to Impacted Water Utilities: Planning and Logistics

Mutual Assistance

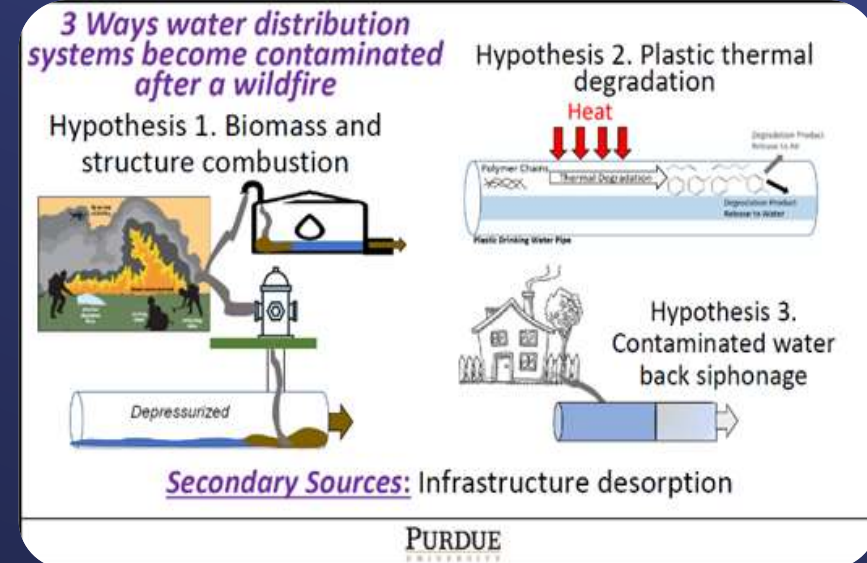
- Initial damage assessments
- Provided GIS mapping services
- Assisted with developing fire smoke decontamination plan for office buildings
- Supported design and construction of a temporary pressure reducing valve station



Agency office decontamination

Water Quality Technical Assistance

- Arranged virtual forum with water system recovery expert, impacted member and retail agencies, and Division of Drinking Water
- Surveyed regional contract labs to ensure sufficient sample analysis capacity
- Follow-up meetings to continue sharing information and best practices
- Planning and logistics support for impacted water utilities for return-to-service



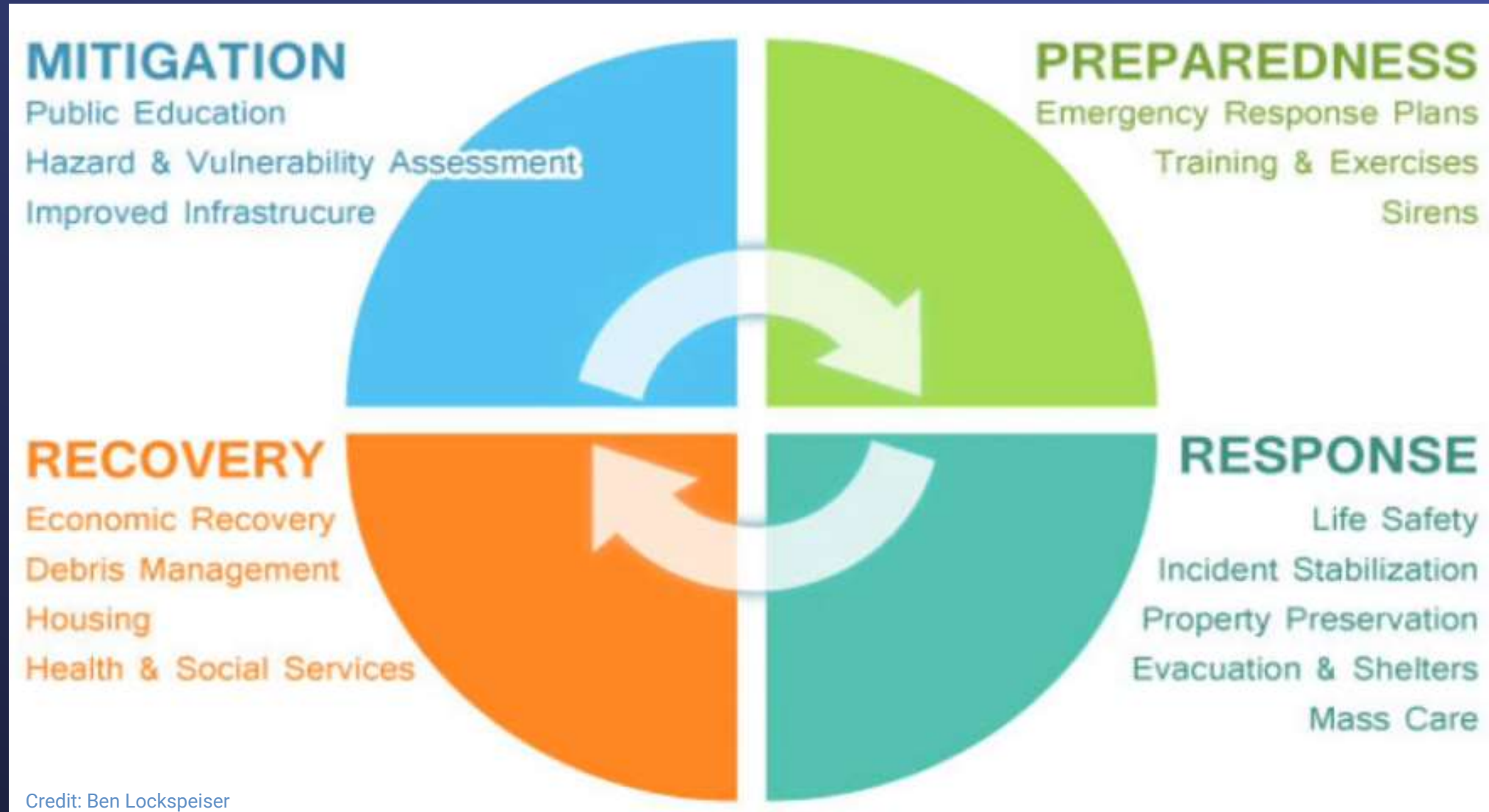
Mutual Assistance



Outstanding Mutual Assistance Response

- Public Water Agencies Group (PWAG)
 - Additional crews to support impacted water utilities
 - Equipment (pumps, generators)
- California Water Agency Response Network (CalWARN)
 - Pump crews and equipment (Calleguas MWD, Rainbow WD, Corona Water Dept.)
- California Utilities Emergency Association (CUEA)
 - Coordination among responding utilities (e.g., getting power circuits to support booster stations prioritized for repair)

Four Phases of Emergency Management







Engineering, Operations, & Technology Committee

Power Operations and Planning Update

Item 6b

February 10, 2025

Item 6b

Power Operations and Planning Update

Subject

Power Operations and Planning Update

Purpose

Update the Board on recent developments in energy markets and the transmission grid, their impact on Metropolitan, and strategies on managing Metropolitan's transmission and energy assets

Next Steps

Seek board approval in March 2025 for extension of professional services agreement for transmission planning
Complete RFQ and seek board approval for new professional services agreement for supplemental interconnection and strategic planning services in Q2 2025

A Dynamic Electric Grid Environment

Renewable Energy Goals Driving Grid Evolution Nationwide and in California

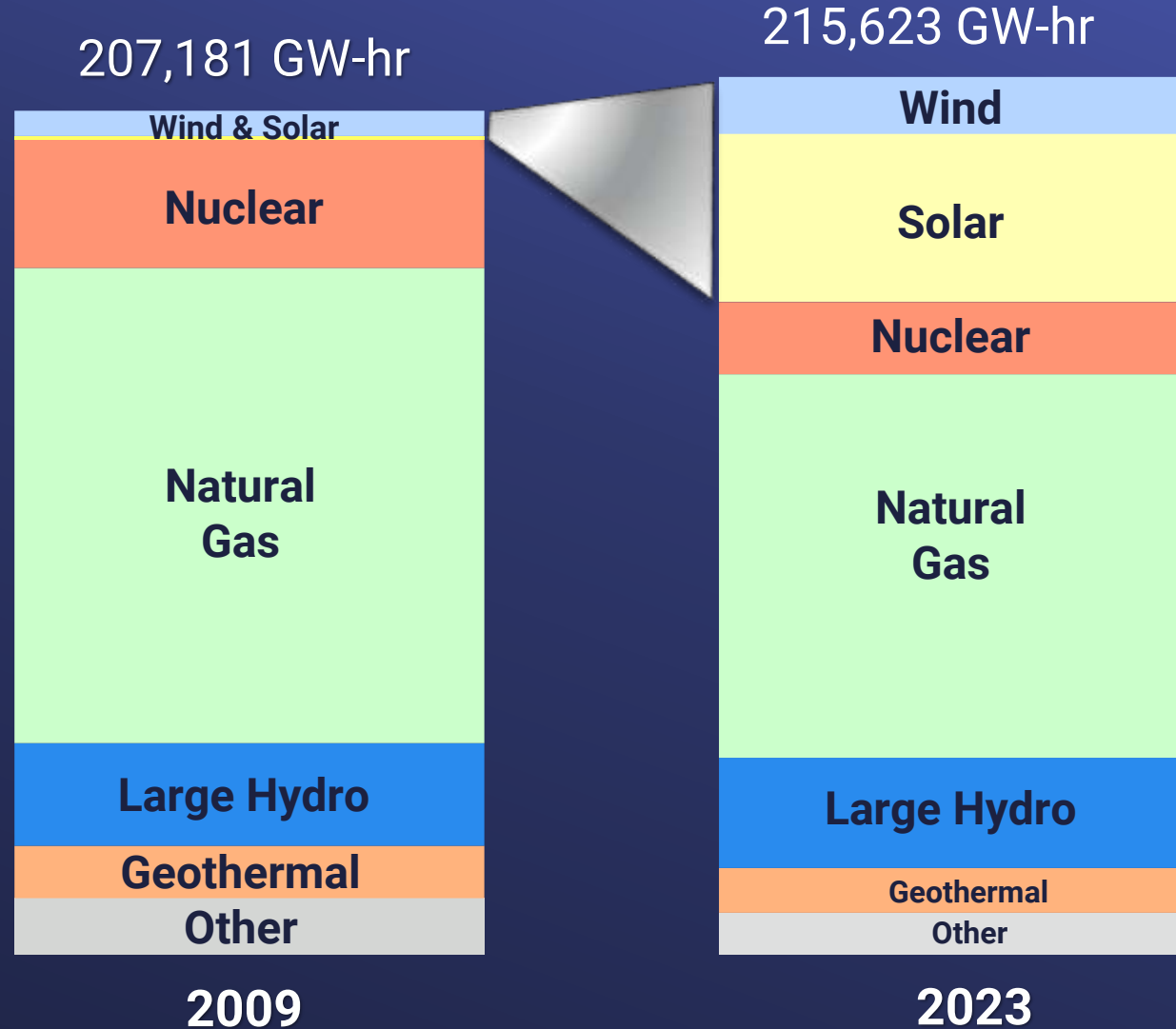
The Evolving Grid



- Renewable Portfolio Standard (RPS) goals
 - California: 60% renewable energy by 2030, and 100% by 2045
- Retirement of legacy fossil and nuclear generation
- Increased reliance on renewable generation (primarily wind and solar)

