



E&O Committee

T. Smith, Chair
Vacant, Vice Chair
R. Apodaca
S. Blois
M. Camacho
D. De Jesus
L. Dick
S. Faessel
L. Fong-Sakai
R. Lefevre
J. Morris
G. Peterson
H. Repenning
H. Williams

Engineering and Operations Committee

Meeting with Board of Directors *

June 13, 2022

10:30 a.m.

Teleconference meetings will continue until further notice. Live streaming is available for all board and committee meetings on mwdh2o.com ([Click Here](#))

A listen only phone line is also available at 1-877-853-5257; enter meeting ID: 831 5177 2466. Members of the public may present their comments to the Board on matters within their jurisdiction as listed on the agenda via teleconference only. To participate call (833) 548-0276 and enter meeting ID: 815 2066 4276.

**Monday, June 13, 2022
Meeting Schedule**

09:30 am - F&I
10:30 am - E&O
12:00 pm - Break
12:30 pm - RP&AM
01:00 pm - C&L
02:00 pm - WP&S

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 and Operations Committee held May 10, 2022 [21-1208](#)

Attachments: [06132022 EO 2A minutes](#)

3. CONSENT CALENDAR ITEMS - ACTION

- 7-5** Authorize three-year agreements with Power-Tech Engineers, Inc., HDR, Inc., Mangan, Inc., and Burns & McDonnell Engineering Company, Inc., each in a not-to-exceed amount of \$2,250,000, for specialized technical services to enhance arc flash protection at Metropolitan facilities; the General Manager has determined that this proposed action is exempt or otherwise not subject to CEQA **[21-1195](#)**

Attachments: [06142022 EO 7-5 B-L](#)
[06132022 EO 7-5 Presentation](#)

- 7-6** Adopt the CEQA determination that the proposed action was previously addressed in the certified 2022 Final Program EIR and related CEQA documents; and award a \$6,176,521 contract to Siemens Industry, Inc. for the construction of battery energy storage systems at the F. E. Weymouth Water Treatment Plant; and authorize an increase of \$300,000 to an agreement with Stantec Inc. for construction support for a new not-to-exceed total of \$1,750,000 **[21-1196](#)**

Attachments: [06142022 EO 7-6 B-L](#)
[06132022 EO 7-6 Presentation](#)

- 7-7** Award a \$2,257,897 contract to Leed Electric, Inc. for replacement of ozone power supply units at the Joseph Jensen Water Treatment Plant; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **[21-1197](#)**

Attachments: [06142022 EO 7-7 B-L](#)
[06132022 EO 7-7 Presentation](#)

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

4. OTHER BOARD ITEMS - ACTION

NONE

5. BOARD INFORMATION ITEMS

NONE

6. COMMITTEE ITEMS

- a.** Regional Recycled Water Program Update **[21-1213](#)**

Attachments: [06132022 EO 6a Presentation](#)

- b. Emergency Response Program Update [21-1215](#)

Attachments: [06132022 EO 6b Presentation](#)

- c. Capital Investment Plan quarterly report for period ending April 2022 [21-1214](#)

Attachments: [06142022 EO 6c Report](#)

7. MANAGEMENT REPORTS

- a. Water System Operations Manager's Report [21-1216](#)

Attachments: [06132022 EO 7a Presentation](#)

- b. Engineering Services Manager's Report [21-1217](#)

Attachments: [06132022 EO 7b Presentation](#)

8. FOLLOW-UP ITEMS

NONE

9. FUTURE AGENDA ITEMS

10. ADJOURNMENT

NOTE: This committee reviews items and makes a recommendation for final action to the full Board of Directors. Final action will be taken by the Board of Directors. Agendas for the meeting of the Board of Directors may be obtained from the Board Executive Secretary. 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 <http://www.mwdh2o.com>.

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 AND OPERATIONS COMMITTEE

May 10, 2022

Chair Smith called the teleconference meeting to order at 9:30 a.m.

Members present: Chair Smith, Directors Apodaca, Blois, Camacho (entered after roll call), De Jesus, Dick, Faessel, Lefevre, Morris, Peterson, Repenning (entered after roll call), and Williams

Members absent: Director Fong-Sakai

Other Board members present: Directors Abdo, Ackerman, Atwater, Dennstedt, Erdman, Fellow, Goldberg, Gray, Kurtz, McCoy, Miller, Ortega, Pressman, Record, and Tamaribuchi

Committee staff present: Bednarski, Chapman, Hagekhalil, Lahouti, Rohen, Scully, Upadhyay, and Yamasaki

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

1. Katie Wagner, Sierra Club California – Asked questions about Item 7-4
2. Maura Monagan, Policy & Government Affairs Manager, Los Angeles Water Keeper – In support of Item 7-2

CONSENT CALENDAR ITEMS -- ACTION

2. CONSENT CALENDAR OTHER ITEMS - ACTION

- A. Approval of the Minutes of the Engineering and Operations Committee held April 11, 2022

Chair Smith announced he would be delegating meeting to Director Faessel and recused himself for item 7-7.