Moving to Renewables & a Dynamic Market

Market and
Regulatory
Forces
Changing
Energy Mix



Source: California Energy Commission

Managing the Transition to Renewables

Regulatory Response



OPINION CROSS COUNTRY [Follow](#)

Walz's Climate Policies Could Leave the Midwest in the Dark

Minnesota isn't alone in pursuing 'net zero,' leaving nowhere to go when solar and wind power fail.

- California ISO (CAISO) and other authorities planning for a transition to a more renewable future
- Energy storage projects to increase reliability and manage variability
 - **Battery storage**
 - **Pumped hydro**
- Technological innovations such as green hydrogen

California ISO Expansion Plan



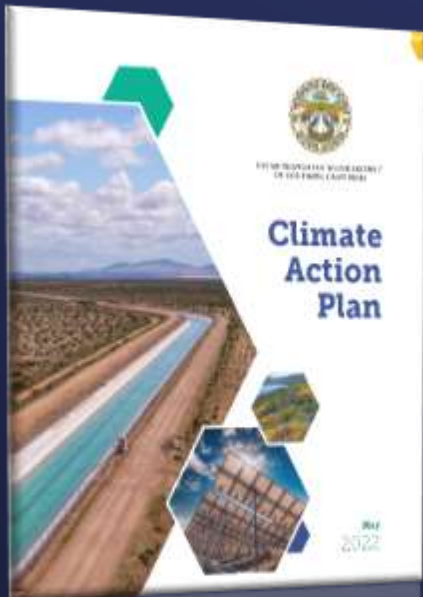
Over \$45 Billion in Planned Upgrades To Meet California's Energy Reliability & Resource Needs

- Extensive upgrades and additions to the bulk electric transmission system
- Offshore wind generation development
- Out-of-state wind generation integration
- Total investment of \$45-60 billion

Source: California ISO 2024 20-Year Transmission Outlook

Adapting to a Sustainable Future

Ongoing Metropolitan Efforts



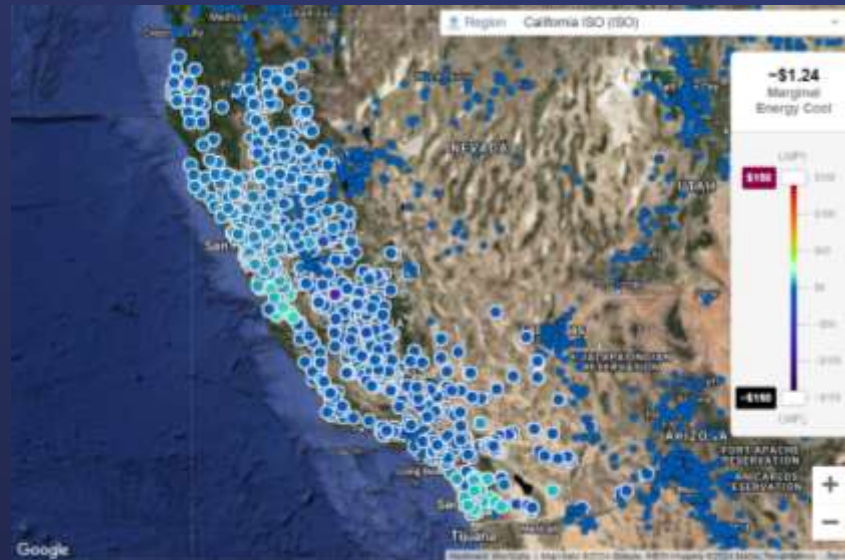
- Energy Sustainability Plan
- CRA Power Sustainability Project
- Transmission Strategic Plan
- Climate Vulnerability and Risk Assessment
- Climate Action Plan
- CAMP4W
- Pure Water Southern California
- Energy Risk Management Policy Update
- Technical studies on pumped hydro and other energy storage technologies

Increasingly Complex Demands on Metropolitan's Energy Systems

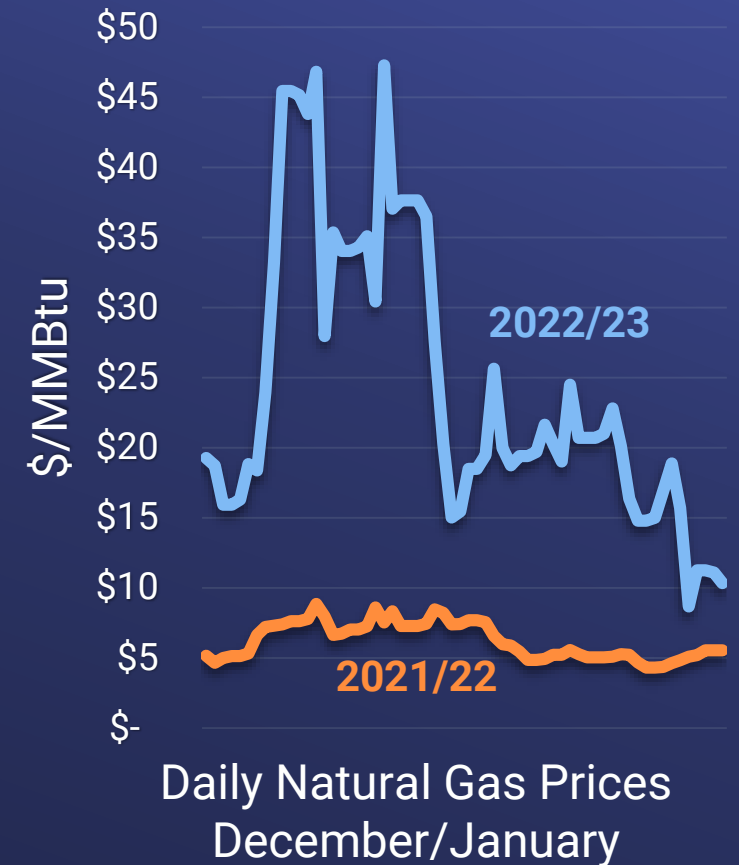
Changing Market Dynamics

Market Volatility & Pricing Extremes

- Energy market prices can vary widely depending on the cost of natural gas and availability of wind & solar



CAISO Market Prices
April 2024



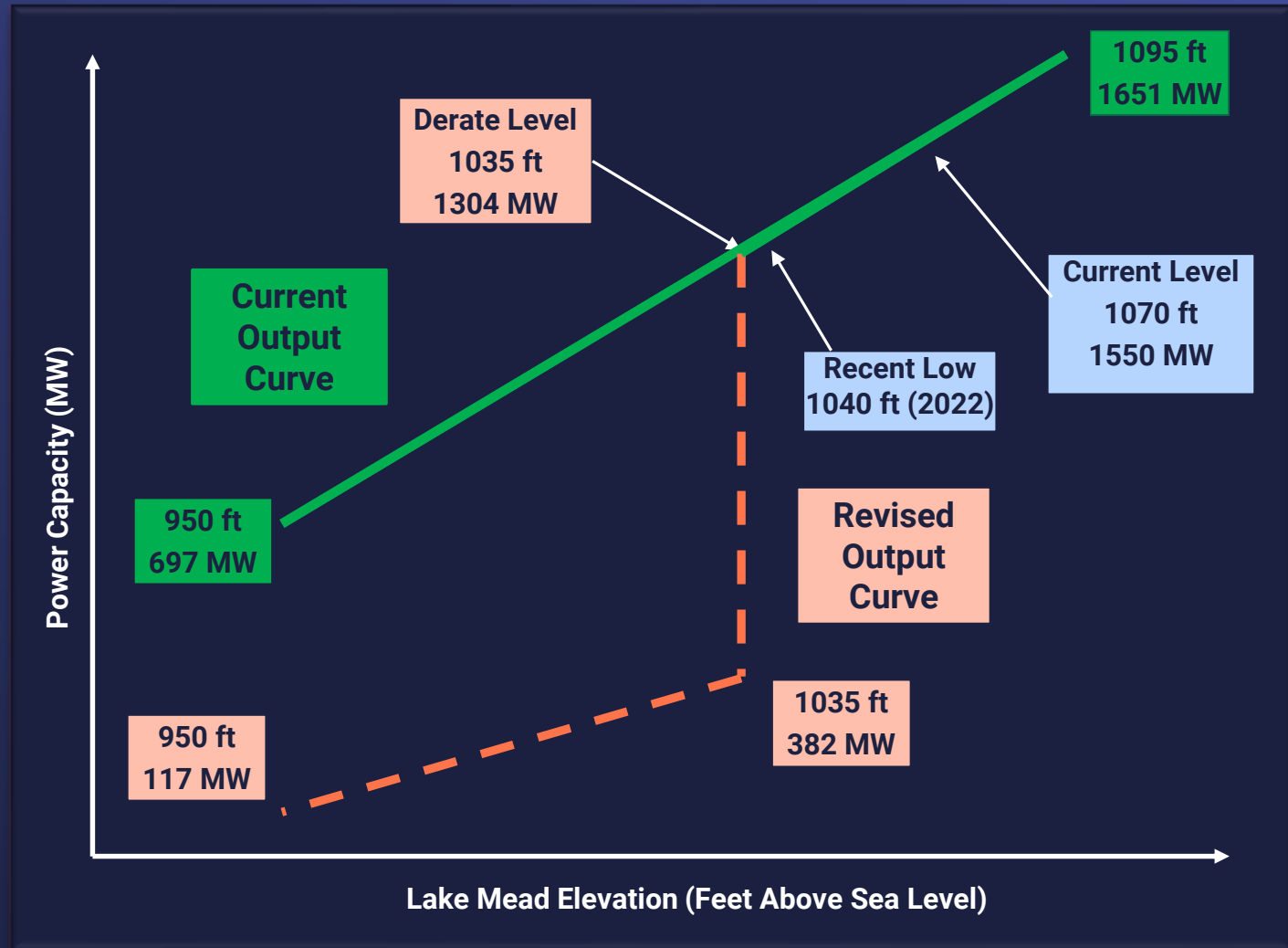
Daily Natural Gas Prices
December/January

Significant Generation Reduction During Low Lake Mead Water Levels

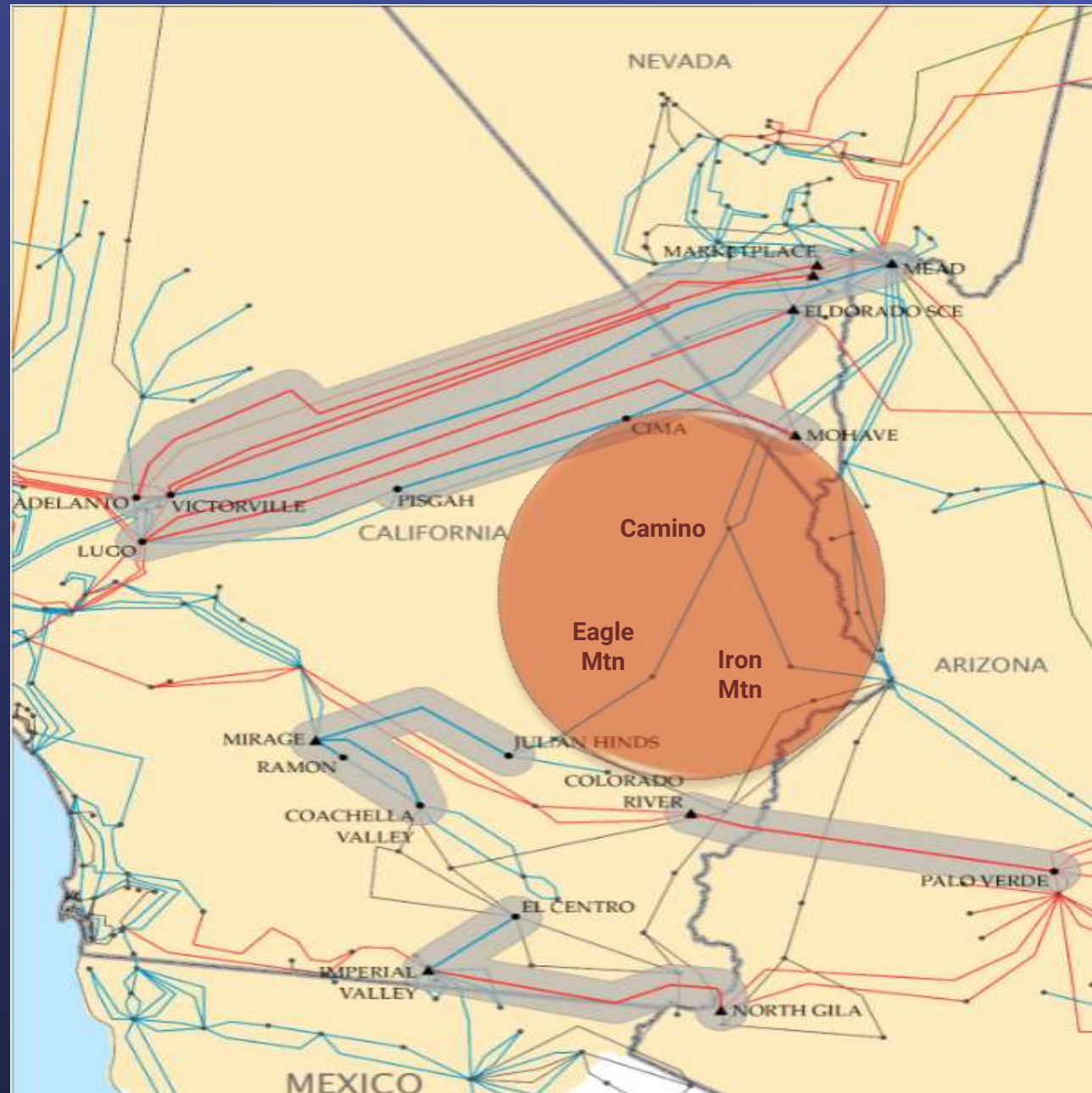
Hoover Dam Generation Uncertainty



Source: USBR



Metropolitan's System In Perspective



Protecting Metropolitan's System



Identifying Impacts from Generation Development

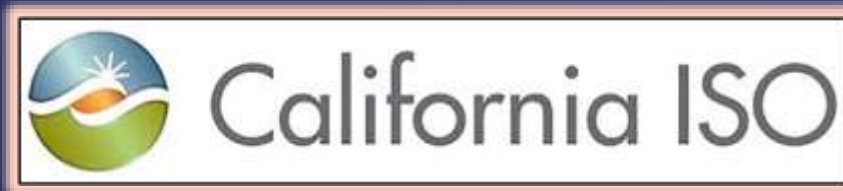
- Third-party interconnection requests
 - Seven affected system study requests
 - One interconnection request
- Additional requests pending
- Transmission planning professional services agreements to perform technical studies
 - GridSME agreement extension
 - RFQ for supplemental interconnection and strategic planning services

Potential Consequences of Third-Party Generation



Posing Significant Risks to the CRA Transmission System

- Operational constraints
- Increased capital and O&M costs
- Increased regulatory requirements



Strategies for Managing Metropolitan's Transmission and Energy Assets

Staffing & Other Resource Needs



Staffing & Professional Services Resources to Manage Increased Workload

- Power Operations is currently staffed at the same level as prior to the SCE contract termination in 2017
- Since that time, the workload has effectively doubled or tripled
- Additional staff and professional services necessary to protect Metropolitan's system, manage the required study work, support energy sustainability efforts, and meet regulatory compliance obligations
- Creative ways to manage costs and increase revenues
- Strategic planning to balance risk and opportunity

Potential Future Revenue Streams



Low-Hanging Fruit (Low risk – Near Term – Stable and Predictable Returns)

- Sale of Mead Import Allocation Rights
 - No impact to CRA water operations
 - Benefits the CAISO grid generally
- DVL Pumped Storage Operations
 - Realize capacity value when operational conditions permit
- Surplus HEP Unbundled Renewable Energy Credits
 - Production and market value vary significantly

Potentially \$0.5 - \$3 million in annual revenues

Next Steps

- Seek board approval in for extension of professional services agreement with transmission planning services provider (GridSME) of \$1 million to a new not to exceed limit of \$1.25 million
- Complete RFQ and seek board approval for new professional services agreement for supplemental interconnection and strategic planning services
- Secure additional staffing to pursue asset monetization and strategic planning and sustainability efforts





Engineering Services Group

- **Engineering Services Monthly Activities Report for January 2025**

Summary

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

- Colorado River Aqueduct (CRA) Program
- Dams & Reservoirs Program
- Distribution System Program
- Information Technology and Control Systems 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 Program

Purpose

Informational

Attachments

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

Engineering Services Key Activities Report for January 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 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.

- **Solar Level Sensor Installation**—This project installs 11 water level gauging stations at remote sites along the Colorado River Aqueduct and raises five accessways on Sand Hill Conduit. The contractor is preparing for the antenna pole installation. Construction is 94 percent complete and is scheduled to be completed in February 2025.
- **Gene Communications Upgrades**—This project constructed a new fiber optic cable line from Parker Dam to Gene Pumping Plant. The new line is predominantly located within the Metropolitan fee property on new power poles with a small underground portion of the alignment within the Bureau of Reclamation’s property. Construction was completed in December 2024.
- **Black Metal Mountain Electrical Upgrades**—This project replaces the existing single-phase 2.4 kV power line delivering power to the Black Metal Mountain communication site with a more robust three-phase power line rated for 4.16 kV usage. The project will also improve the steep main access road to the communications sites. Final design is 25 percent complete and is scheduled to be completed in August 2025.

- **Cabazon Radial Gate Replacement**—This project will replace an inline and wasteway radial gate and install security, electrical, and safety upgrades. Final design is 93 percent complete and is scheduled to be completed in March 2025.