Directors Blois and Morris recused themselves for item 7-4.

Staff responded to Public Comments on Item 7-4.

Director Camacho entered the meeting.

Director Repenning entered the meeting.

The following Directors provided comments or asked questions:

1. Ortega
2. Camacho
3. Miller
4. Erdman

Staff announced that Director Blois had left the room prior to 7-4 discussion.

3. CONSENT CALENDAR ITEMS – ACTION

John Bednarski introduced item 7-5.

- 7-5 Subject: Review and consider Addendum No. 1 to the certified 2015 Final Environmental Impact Report for the Weymouth Plant Improvements; award a \$93,840,000 contract to J. F. Shea Construction, Inc. for rehabilitation of Basins Nos. 5-8 and Filter Building No. 2 at the F. E. Weymouth Water Treatment Plant; and authorize an agreement with Carollo Engineers, Inc., for an amount not to exceed \$495,000 for engineering support during construction

Presented by: Gary Cho, Engineer, Engineering Services Group

- Motion:
- a. Review and consider Addendum No. 1 to the certified 2015 Final Environmental Impact Report for the Weymouth Plant Improvements.
 - b. Award a \$93,840,000 contract to J. F. Shea Construction, Inc. to rehabilitate Basins Nos. 5-8 and Filter Building No. 2 at the Weymouth plant.
 - c. Authorize an agreement with Carollo Engineers, Inc. for a new not-to-exceed total of \$495,000 to provide engineering support.

The following Directors provided comments or asked questions:

1. Erdman
2. Smith

Staff responded to the Directors' comments or questions.

- 7-2 Subject: Certify the Final Program Environmental Impact Report for the Climate Action Plan and take related CEQA actions; adopt the Climate Action Plan; and authorize an increase of \$1.2 million to an agreement with Rincon Consultants, Inc. for a new not-to-exceed total of \$2.2 million for Climate Action Plan implementation support

- Presented by: Liz Crosson, Chief Sustainability, Resiliency, and Innovation Officer and Malinda Stalvey, Senior Environmental Specialist, Bay Delta Initiatives Group
- Motion: Certify the Final Program Environmental Impact Report for the Climate Action Plan and take related CEQA actions; adopt the Climate Action Plan; and authorize an increase of \$1.2 million to an agreement with Rincon Consultants, Inc for a new not-to-exceed amount of \$2.2 million for Climate Action Plan implementation support.

The following Directors provided comments or asked questions:

1. Goldberg
2. Repenning
3. Record
4. Abdo
5. Erdman

Staff responded to the Directors' comments or questions.

- 7-3 Subject: Adopt the CEQA determination that the proposed action was previously addressed in the certified Program Environmental Impact Report and related CEQA actions and (1) award an \$18,930,000 contract to Woodcliff Corporation for improvements to the La Verne Shops; and (2) authorize an agreement with Richard Brady & Associates for a not-to-exceed amount of \$650,000
- Motion: Adopt the CEQA determination that the proposed action was previously addressed in the certified Program Environmental Impact Report and related CEQA actions, and
- a. Award \$18,930,000 contract to Woodcliff Corporation for the La Verne Shops Improvements, Stage 5.
 - b. Authorize an agreement with Richard Brady & Associates for a not-to-exceed amount of \$650,000.
- 7-4 Subject: Award a \$3,143,592 contract to Blois Construction, Inc. for upgrades at three Sepulveda Feeder structures; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA
- Motion: Award a \$3,143,592 contract to Blois Construction, Inc. for electrical upgrades at three Sepulveda Feeder underground structures.
- 7-6 Subject: Award \$2,654,000 contract to MMC Inc. for replacement of chillers at OC-88 Pump Station; the General Manager has determined that the proposed action is

exempt or otherwise not subject to CEQA

Motion: Award \$2,654,000 contract to MMC Inc. for construction of the OC-88 Pump Station Chiller Replacement project.

7-7 Subject: Review and consider Addendum No. 5 to the certified 2017 Programmatic Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program; and award an \$11,884,700 contract to J. F. Shea Construction, Inc. to rehabilitate a portion of the Second Lower Feeder

Motion: Review and consider Addendum No. 5 to the 2017 Programmatic Environmental Impact Report, and award an \$11,884,700 contract to J. F. Shea Construction, Inc. to procure materials and perform construction for the rehabilitation of portions of the Second Lower Feeder.

After completion of the presentations, Director Peterson made a motion, seconded by Director Dick, to approve the consent calendar consisting of items 2A, 7-2, 7-3, 7-4, 7-5, 7-6, and 7-7.