Gene Communications Upgrades—
Placement of approximately 50 cu yd concrete for an electrical ductbank

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 65 percent complete and is scheduled to be completed in September 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 uses a progressive design-build

(PDB) project delivery method. The conceptual design (PDB procurement document) phase is 20 percent complete. It is anticipated that an RFQ for Phase 1 design-build services will be advertised in spring 2025, and the selection of a design-build entity made in fall 2025. The project is anticipated to be complete 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 the first chiller and the stainless-steel chilled water piping and has begun the installation of the second chiller. Construction is approximately 90 percent complete and is scheduled to be completed in February 2025.
- **Foothill Hydroelectric Plant and Control Building Seismic Upgrade**—This project strengthens the Foothill Hydroelectric Plant and Control Building to withstand a significant earthquake by removing and replacing the roofing system, adding encasements to enlarge and strengthen concrete columns, and reinforcing shallow foundations. The contractor has completed installing the building's roof and placing concrete around the lower half of the existing concrete columns. Construction is approximately 97 percent complete and is scheduled to be completed in February 2025.
- **Rialto Pipeline Rehabilitation**—This project replaces a 35-foot-long, 121.5-inch diameter section of welded steel pipe on the Rialto Pipeline in the city of Upland where the mortar lining has failed. This project also replaces the deteriorating pipe spool and isolation valve at the CB-11 service connection. The contractor is working on submittals to procure the 121.5-inch-diameter section of steel pipe and has begun mobilization of field offices. Construction is approximately 15 percent complete and the shutdown to do the work is scheduled for February 2025.
- **Lakeview Pipeline Procurement**—This project will procure 12,500 feet of steel liner pipe segments with diameters ranging from 114 inches to 117 inches. This initial quantity of Metropolitan-furnished pipe will allow the future contractor for the Lakeview Pipeline Stage 2 project to quickly start field installation while they procure the remaining pipe. Fabrication is approximately 50 percent complete and is scheduled to be completed in May 2025.



Service Connection OC-88—Replacement of two chillers



Lakeview Pipeline Procurement—Inspection of 117-inch Diameter Pipe Fabrication

Information Technology and Control Systems Program

The Information Technology and Control Systems Program is composed of projects to replace, upgrade, or provide new facilities, software applications, or technology that will enhance cybersecurity, reliability, flexibility, and capability of information, communication, and control systems.

- **Supervisory Control and Data Acquisition (SCADA) System Upgrades**—This project will upgrade Metropolitan’s entire control system in incremental stages, spanning the Colorado River Aqueduct, the five water treatment plants and the conveyance and distribution system. The first stage of this project replaces the control system at the Mills plant, starting with a pilot effort on one of the plant’s remote terminal units to demonstrate the proposed technology and the consultant’s approach for the plant and the overall project. The pilot phase is 100 percent complete. Staff continued evaluating the results of the recently installed pilot equipment to determine the criteria for equipment implementation. The system upgrades at the Mills plant are scheduled to be completed in October 2026.

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.

- **Lake Mathews AST Replacement**—This project will install a new 7,500-gallon diesel fuel tank and dispensing system at the existing fuel island at the Lake Mathews facility. Final design is approximately 99 percent complete and is scheduled to be completed in February 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 15 percent complete and is scheduled to be completed by December 2025.

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 Valve Procurement**—This project will procure 13 long-lead-time, 48-inch and 54-inch diameter conical plug sectionalizing valves for the Second Lower Feeder. As PCCP portions of the Second Lower Feeder are rehabilitated, aging sectionalizing valves are being replaced with valves procured under this project. All 13 valves have been received. The thirteenth and last valve was delivered to Metropolitan’s Lake Mathews facility on December 20, 2024.
- **Allen-McColloch Pipeline Urgent Relining**—This project will perform urgent relining of approximately three miles of distressed PCCP segments of the Allen-McColloch Pipeline (AMP) that were discovered during an inspection in 2023. The urgent relining of the AMP is being performed in stages. Stage 1 includes carbon fiber-reinforced polymer lining of four segments and steel relining of approximately 4,500 feet of pipeline. Stage 1 upstream of OC-88 is complete. Downstream of OC-88, pipe installation and backfill is complete and site restoration will be completed in February 2025. Stage 2 work

consists of 12,600 feet of steel liner installation and appurtenant work. Pipe installation at all sites is complete. Backfill of the last site will be completed in January 2024. The Stage 2 work is approximately 97 percent complete. Bulkhead removal downstream of OC-88 was completed in January 2025, all work within the pipeline is complete, and the pipeline has been returned to service. Site restoration, paving, and striping are expected to be complete by March 2025.

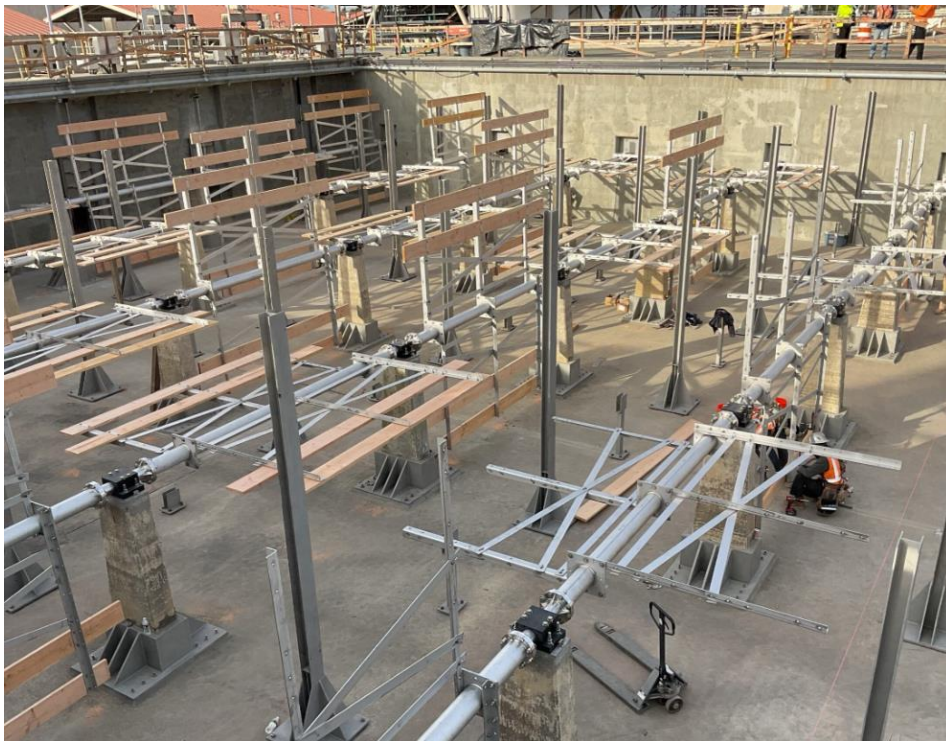
- **Sepulveda Feeder North Reach**— This PCCP rehabilitation project was re-prioritized to support the West Area Water Supply Reliability Improvements. The North Reach project, in conjunction with the Sepulveda Feeder Pump Stations, will allow the reversal of normal flow in the Sepulveda Feeder to augment treated water deliveries to the west service area. Utility potholing and geotechnical boring have been completed. The North Reach preliminary design is approximately 80 percent complete and is scheduled to be completed in April 2025.
- **Electromagnetic Inspections**—Regular inspections of the PCCP feeders are a critical step in evaluating the condition of each pipeline and assisting staff in prioritizing the relining work on each feeder. This project conducts the fifth cycle of electromagnetic and visual inspections of Metropolitan’s approximate 146.4 miles of PCCP pipelines. Inspection of the East Lake Skinner Bypass, San Diego Pipeline No. 5, and Auld Valley Pipeline were completed in December 2024.

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 and the Chemical Unloading Facility 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, inlet gates, and outlet drop gates. Rehabilitation work also includes seismic upgrades of basin walls and inlet channel, hazardous material abatement, and replacement of filter valves and actuators in Filter Building No. 2. The contractor completed all rehabilitation work in Basins 7 and 8, and continued construction activities including structural wall modifications, mechanical piping, and equipment installation in Basins 5 and 6 and Filter Building No. 2. Construction is approximately 87 percent complete and is scheduled to be completed in September 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 92 percent complete and is scheduled to be completed in May 2025.
- **Weymouth Real Property Acquisition**—This project was to purchase a single-family residence and guest house situated on 0.33 acres directly adjacent and keyed into the Weymouth plant through a voluntary sale authorized by the Board in October 2024. The acquisition improves physical security and provides flexibility for ongoing operations or future projects. The purchase was completed in December 2024.

- **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 96 percent complete and is scheduled to be completed in February 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 practice, improve plant reliability, and enhance worker safety. Stage 1 construction is complete. Stage 2 improvements will add a second incoming 12 kV service from Riverside Public Utilities, reconfigure the existing 4.16 kV switchgear, and replace the standby generator switchgear and the emergency generator programmable logic controller. The contractor completed installation of the new electrical gear components inside the Ozone Switchgear Building and is preparing to upgrade the SGE emergency switchgear inside the Standby Generator building. Construction is approximately 80 percent complete and is scheduled to be completed in August 2025.



Weymouth Basins 5–8 and Filter Building No. 2 Rehabilitation—
Installing the baffle boards at Basin 5, view to the Southwest



Mills Electrical Upgrades, Stage 2—New Control Panels Installed in the Engine Generator Building



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 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 early 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 grant funding. The final agreement was executed on January 10, 2025.
- Program internal governance and program plans are currently being developed. The first workshop was held on October 29, 2024. Technical studies are underway to support planning of direct potable reuse implementation, EIR analysis on per- and polyfluoroalkyl substances compounds, and development of program starting options, including treated water augmentation.
- Metropolitan and LACSD are developing a work plan and gathering information to pursue certification for PWSC under State Senate Bill 149. This certification makes critical projects, which are necessary for the State to meet its climate and clean energy goals, eligible for expedited judicial review.
- **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 (MOS) study to identify infrastructure needed to meet AWPf power requirements.
 - Staff is preparing a Request for Qualification document for the procurement of a Progressive Design Build (PDB) entity to progress the design of the AWPf.
- **Direct Potable Reuse (DPR)**—The California Division of Drinking Water (DDW) 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 early 2025 to facilitate design of the pilot/demonstration system.
- **Conveyance Pipeline System**—The PWSC conveyance system consists of the backbone pipeline, which 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 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 early this year. In addition, Metropolitan's Board authorized two consulting agreements for preliminary design of the first two pipeline reaches in March 2023, and

preliminary design of these two reaches is anticipated to be completed later this year. 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, incorporating value engineering comments and designing for more tunneling to minimize project risks. Additional investigations and staging coordination for additional tunneling will advance in the first half of 2025.
- **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 preliminary design reports and drawings, as well as coordination with the City of Long Beach, Long Beach Utilities, Caltrans, and other permitting entities for the major tunnel crossing of the I-710 and Los Angeles River.

Drought Mitigation—State Water Project Dependent Areas Program

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.

- **Wadsworth Bypass**—This project installs a bypass pipeline and an isolation valve to interconnect the Wadsworth Pumping Plant with the Eastside Pipeline. This is one of four projects needed to deliver water from Diamond Valley Lake (DVL) to the Rialto Pipeline. The contractor completed installation of all piping during the April 2024 shutdown and is currently awaiting delivery of long-lead electrical equipment. The 84-inch butterfly valve will be installed during the April 2025 shutdown. Construction is approximately 95 percent complete and is scheduled to be completed in July 2025.
- **Inland Feeder Rialto-Pipeline Intertie**—This project installs an interconnection pipeline and isolation valve structure between the Inland Feeder and Rialto Pipeline so that water can be delivered from DVL to the Rialto Pipeline. The contractor has completed construction of the isolation valve vault structure, installed the 96-inch pipe from the valve vault to the Rialto Pipeline and Inland Feeder, and constructed most of the pipe incasement. Installation of the pipe inside the valve vault is nearly complete. Construction is approximately 70 percent complete and is scheduled to be completed in July 2025.
- **Inland Feeder-Badlands Tunnel Surge Protection**—This project installs a new open-to-atmosphere surge tank at the south portal of the Badlands Tunnel, which will protect the Inland Feeder from hydraulic transients when pumping water from Diamond Valley Lake to the Rialto Pipeline. The contractor has completed the valve vault structure and the surge tank foundations. Currently, the contractor is installing the 96-inch pipe from the isolation valve vault to the surge tank. Construction is approximately 50 percent complete and is scheduled to be completed in August 2025.
- **Sepulveda Feeder Pump Stations**—This project installs new pump stations at the existing Venice and Sepulveda Canyon pressure control facilities, providing the ability to reverse flow in the Sepulveda Feeder and deliver 30 cubic feet per second from the Central Pool to portions of the Jensen Plant exclusive area. This project utilizes a progressive design-build (PDB) project delivery method. The Board awarded a Phase 1 PDB agreement in September 2023. Phase 1 includes preliminary design

and development of a Guaranteed Maximum Price (GMP) for completion. The contractor is proceeding with the purchase of authorized long lead items, including pumps, large valves, and electrical switchgear and transformers, and has submitted the 70 percent complete design package for Metropolitan’s review. Authorization of Phase 2 final design and construction is anticipated in spring 2025.



Inland Feeder Rialto-Pipeline Intertie—East 96 Inch Pipe to Inland Feeder—Looking West



Inland Feeder-Badlands Tunnel Surge Protection—False Work Installation at Valve Vault



Information Technology Group

• Information Technology Group Monthly Activities for February 2025

Summary

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

Purpose

Informational

Detailed Report

In response to the recent wildfires in Los Angeles, a request from Metropolitan's Emergency Operations Center (EOC) was made for a Geographic Information System (GIS) layer that gave users the ability see areas that had a "Do Not Drink" water notification. The IT GIS team swiftly stepped into action by aggregating the areas of concern into a GIS layer that was added to the Metropolitan Common Operating Picture dashboard, which is available internally to all Metropolitan employees. The layer also includes links to various agencies that published "Do Not Drink" water notifications. The information was determined in collaboration with External Affairs and the Office of Substantiality, Resilience, and Innovation.

Additionally, a second request was made to give access to the water notifications layer to users at the LA County EOC. The team was able to create a web application in the Metropolitan ArcGIS online organization account that gave users outside of Metropolitan the ability to search by address to see if that address was in an area where there was a "Do Not Drink" water notification. The application was reviewed by internal and external staff and published to social media with good engagement. Feedback has been very positive.

Currently, most of the water notifications are still active. Staff is monitoring the situation and updating the layer as new information is made available.

Board Report Information Technology Group Monthly Activities for February 2025

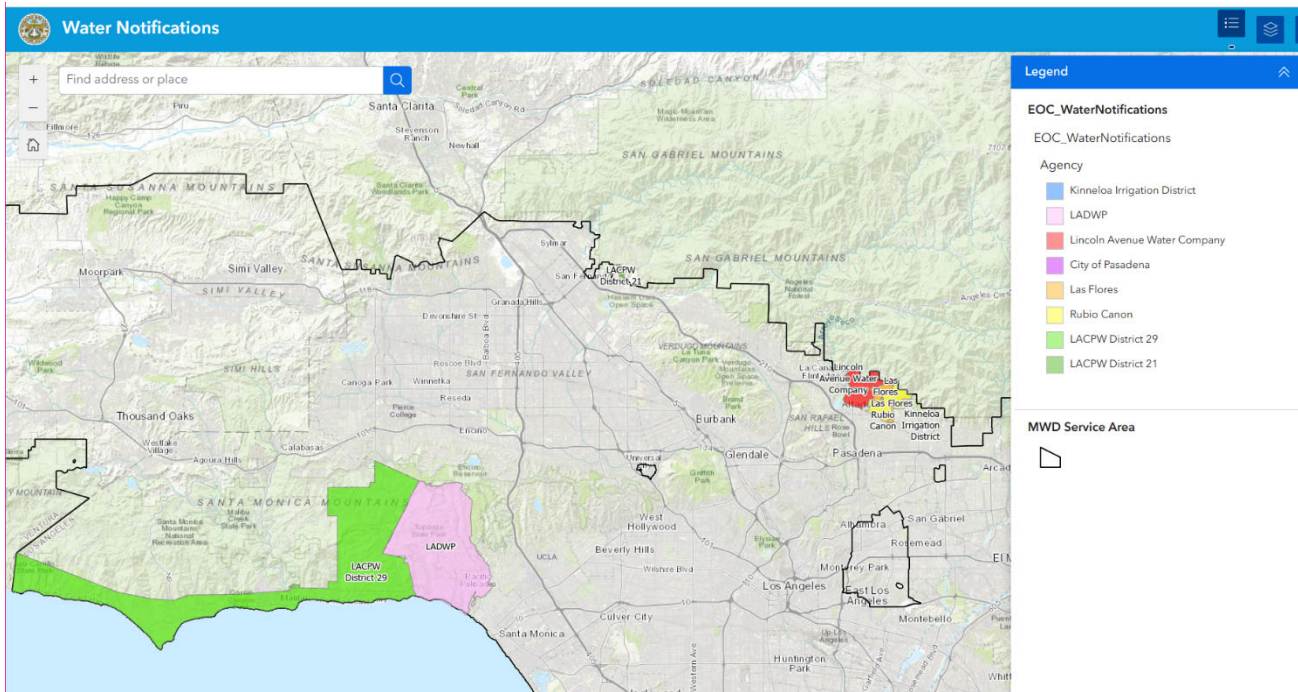


Image 1: Image from ArcGIS application of areas with a “Do Not Drink” notification.



Operations Groups

• February Operations Groups Monthly Activities Report

Summary

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

- Enhance Workforce Safety
- Develop Workforce and Prepare Employees for New Opportunities
- 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
- Ensure Power and Environmental Regulatory Compliance
- Optimize Asset and Maintenance Management
- Enhance Emergency Preparedness and Response
- Prepare for Future Legislation and Regulations
- Engage with Member Agencies and Other Stakeholders on Technical Matters

Purpose

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

Attachments

Attachment 1: Detailed Report –Operations Groups’ Monthly Activities for January 2025

Operations

Operations Groups

Core Business Objectives

Enhance Workforce Safety

Diemer plant staff recently upgraded the perimeter lighting at the OC-88 pump station to LED to enhance security and worker safety. Weymouth plant staff supported work at the Pure Water Southern California Napolitano Innovation Center by installing lighting to enhance security, visibility, and worker safety.



Staff installing new lighting (left) and new lighting at OC-88 pump station (right)



Napolitano Innovation Center before (left) and after (right) installing new lighting

Operations

Develop Workforce and Prepare Employees for New Opportunities

With upcoming retirements, succession planning, and knowledge transfer are crucial for the Manufacturing Services Unit to stay ready for emergency and routine requests. To prepare, La Verne Shops coatings staff trained in applying mortar lining and gunite to large-diameter piping, focusing on material estimation, mixing, and application techniques. The training included fabricating six- and eight-foot diameter pipe sections and sharpening essential pipe fabrication skills. Future sessions will cover stulling (internal bracing) lined pipes for shipment and maintaining mortar lining equipment.



Staff mixing mortar and loading pump (left) and applying mortar to pipe interior (right)

Manage Business Operations, Budget, and Staffing

Business Management Team's (BMT) focus for January was to create a separate tracking system for Operations Groups fleet and non-fleet operating equipment (OE) in partnership with Fleet Services. Separating fleet versus non-fleet OE allows for more efficient monitoring of equipment needs, replacement planning, and purchasing progress. This ultimately enhances the customer service provided by BMT and Fleet Services to their end users.

Operations

Provide Reliable Water Deliveries and Manage Storage

Metropolitan member agency water deliveries were 84,800 acre-feet (AF) for January with an average of 2,700 AF per day, which was about 1,600 AF per day lower than in December. Metropolitan suspended delivering water to the Cyclic and Conjunctive Use Programs in 2025 considering the initial low SWP Allocation. Treated water deliveries were 200 AF lower than in December for a total of 57,200 AF, or 67 percent of total deliveries for the month. The Colorado River Aqueduct (CRA) pumped a total of 65,000 AF in January. State Water Project (SWP) imports averaged 660 AF per day, totaling about 20,400 AF for the month. The target SWP blend is 0% for Skinner, Weymouth, and Diemer.

With the end of 2024 marking a record storage level of over 3.8 million AF, Metropolitan has sufficient imported supplies and storage to meet demands in 2025. 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 has increased the SWP Allocation from the initial 5% to 15%. Metropolitan is continuing to minimize the use of Table A supplies to preserve supplies for the SWP-Dependent Area and guard against potential drought conditions.