The vote was:

Ayes: Directors Apodaca, Blois, De Jesus, Dick, Faessel, Lefevre, Morris, Peterson, Repenning, Smith, and Williams

Noes: None

Abstentions: None

Recusals: Directors Blois and Morris (Item 7-4), and Smith (Item 7-7)

Absent: Directors Camacho and Fong-Sakai

The motion for Items 2A, 7-2, 7-3, 7-5, and 7-6 passed by a vote of 11 ayes, 0 noes, 0 abstentions, and 2 absent

The motion for Item 7-4 passed by a vote of 9 ayes, 0 noes, 0 abstentions, 2 recusals, and 2 absent.

The motion for Item 7-7 passed by a vote of 10 ayes, 0 noes, 0 abstentions, 1 recusal, and 2 absent.

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

Director Faessel returned meeting to Chair Smith.

- Arc Flash planning summary

The following Directors provided comments or asked questions:

1. Faessel

Staff responded to the Director's comments or questions.

7. MANAGEMENT REPORTS

- a. Subject: Water System Operations Manager's Report
Presented by: Brent Yamasaki, Water System Operations, Group Manager

Mr. Yamasaki reported on the following:

- Continuing operational actions to address the record drought
- Engineering/Operations partnering effort
- Upper Feeder Santa Ana River Crossing leak update and repair plans
- Innovative power plant repair to preserve \$1.5M of hydropower revenue

The following Directors provided comments or asked questions:

1. Peterson
2. Miller

Staff responded to the Directors' comments or questions.

- b. Subject: Engineering Services Manager's Report
Presented by: John Bednarski, Engineering Services Group, Chief Engineer and
Group Manager

Mr. Bednarski reported on the following:

- Construction and procurement contracts
- Upper Feeder Santa Ana River Crossing leak investigation and repair
- Innovative CRA pump flow and efficiency pilot study
- 2022 Member Agency Engineering Managers Meeting
- Casa Loma Siphon Barrel No. 1 – Siphon replacement project contract

8. FOLLOW-UP ITEMS

NONE

9. FUTURE AGENDA ITEMS
NONE

The next meeting will be held on June 13, 2022.

Meeting adjourned at 11:21 a.m.

Tim Smith
Chair



● **Board of Directors**
Engineering and Operations Committee

6/14/2022 Board Meeting

7-5

Subject

Authorize three-year agreements with Power-Tech Engineers, Inc., HDR, Inc., Mangan, Inc., and Burns & McDonnell Engineering Company, Inc., each in a not-to-exceed amount of \$2,250,000, for specialized technical services to enhance arc flash protection at Metropolitan facilities; the General Manager has determined that this proposed action is exempt or otherwise not subject to CEQA

Executive Summary

Metropolitan utilizes an extensive electrical power distribution system to safely direct and deliver electrical power to operate its water treatment, conveyance, and hydroelectric facilities. Safe operation of these facilities to protect staff from arc flash (a sudden, unanticipated release of electric energy) hazards is essential. Assessing the potential hazards and developing risk mitigation strategies for Metropolitan's electrical power systems is necessary to minimize the risk to personnel and equipment of arc flash events. Current regulations also require updates to these risk assessments every five years. This action authorizes four specialized on-call professional service agreements to assess and mitigate arc flash risks for Metropolitan's electrical power systems.

Details

Background

Metropolitan depends on high-energy electrical power distribution systems to operate its water treatment, conveyance, and hydroelectric facilities. As its operating facilities expanded, and their complexity increased over time, the supporting electrical distribution systems have also become more intricate. Metropolitan adheres to all pertinent standards issued by the National Fire Protection Association (NFPA), National Electrical Code, and Occupational Safety Hazard Administration for the design, operation, and recertification of these systems.

While designed and manufactured to stringent safety standards, the high-voltage electric distribution equipment at many of Metropolitan's facilities are inherently dangerous. A sudden, large release of unexpected electrical energy, commonly called an arc flash, may occur when electric current leaves its intended path and travels through the air between one conductor and another or to the ground. The likelihood of an electrical power arc flash occurring may be low, but the potential severity of such an incident is high. As a result, Metropolitan has adopted control measures to reduce both the hazard and the likelihood of such an event taking place. These mitigation measures include de-energizing equipment, when possible, during maintenance activities; utilizing appropriate personal protective equipment; training staff; and maintaining a safe distance from operating equipment.

To further reduce the potential arc flash hazards, recent NFPA code changes now require formal risk assessments of facilities at intervals not to exceed every five years. These assessments will be a comprehensive effort that requires coordination with electrical utilities and the collection of field data (i.e., horsepower ratings of motors, cable data, etc.) on the existing electrical systems. The subsequent computer modeling of this equipment further involves the use of detailed and accurate one-line electrical diagrams, protective device settings, voltages at each point in the system, and ratings of all electrical distribution equipment and transformers. After an accurate electrical system model is developed, an arc flash analysis will be performed to identify potential electrical hazards and create a list of risk reduction recommendations, ranging from providing updated safe work zones and appropriate personnel protective equipment to labeling equipment indicating the hazard.

While the initial development of the electrical system model involves significant efforts, subsequent analyses for future updates can utilize the previously created model and simply incorporate any changes that have occurred in the subject equipment over the intervening five-year period.

Staff recommends proceeding with arc flash analyses for all of Metropolitan's high-voltage electrical systems, including water treatment plants, aqueduct pumping plants, and hydroelectric plants. To complete this important task expeditiously, four specialized on-call engineering service agreements are recommended for authorization at this time. On-call agreements are multi-year with annual not-to-exceed amounts and provide a high degree of flexibility to respond to schedule or scope adjustments, allow quicker delivery times, and lower administrative costs for both Metropolitan and the consultants. For these types of agreements, consultants are assigned work only after specific tasks are identified by staff, up to the not-to-exceed amounts of the contracts.

In accordance with the April 2020 action on the biennial budget for fiscal years 2020/21 and 2021/22, the General Manager will authorize staff to proceed with the actions described herein, pending board-authorization of the design services agreement described below. Based on the current Capital Investment Plan (CIP) expenditure forecast, funds for the work to be performed pursuant to this action during the current biennium are available within the Capital Investment Plan Appropriation for Fiscal Years 2020/21 and 2021/22 (Appropriation No. 15517). Funds required for work to be performed pursuant to the subject contract after fiscal year 2021/22 are budgeted within the Capital Investment Plan Appropriation for Fiscal Years 2022/23 and 2023/24.

Arc Flash Assessment and Mitigation

The arc flash assessment and mitigation work will be conducted jointly by Metropolitan staff and the consultants. Metropolitan staff will compile existing record drawings, safely isolate equipment (when required) for data gathering, reactivate electrical systems upon completion of data gathering, perform overall project management, and provide consultant oversight. Consultants will collect appropriate data, develop computer models, conduct analyses, prepare recommendations, and other activities as described below.

A total of \$12 million is required for this work. Allocated funds include an aggregated total of \$9 million for arc flash assessments by four consultants under new on-call agreements, as described below. Allocated funds for Metropolitan staff activities includes \$480,000 to isolate, shutdown, and reactivate electrical systems; \$1,600,000 for record drawing compilation, technical oversight, and review of consultant's work; \$320,000 for project management, project controls, and CIP office; and \$600,000 for the remaining budget.

The total cost to mitigate risks of arc flash events at Metropolitan facilities will be evaluated during performance of the assessments. **Attachment 1** provides the allocation of required funds.

Engineering Support for Arc Flash Assessment and Mitigation (Power-Tech Engineers Inc., HDR, Inc., Mangan Inc., and Burns & McDonnell Engineering Company, Inc.) – New Agreements

Metropolitan issued Request for Qualifications (RFQ) 1301 to provide engineering services for arc flash model development and analysis and received a total of 14 Statements of Qualifications. Due to the large number of Metropolitan's facilities and systems that would require arc flash analyses, and to ensure that the work is completed in a timely manner, four firms are recommended to perform the work. The RFQ process provided a competitive process in which the expertise of the firms' staff, technical approach, proposed methodology, and capability for the planned work were evaluated.

Power-Tech Engineers, Inc., HDR, Inc., Mangan, Inc., and Burns & McDonnell Engineering Company, Inc. are recommended for the engineering services detailed below, based upon their extensive expertise in arc flash model development. In addition, their all-round experience will facilitate the assessment and analysis of Metropolitan's complex electrical systems.

The planned scope of work for the selected consultants includes: (1) site investigations and data collection; (2) developing/verifying single-line electrical diagrams of Metropolitan facilities under study; (3) developing computerized electrical system models; (4) conducting arc flash assessment and analysis; (5) identifying recommendations for equipment safety or operational improvements; and (6) preparing arc flash warning/safety labels.

This action authorizes specialized on-call agreements with Power-Tech Engineers, Inc., HDR, Inc., Mangan, Inc., and Burns & McDonnell Engineering Company, Inc., each for a not-to-exceed total of \$750,000 per contract year

for a duration up to three years, and each for a total not-to-exceed contract amount of \$2,250,000, to assess and mitigate arc flash risks for Metropolitan facilities. On-call agreements are multi-year with annual not-to-exceed amounts and provide a high degree of flexibility to respond to schedule or scope adjustments, allow quicker delivery times, and lower administrative costs for both Metropolitan and the consultants. For these types of agreements, consultants are assigned work only after specific tasks are identified by staff, up to the not-to-exceed amounts of the contracts.