Develop New Supplies and Optimize System Flexibility

Baseline monitoring continued for tertiary membrane bioreactor nitrification-denitrification testing at the Pure Water Southern California Napolitano Innovation Center demonstration plant, following a diurnal flow pattern. Additionally, staff continued supporting the Los Angeles County Sanitation Districts (LACSD) reverse osmosis concentrate testing. This testing aims to replicate toxicity tests conducted earlier in the year to ensure that future full-scale operations will not adversely affect LACSD's discharge permits or the surrounding environment near the ocean outfall. Staff is also comparing multiple bench-scale methods and an online analyzer to determine the most consistent and accurate method to measure free chlorine in the influent and effluent of the UV system. In addition, staff are working with LACSD to prepare for the procurement and installation of snail mitigation measures for the treatment process.



Staff preparing samples and comparing chlorine analysis methods for UV testing at the Napolitano Innovation Center

Operations

Manage Power Resources and Energy Use in a Sustainable Manner

Overall, the winter operating period to date has been relatively mild across the California Independent System Operator (CAISO) and Western Electricity Coordinating Council (WECC) operational footprints. Energy markets in January 2025 have seen plentiful natural gas supplies. Natural gas prices remained in the \$2-3/MM-BTU range, with electricity prices in the CAISO SP15 market at \$40-60/MW-hr off-peak and around \$100/MW-hr on-peak.

The CRA averaged about 4.5 pumps in January 2025. The CRA energy cost budget for fiscal year 2024/25 is \$71.4 million, and the current cost forecast for the 2024/25 fiscal year is slightly lower at \$67.0 million due to moderate energy costs. Monthly costs are forecast to decrease heading into the spring high solar season and March CRA shutdown.

The US Bureau of Reclamation (USBR) completed an engineering review of Hoover Dam's hydroelectric turbines following record low water conditions in 2022. The review led to a significant adjustment of the Hoover generation output curve. The USBR found that at lower lake levels, only 5 of the 16 hydroelectric turbines can operate without risking cavitation damage. As a result, if Lake Mead's elevation drops to 1,035 feet above sea level (it is currently at 1,066 feet), Hoover capacity decreases from 1,304 MW to 382 MW. This reduction would impact Metropolitan's CRA energy costs, as Metropolitan is the largest Hoover power contractor and receives 28% of the energy and 12% of the capacity generated by the dam's turbines. Staff continues to coordinate with USBR on future options to mitigate potential lost energy capacity.

Protect Source Waters and Ensure Water Quality Compliance

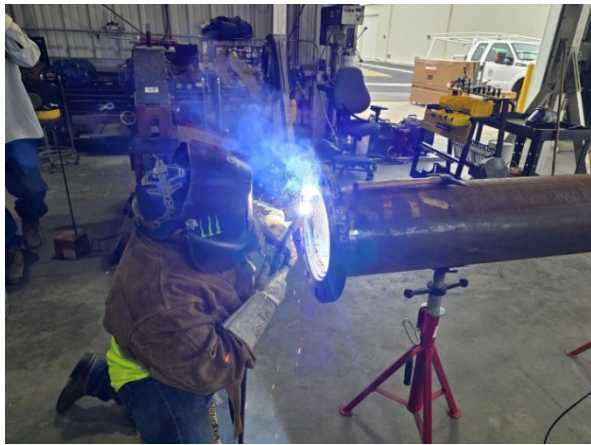
Metropolitan complied with all water quality regulations and primary drinking water standards during December 2024. On January 28, staff participated in the Invasive Mussel Water Agency Summit organized by the California Department of Fish and Wildlife, which focused on the spread of quagga mussels into the southern SWP and potential impacts following the recent discovery of golden mussels in the California Delta and O'Neill Forebay at San Luis Reservoir.

Operations

Optimize Water Treatment and Distribution

The SWP target blend entering the Weymouth and Diemer plants, and Lake Skinner remained at zero percent in January. Flow-weighted running annual averages for total dissolved solids from October 2023 through September 2024 for Metropolitan's treatment plants capable of receiving a blend of supplies from the SWP and the CRA were 518, 571, and 523 mg/L for the Weymouth, Diemer, and Skinner plants, respectively.

Staff began the Jensen plant chlorine ejector building modifications project. The manifold water piping modification work is being completed in two stages to reduce operational impact and improve plant reliability. To limit the shutdown duration, staff constructed and coated the manifold piping at the weld shop at the Lake Mathews and La Verne Shops prior to installing it during the planned Jensen plant shutdown in January.



Staff welding new manifold piping (left) and disassembling existing manifold (right)

Staff recently replaced a faulty meter at service connection WB-06A on the Palos Verdes Feeder in the City of Rolling Hills. The new 30 cfs capacity, 18-inch magmeter will provide long-term reliability and accurate metering for the service connection.

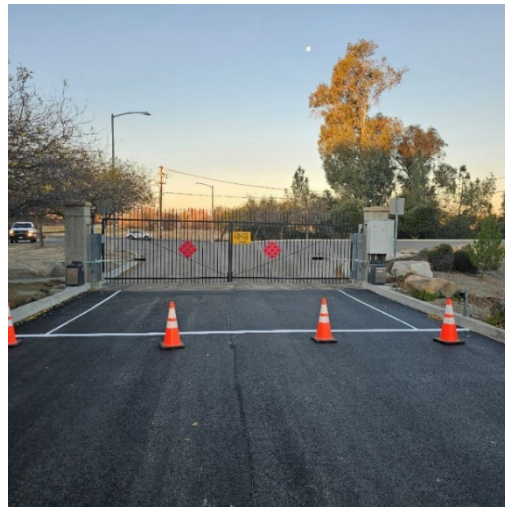
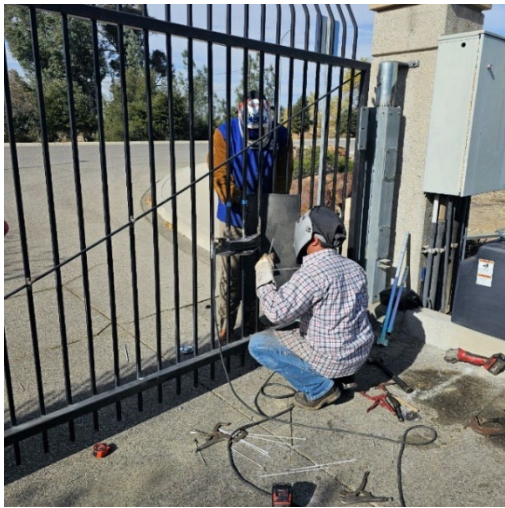


Staff removing and replacing a faulty meter with a new meter at WB-06 service connection on the Palos Verdes Feeder

Operations

Protect Infrastructure and Optimize Maintenance

Skinner plant staff replaced the chemical delivery entrance gate hydraulic operator with a new electric motor operator. The chemical delivery entrance gate allows Skinner to stage chemical delivery trucks on the plant property without blocking the public road or plant entrance while they are being inspected prior to receiving deliveries. The old hydraulic operator for the gate failed and was unserviceable. Staff replaced it with an electric operator that can easily be serviced and maintained in the future. Installation of the new electric operators included trenching, installation of electrical conduit, and welding of new operator arms. Following installation, the asphalt was repaved and restriped.



Staff welding new electric arm operator on Skinner plant chemical delivery entrance gate (left) and completed gate after paving and striping (right)

Operations

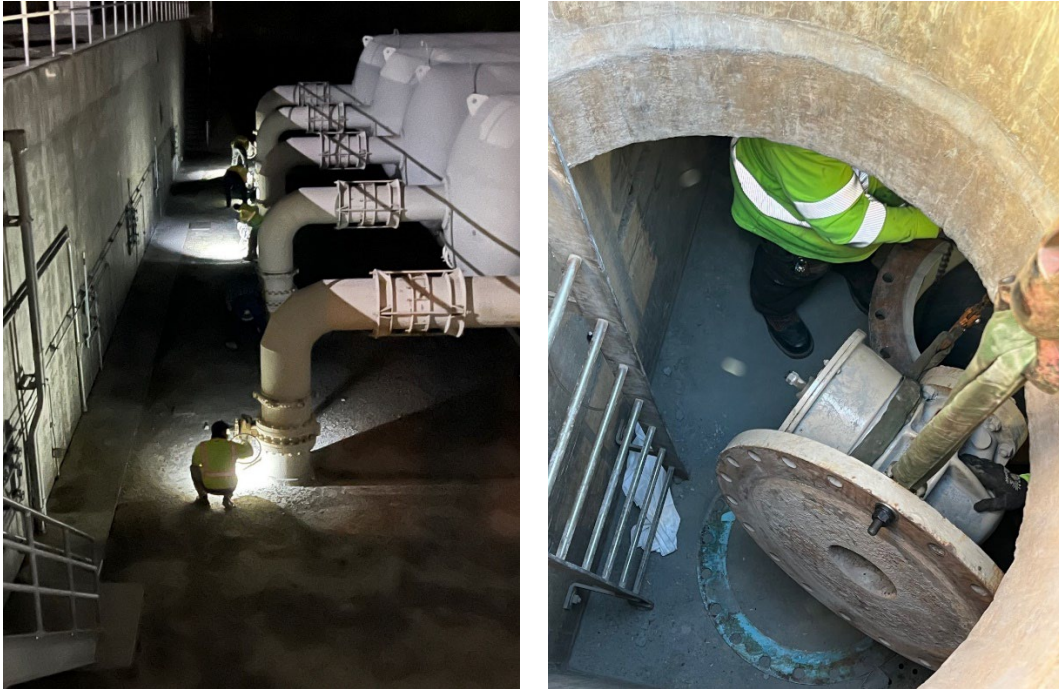
During a routine inspection of the chlorine scrubber system, Mills plant staff identified several gaskets needing replacement. The mechanical scrubber system utilizes a caustic soda solution to neutralize chlorine gas in the event of a leak. Staff coordinated with the chemical vendor to be onsite to remove all caustic from the north scrubber to mitigate potential hazards while performing maintenance. A redundant scrubber remained in operation so the work would not impact plant operations. Caustic was then refilled, and the system was tested for proper operation.