For these agreements, Metropolitan has established a Small Business Enterprise participation level of 25 percent. All four firms have committed to meet this level of participation.

Alternatives Considered

Several alternatives were considered to perform arc flash assessment and mitigation, including utilizing in-house Metropolitan staff to perform all work components. Metropolitan's staffing strategy for in-house Metropolitan staff has been: (1) to assess current work assignments for said staff and to determine the potential availability of staff to conduct this work; and (2) to use project-specific professional services agreements when resource needs exceed available in-house staffing or require specialized technical expertise in order to provide a concentrated engineering effort over an extended duration.

This strategy relies on the assumption that in-house engineering staff will handle the baseload of work on capital projects, while professional services agreements are selectively utilized to handle projects above this baseload or where specialized needs are required. This strategy allows Metropolitan's staff to be strategically utilized on projects to best maintain key engineering competencies and to address projects with special needs or issues.

After assessing the current workload for in-house staff, required expertise, and the relative priority of this project, staff has determined that insufficient electrical engineering staff is available to ensure completion of the work in a timely manner. Staff recommends utilizing a hybrid effort of consultant and Metropolitan staff for performance of this work. The consultants will perform the majority of arc flash assessment and mitigation work, and Metropolitan staff will provide needed site support and perform project reviews and oversight. This approach will allow for completion of not only this project, but also other budgeted capital projects within their current schedules and ensure that the work is conducted in the most efficient manner possible. Under these agreements, work assignments will be issued to consultants through task orders on a facility-by-facility basis.

Summary

This action authorizes agreements with Power-Tech Engineers, Inc. HDR, Inc., Mangan, Inc., and Burns & McDonnell Engineering Company, Inc. to assess and mitigate arc flash risks for Metropolitan facilities. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the listing of Subconsultants, and **Attachment 3** for the Location Map.

Project Milestone

December 2025 – Completion of arc flash assessment and mitigation for Metropolitan's high-voltage power distribution systems.

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

By Minute Item 51963, dated April 14, 2020, the Board appropriated a total of \$500 million for projects identified in the Capital Investment Plan for Fiscal Years 2020/21 and 2021/22.

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

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall action involves the funding, assessment, development, and design, of existing public or private structures, facilities involving negligible or no expansion of use, and no possibility of significantly impacting the physical environment. Additionally, the proposed action consists of basic data collection, research, experimental management, and resource evaluation activities, which do not result in a serious or major disturbance to an environmental resource. These may be strictly for information gathering purposes, or as part of a study leading to an action, which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed action qualifies under Class 1 and Class 6 (Sections 15301 and 15306 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Authorize agreements with Power-Tech Engineers, Inc., HDR, Inc., Mangan, Inc., and Burns & McDonnell Engineering Company, Inc., in an amount not-to-exceed total of \$750,000 each per year for a period of three years, to assess and mitigate arc flash risks for Metropolitan's facilities.

Fiscal Impact: Expenditure of \$12 million in capital funds. Approximately \$10,000 will be incurred in the current biennium and has been previously authorized. The remaining funds from this action are accounted for in the next biennial budget and were authorized in April 2022.

Business Analysis: This option will enhance the operational safety of Metropolitan's high-voltage power distribution systems with the appropriate level of expertise and within a reasonable timeframe.

Option #2


Do not proceed with these agreements at this time.

Fiscal Impact: None


Business Analysis: This option may forego or delay the opportunity to enhance the operational safety of Metropolitan's power distribution systems.

Staff Recommendation

Option #1


 John V. Bednarski
 Manager/Chief Engineer
 Engineering Services

5/20/2022
 Date


 Adel Hagekhalil
 General Manager

5/23/2022
 Date

Attachment 1 – Allocation of Funds

Attachment 2 – List of Subconsultants

Attachment 3 – Location Map

Ref# es12680296

Allocation of Funds for Arc Flash Assessments

| | Current Board Action (June 2022) |
|---|---|
| Labor | |
| Studies & Investigations | \$ 480,000 |
| Final Design | - |
| Owner Costs (Program mgmt., envir. monitoring) | 320,000 |
| Submittals Review & Record Drwgs. | 1,550,000 |
| Construction Inspection & Support | - |
| Metropolitan Force Construction | - |
| Materials & Supplies | 45,000 |
| Incidental Expenses | 5,000 |
| Professional/Technical Services | |
| Power-Tech Engineers, Inc. | 2,250,000 |
| HDR, Inc. | 2,250,000 |
| Mangan, Inc. | 2,250,000 |
| Burns & McDonnell Engineering Company, Inc. | 2,250,000 |
| Equipment Use | - |
| Contracts | - |
| Remaining Budget | 600,000 |
| Total | \$ 12,000,000 |

1. The total amount expended to date on the Arc Flash Assessment is approximately \$0.19 million. The total estimated cost to complete the model for Metropolitan high voltage facilities including the amount appropriated to date, and current funds requested, is approximately \$12.2 million.

The Metropolitan Water District of Southern California**Subconsultants for Agreement with HDR , Inc.**

| Subconsultant and Location |
|--|
| TJC & Associates, Inc. (TJCAA) Sacramento, CA |
| ProjectLine Technical Services (ProjectLine) Costa Mesa, CA |

Distribution System





Engineering & Operations Committee

Arc Flash Protection

Item 7-5

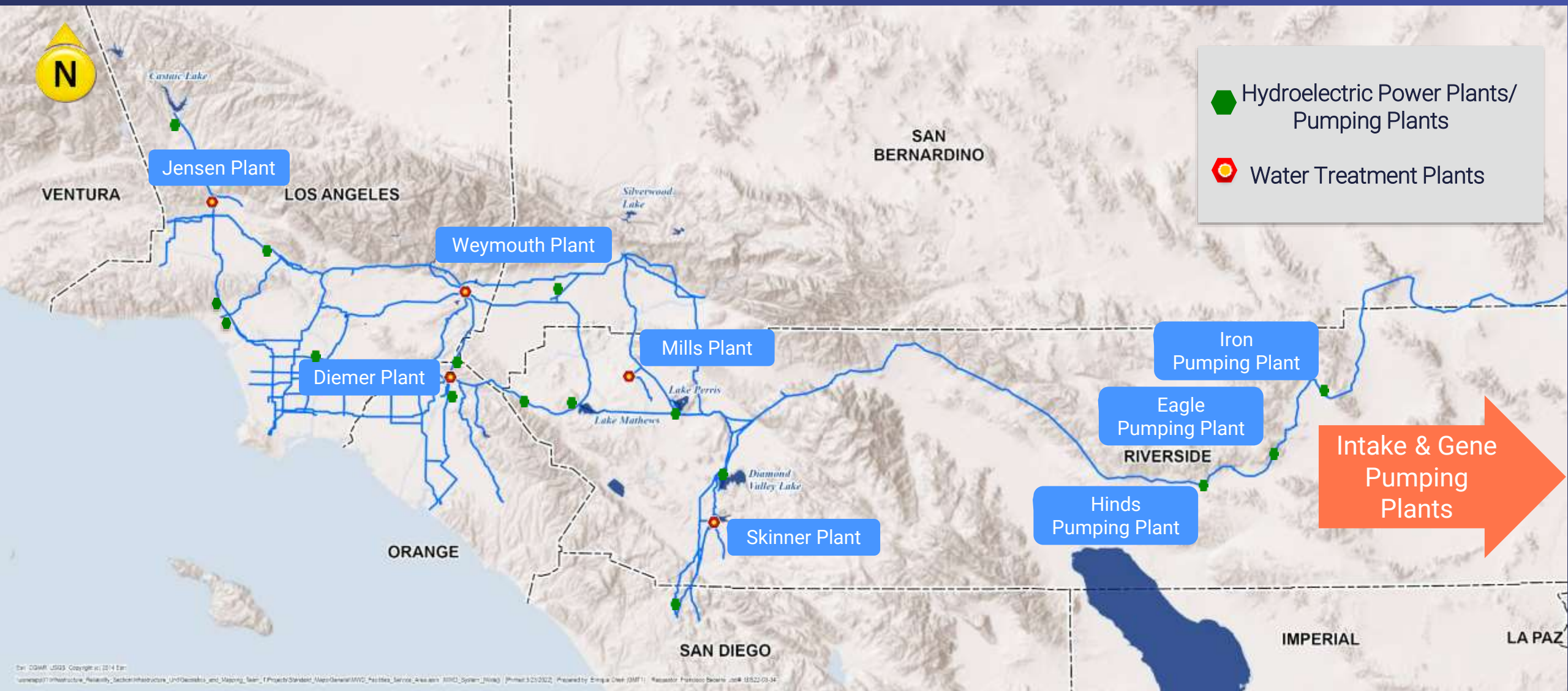
June 13, 2022

Arc Flash Protection

Current Action

- Authorize agreements with four firms in an amount NTE \$750,000 annually for 3 years for specialized technical services to enhance arc flash protection at Metropolitan facilities
 - Power-Tech Engineers, Inc.
 - HDR, Inc.
 - Mangan, Inc.
 - Burns & McDonnell Engineering Company, Inc.