Vendors hooking up pump to recover caustic solution (left) and equipment and materials staged to expedite repairs (right)

Operations

Staff recently completed a shutdown of the Allen-McColloch Pipeline (AMP) to return the lower portion of the pipeline to service. The lower portion of the pipeline was removed from service in April 2024 for urgent relining due to an elevated number of wire breaks found in late 2023 in the pre-stressed concrete cylinder pipe. With the relining complete, the AMP line is back to normal operation. This is a major milestone and represents a significant effort by Metropolitan's operations and engineering staff, in collaboration with the Orange County agencies, to quickly plan and restore this critical pipeline and ensure reliable water deliveries.



Staff inspecting surge arrest tanks at OC-88 Pump Plant prior to returning the AMP to service (left) and staff removing flange and valve to gain access to the AMP (right)

Operations

Older copper communication lines are being upgraded to fiber optic throughout the district at remote areas such as hydroelectric plants, pressure control structures, and metering stations. The new fiber optic cables will allow for higher bandwidths, greater security capabilities, and improved reliability in areas that frequently experience communication issues. Staff at the Santiago Creek Pressure Control Structure, along the East Orange County Feeder No. 2, began preparations for the new fiber optic cable.



Staff installing pull rope (left) and mounting a new enclosure (right) at the Santiago Creek PCS

Ensure Power and Environmental Regulatory Compliance

Metropolitan began its annual self-certification process for the calendar year 2024, attesting to compliance with mandatory electric reliability compliance requirements as promulgated by the North American Electric Reliability Corporation (NERC) in January 2025. Metropolitan is subject to 39 NERC standards with 135 unique requirements. The Western Electricity Coordinating Council is the Regional Entity tasked with enforcing NERC standards.

Operations

Optimize Asset and Maintenance Management

Desert staff is in the process of replacing power poles at the Iron Mountain facility. The wooden poles are exposed to the harsh desert environment and high winds, and several of them have reached the end of their effective life spans. Metropolitan’s power line maintenance team is systematically changing out these poles with new 45-foot wood poles.



Iron Mountain power pole replacement

Desert staff have been working on emergency sewer repairs in the Iron Mountain village area. The existing sewer line is a six-inch clay pipe that is approximately 60 years old. Plumbers have replaced approximately 120 feet of the system so far, and the sewer line is expected to be back in service by the end of January.



Iron Mountain sewer line replacement

Operations

Desert staff continues to refurbish a pump unit discharge valve at Gene pumping plant. Desert coatings staff are currently blasting and recoating the interior of the valve to protect it from corrosion.



Containment for blasting and coating of discharge valve

Desert staff coordinated with Water Quality to facilitate the installation of new valves on the domestic water tank at the Hinds pumping plant. The existing valves were at the end of their service life. The new valves will ensure the continued safe operation of the domestic water system.



Staff disinfecting valves before installation on the potable water system

Operations

Staff replaced carbon dioxide system hoses in the Hinds pumping plant fire suppression system. The carbon dioxide system protects the 12,500 hp motors in the event of a fire. Maintenance of the system is conducted regularly by staff and then inspected and certified by an outside vendor.



Staff replacing hoses on the Hinds pumping plant carbon dioxide fire suppression system

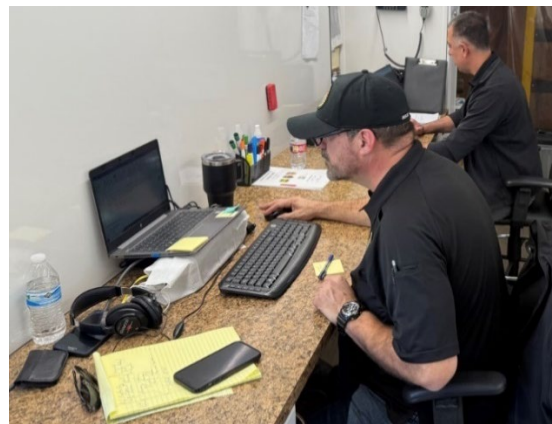
Operations

Enhance Emergency Preparedness and Response

Mills plant experienced temporary power loss due to the high wind event and Southern California Edison’s public safety power shutoff (PSPS) at the Perris chemical unloading facility. The backup generator came on as designed. The chemical unloading facility’s backup generator had a failure several hours after taking the load which resulted in treatment plant staff transporting a portable generator and restoring power.

During the high wind event, the Skinner plant lost utility electrical power for over 52 hours. During that time, the plant operated on emergency diesel-powered electrical generators to maintain treatment processes. The generators operated very well for approximately 50 hours until there was a failure in the fuel pump for the 4160V electrical generators. After the fuel pump failed, the 4160V generators shut down, and then the secondary backup 480V diesel-powered electrical generators were brought online to keep the plant in operation. Within an hour, staff were able to get the main 4160V generator restarted. Shortly thereafter, utility power was restored, and operations resumed as normal.

Significant wildfires devastated northern Los Angeles County this month. On January 7, Metropolitan’s Emergency Operations Center (EOC) was activated for two weeks in response to the Palisades, Eaton, and Hurst fires. Staff took several operational actions including increasing treatment plant flows as needed, coordinating with the Department of Water Resources (DWR) to end a shutdown early to provide greater flexibility and resilience for water deliveries, protecting the Sepulveda Pressure Control Structure (PCS) from potential fire impacts, and ensuring uninterrupted water deliveries despite several power disruptions. Metropolitan staff was also embedded within the Los Angeles County EOC and the fire incident command fire posts located at the Rose Bowl and Zuma Beach to coordinate with emergency responders and ensure the protection and recovery of critical water infrastructure. Overall, there were no significant impacts to Metropolitan’s facilities due to these fires.



EOC activities at Metropolitan’s command trailer within the Eaton Fire Incident Command Post at the Rose Bowl

Operations

Significant damage was sustained by several local water systems. Staff actively supported agencies impacted by the Eaton Fire through mutual assistance including providing generators and pumps, skilled electricians and mechanics, diesel fuel reserves for backup generators, and additional supplies and resources, including bottled water. After the EOC was deactivated, staff continued to support local agencies through mutual assistance on near-term recovery efforts focused on returning water systems to service.



Staff coordinating with member agencies, along with retail agency representatives, on recovery efforts for water systems impacted by the Eaton Fire

On January 9, the Palisades Fire was approximately one mile west of the Sepulveda PCS, with eastern winds pushing it toward the facility. Staff mobilized water trucks and began onsite irrigation to water down the hillsides at the Sepulveda PCS and chlorine injection building. These efforts help to ensure protection of the facility. Ultimately, fire crews controlled the eastern boundary of the fire, and the facility was not impacted.



Smoke coming from the Palisades Fire (left) and water truck watering vegetation (right) at Sepulveda PCS

Operations

At Sepulveda PCS, staff also repaired existing irrigation systems and installed new sprinkler lines to moisten the perimeter of the facility. A contractor rapidly removed trees and shrubs around the perimeter of the Sepulveda PCS to prevent further fire potential. In addition, staff provided a diesel-operated pump system to Pasadena Water and Power to assist with their fire recovery efforts.



Before (left) and after (right) photos of tree and shrub removal at Sepulveda PCS



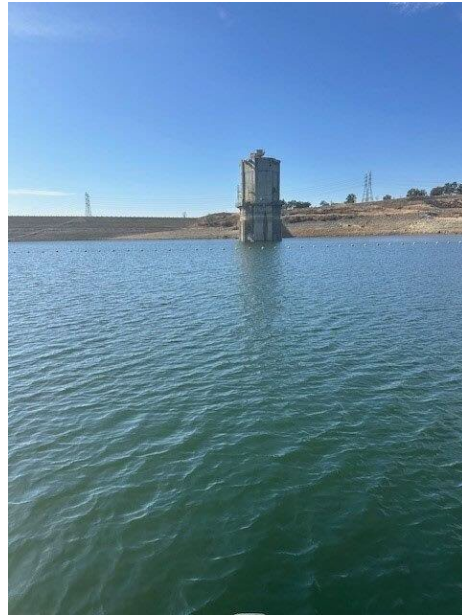
Completed clearing of brush on hillside at Sepulveda PCS



Staff provided a six-inch pump and assisted with initial startup for Pasadena Water & Power

Operations

On January 22, the Hughes Fire started just north of Castaic Lake and quickly spread, resulting in an evacuation of areas at and around the lake. Staff coordinated with DWR to monitor conditions at Castaic Lake and Metropolitan's Foothill PCS. Foothill PCS lost utility power but maintained operation through a backup generator. Early reports from DWR indicate minimal damage from the fire. Staff are coordinating closely with DWR to prepare for any potential impacts of high sediment-laden runoff into the lake due to the burned watershed. Current observation of the lake indicated that no debris had been mobilized onto the lake's surface by the recent rains.



Smoke coming from the Hughes Fire as viewed from Foothill PCS (left) and Castaic Lake close to the outlet tower (right)

Operations

Prepare for Future Legislation and Regulations

On December 4, the Office of Environmental Health Hazard Assessment proposed lowering the public health goal (PHG) for N-Nitrosodimethylamine (NDMA) in drinking water from 3 parts per trillion (ppt) to 0.5 ppt. NDMA is a byproduct of the chlorination process. The Division of Drinking Water will now take this recommendation under advisement when potentially drafting an enforceable maximum contaminant level (MCL) for NDMA in drinking water. Currently, NDMA only has a non-enforceable Notification Level (NL) of 10 ppt that was established in 2002. For calendar year 2024, Metropolitan's treated water effluents and systemwide distribution system were consistently below the 10 ppt NL. Staff worked through ACWA to provide technical comments on the draft PHG.

On December 17, staff submitted comments to the Office of Administrative Law regarding the Fish and Game Commission's emergency regulation that added golden mussels to its list of restricted animals or regulated invasive species. The emergency regulation makes it illegal to import, transport, and possess golden mussels in California. The restricted designation also allows water managers operating mussel prevention programs grounds to refuse watercraft from launching into waterways, as well as allows law enforcement to detain vessels or equipment suspected of being exposed to golden mussels. Metropolitan requested that Fish and Game either amend or delay implementation of the emergency regulation until it is clarified that affected water agencies may operate using control measures or a control plan to avoid infesting other regulated water bodies; similar to how quagga mussels are dealt with. The emergency regulation went into effect on December 19, with no additional changes.

On January 9, the Environmental Protection Agency's (EPA) National Drinking Water Advisory Council met to discuss a proposed National Primary Drinking Water Regulation (NPDWR) for perchlorate. This action is in response to a January 5 Consent Decree in the NRDC v. EPA case that required EPA to propose a maximum contaminant level goal (MCLG) and NPDWR for perchlorate by November 21, 2025, and publish the final MCLG and NPDWR by May 21, 2027. Staff will continue to monitor for any further updates with respect to regulating perchlorate at the federal level.

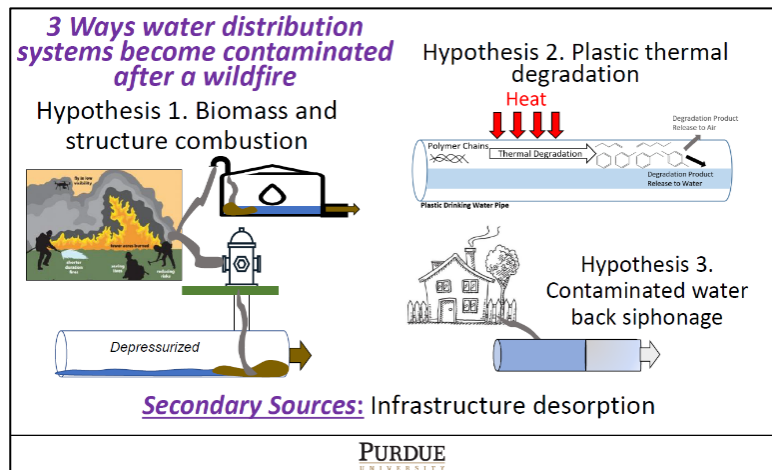
On January 14, the California Air Resources Board (CARB) withdrew its request for a waiver from the U.S. Environmental Protection Agency to implement its Advanced Clean Fleets regulation. CARB staff has stated they have the authority to enforce the State and Local Government Agency Fleet portion of the rule—which Metropolitan falls under— regardless of the status of the EPA waiver. As such, Metropolitan still needs to convert its medium- and heavy-duty trucks to zero-emission technologies, which started last year. Staff is implementing a zero-emission vehicle transition plan while still working with industry organizations to advocate for additional regulatory relief.

On January 17, staff submitted comments regarding the State Water Resources Control Board's (SWRCB) proposed amendments to its Underground Storage Tank (UST) Regulations. Metropolitan has 39 USTs that store gasoline or diesel that are subject to these regulations. In addition to deleting older references to single-walled USTs, the draft regulations propose streamlined construction, monitoring, and testing requirements. It also utilizes performance goals over prescriptive methods where possible; and reorders the sections within the UST regulations. Staff's comments focused on technical concerns with specific operating, monitoring, closure, and inspection form requirements. Staff will continue to track these regulations as they move forward.

Operations

Engage with Member Agencies and Other Stakeholders on Technical Matters

On January 15, staff coordinated a meeting with member agencies, local water utilities, and the Division of Drinking Water to discuss water system impacts, response, and recovery following the devastating wildfires in Los Angeles County. The meeting included a presentation from Dr. Andrew Whelton of Purdue University on lessons learned from previous wildfire impacts on water systems. It also included updates from the affected utilities who shared their experiences with system damage, water quality monitoring, and customer communications.



Slides presented during multiagency meeting on wildfire impacts and recovery



Engineering, Operations, & Technology Committee

Management Announcements and Highlights

Item 7a

February 10, 2025

Engineering Services

Phil Drooks Retiring after 43 years of service



Reviewing Coating Performance



Phil - 1982



Cholla Siphon Inspection



Tank Lining Inspection



One of Many Coatings Lab Tours

Coating Lab Reliability through Testing



Failed Coating Test Coupons



Coating Application Room



Coating Application



Immersion Testing



Accelerated Weather
Testing



Hydrophilic Gel
Bench Testing

Water System Operations

Managing State Water Project Supplies

Current Operational Conditions



*California Aqueduct in
Central California*

- 2025 SWP Allocation at 20%
- CRA at 4-pump flow until March shutdown
- Deliveries to DWCV at 0 cfs
- SWP blend targets are 0% at Weymouth, Diemer, and Skinner
- January 2025 deliveries of 84 TAF, which is 17 TAF higher than January 2024

Managing State Water Project Supplies

February 2025
Operations

Minimize
West Branch

Minimize
East Branch

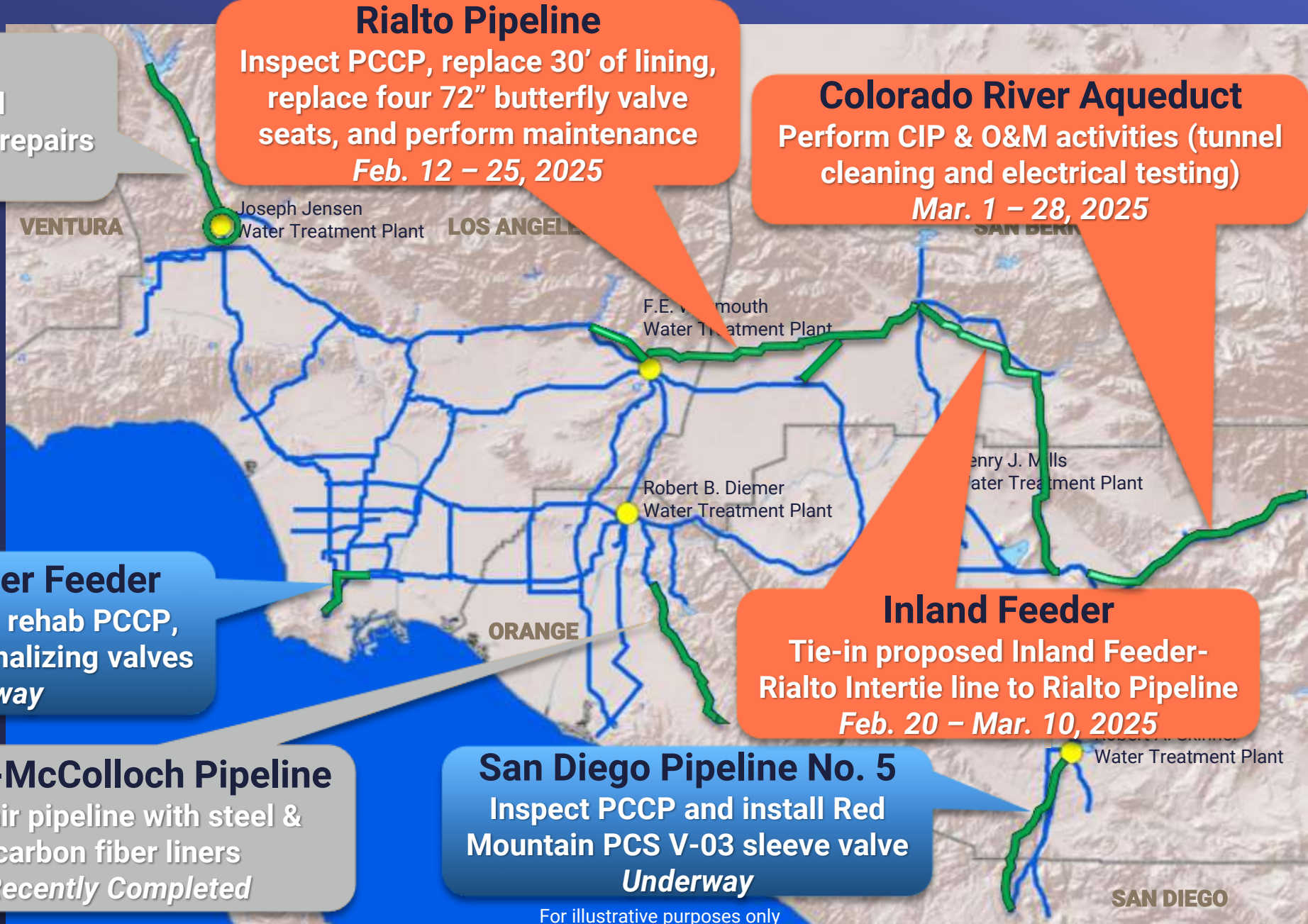
CRA at
4 pumps

0% SWP blends at Weymouth
Diemer, & Skinner



Minimizing SWP Supplies to
Prepare for Possible
Drought Sequence

Ensuring Continued System Reliability



Foothill Feeder
Support DWR's bulkhead installation/removal and valve repairs
Postponed

Rialto Pipeline
Inspect PCCP, replace 30' of lining, replace four 72" butterfly valve seats, and perform maintenance
Feb. 12 - 25, 2025

Colorado River Aqueduct
Perform CIP & O&M activities (tunnel cleaning and electrical testing)
Mar. 1 - 28, 2025

Second Lower Feeder
Install bulkhead, rehab PCCP, and install sectionalizing valves
Underway

Inland Feeder
Tie-in proposed Inland Feeder-Rialto Intertie line to Rialto Pipeline
Feb. 20 - Mar. 10, 2025

Allen-McColloch Pipeline
Repair pipeline with steel & carbon fiber liners
Recently Completed

San Diego Pipeline No. 5
Inspect PCCP and install Red Mountain PCS V-03 sleeve valve
Underway

For illustrative purposes only

Information Technology

Information Technology Wildfire Support

- GIS team aggregated the areas of concern into a GIS layer that was added to the Metropolitan Common Operating Picture Dashboard
- The layer also includes links to various agencies that published "Do Not Drink" water notifications
- Additionally, the team created a web application in the Metropolitan ArcGIS online organization account that gave users outside of Metropolitan the ability to search by address to see if that address was in an area where there was a "Do Not Drink" water notification