Distribution System



Electrical System Background



Working with Live System

Background Existing System

Metropolitan has electrical infrastructure at 5 treatment plants, 15 hydroelectric plants, 7 pumping plants, and numerous turnouts and pressure control structures

Metropolitan has over 1,000 electrical systems from 480 volts – 230,000 volts

Metropolitan has a strong, established safety culture and program

Arc Flash Protection

Alternatives Considered

- Utilize Metropolitan staff
 - With current workload, electrical engineering staff not immediately available
- Hybrid approach (selected option)
 - Utilize several consulting firms
 - Metropolitan staff provides support

Arc Flash Protection



Applying Labels and Working with Live System
(Stock image)

Consultant Scope

- Perform site investigations
- Verify electrical single-line diagrams
- Develop computerized models using ETAP software
- Conduct arc flash assessment and analysis
- Recommend improvements, if needed
- Prepare deliverables and submittals

Arc Flash Protection

Arc Flash Agreements

- Pre-qualified consultants via RFQ 1301
- Issue agreements to:
 - Power-Tech Engineers, Inc.
 - HDR, Inc.
 - Mangan, Inc.
 - Burns & McDonnell Engineering Company, Inc.
- For each agreement
 - NTE amount: \$750,000 annually for 3 years
- SBE participation level: 25%

Arc Flash Protection



Staff performing electrical coordination on a 230kV circuit breaker

Metropolitan Scope

- For each facility:
 - Compile record drawings
 - Facilitate data collection and coordinate electrical system shutdowns
 - Perform consultant oversight and review process
 - Support as-built efforts

Allocation of Budgeted Funds

| | Arc Flash Model Development |
|---|--------------------------------|
| Metropolitan Labor | |
| Owners Costs (PM & Proj. Controls) | \$ 320,000 |
| Submittal review & record drawings | 1,550,000 |
| Operations support | 480,000 |
| Materials & Supplies | 50,000 |
| Professional Services | |
| Power-Tech Engineers, Inc. | 2,250,000 |
| HDR, Inc. | 2,250,000 |
| Mangan, Inc. | 2,250,000 |
| Burns & McDonnell Engineering Company, Inc. | 2,250,000 |
| Remaining Budget | 600,000 |
| Total | \$12,000,000 |

Project Schedule



Arc Flash Protection



Switching at
Venice (HEP)

Background

Arc Flash Assessment

- Enhance employee safety
- Identify area with highest safety risk
- Ensure compliance with regulatory requirements and industry best practices
- Ensure protective devices are properly configured to work as needed

Board Options

- Option #1
 - Authorize agreements with Power-Tech Engineers, Inc., HDR, Inc., Mangan, Inc., and Burns & McDonnell Engineering Company, Inc., in an amount not-to-exceed total of \$750,000 each per year for a period of three years, to assess and mitigate arc flash risks for Metropolitan's facilities.
- Option #2
 - Do not proceed with these agreements at this time.

Staff Recommendation

- Option #1





• **Board of Directors**
Engineering and Operations Committee

6/14/2022 Board Meeting

7-6

Subject

Adopt the CEQA determination that the proposed action was previously addressed in the certified 2022 Final Program EIR and related CEQA documents; and award a \$6,176,521 contract to Siemens Industry, Inc. for the construction of battery energy storage systems at the F. E. Weymouth Water Treatment Plant; and authorize an increase of \$300,000 to an agreement with Stantec Inc. for construction support for a new not-to-exceed total of \$1,750,000

Executive Summary

The planned Battery Energy Storage System (BESS) facilities at the Weymouth plant will enhance the efficiency of Metropolitan's long-term power use, provide a hedge against projected electricity price increases, and improve the resiliency of the electric supply at these facilities. Staff recommends moving forward with the construction of BESS facilities at this time to ensure that Metropolitan receives the California Public Utilities Commission's enhanced incentives for microgrid-capable BESS. This action awards a construction contract for BESS facilities at the Weymouth plant and amends an agreement to provide engineering support during construction.

Details

Background

In 2010, Metropolitan's Board adopted Energy Management Policies intended to contain energy costs and reduce exposure to price volatility through the implementation of cost-effective alternative energy projects. The policy objectives directly related to battery energy storage development include:

- Contain costs and reduce exposure to energy price volatility.
- Increase operational reliability by providing system redundancy.
- Provide a revenue stream to offset energy costs.
- Move Metropolitan towards energy independence.

Prior to the adoption of the Energy Management Policies, Metropolitan implemented a 540-kilowatt solar facility at the Center for Water Education at Diamond Valley Lake in 2006 and a one-megawatt solar facility at the Robert A. Skinner Water Treatment Plant in 2009. Guided by the Board-adopted Energy Management Policies, Metropolitan added three megawatts of solar generation at the Weymouth plant in 2016 and one megawatt of solar generation at the Joseph Jensen Water Treatment Plant in 2018.

In 2020, Metropolitan completed the Energy Sustainability Plan effort to identify new projects and initiatives within the Energy Management Policies' framework. The Energy Sustainability Plan combined an analysis of Metropolitan's electricity charges and a holistic multi-criteria decision analysis framework, in which potential projects were vetted against a range of future scenarios based upon historical water and power demands and time-of-use tariff updates. Through this effort, BESS facilities at the Jensen, Skinner, and Weymouth plants and at the OC-88 Pump Station were recommended for near-term implementation. The projects will provide electricity cost savings and improve operational flexibility and resiliency at these critical facilities.

Self-Generation Incentive Program Available for Jensen, Skinner, and Weymouth

The Self-Generation Incentive Program (SGIP) is a California Public Utilities Commission (CPUC) program that provides enhanced rebates for installing battery energy storage systems at critical facilities serving low-income/disadvantaged communities, or that are located within a CPUC-designated high fire threat district.

In May 2020, Metropolitan submitted four applications to the SGIP for a combined total of \$10.3 million in incentives for the Jensen, Skinner, Weymouth, and OC-88 facilities. In August 2020, Metropolitan received conditional reservation letters for \$3.0 million in incentives for the Jensen BESS project, \$3.0 million in incentives for the Skinner BESS project, and \$1.75 million in incentives for the OC-88 BESS project applications. The Weymouth BESS project application was placed on the waitlist. In May 2021, Metropolitan received confirmation for \$2.125 million in incentives for the Weymouth BESS application, which will offset project costs. The SGIP incentive will be paid to Metropolitan in phases: 50 percent at project completion, with the remaining 50 percent paid equally over five years upon annual proof of a 5 kgCO₂/kWh reduction in greenhouse gas emissions.

In October 2020, the Board amended the biennial Capital Investment Plan (CIP) for fiscal years 2020/21 and 2021/22 to include BESS facilities at the Jensen, Skinner, and Weymouth plants, and at the OC-88 Pump Station. Preliminary design was completed in January 2021 for BESS facilities at these four locations. Significant cost increases to meet new requirements from the Orange County Fire Authority for the OC-88 project were identified in preliminary design. These cost increases negated the potential financial benefits of this site as originally described in the October 2020 board action. Metropolitan subsequently withdrew its application with SGIP for a BESS facility at OC-88, cancelled the project, and received reimbursement of the \$87,546 application fee. In September 2021, the Board awarded the construction contract for the Jensen and Skinner BESS project, which is currently in the construction phase.

Final design for the Weymouth BESS project is now complete. The environmental effects from the construction and operation of the BESS facilities at the F.E. Weymouth Water Treatment Plant were evaluated in the Metropolitan Climate Action Plan Final Program Environmental Impact Report (Final PEIR), which was certified by the Board on May 10, 2022. The Board approved the Findings of Fact (Findings), the Statement of Overriding Considerations (SOC), the Mitigation Monitoring and Reporting Program (MMRP), and the project itself. Therefore, staff recommends award of a construction contract at this time.

In accordance with the April 2020 action on the biennial budget for fiscal years 2020/21 and 2021/22, the General Manager will authorize staff to proceed with the actions described below, pending board award of the construction contract. Based on the current CIP expenditure forecast, funds for the work to be performed pursuant to this action during the current biennium are available within the CIP Appropriation for Fiscal Years 2020/21 and 2021/22 (Appropriation No. 15521). Funds required for work to be performed pursuant to the subject contract after fiscal year 2021/22 are budgeted within the CIP Appropriation for Fiscal Years 2022/23 and 2023/24. This project has been reviewed in accordance with Metropolitan's CIP prioritization criteria and was approved by Metropolitan's CIP Evaluation Team to be included in the Cost Efficiency and Productivity Program.

Weymouth Battery Energy Storage System – Construction

The scope of work for the construction contract includes: (1) site grading and paving; (2) furnishing and installation of BESS equipment, conduits, and cables to the power substation and appurtenant electrical equipment; (3) construction of equipment pads, including sound walls for noise control; (4) furnishing, installing, and programming of monitoring and control systems with microgrid capability; and (5) fiber optic installation for network infrastructure. Metropolitan force construction includes cyber security protection systems and network infrastructure, as well as supervisory control and data acquisition programming.

A total of \$9.03 million has been budgeted for this work, including the cost of the construction contract. Allocated funds for professional agreements include \$300,000 for construction support by Stantec Inc., as described below, and \$45,000 for environmental monitoring under an existing agreement. Allocated funds for Metropolitan staff activities include \$743,000 for construction management and inspection; \$46,000 for force activities as described above; \$391,000 for submittal review, testing, and commissioning of the BESS facilities; \$363,000 for contract administration, incentive program administration, and utilities interconnection agreement

applications and requirements, and project management; \$270,000 for network and cybersecurity equipment, materials, and fees; and \$695,479 for remaining budget. **Attachment 1** provides an allocation of budgeted funds.

Award of Construction Contract (Siemens Industry, Inc.)

Specifications No. 2014 to furnish and construct BESS facilities at the Weymouth plant was advertised for bids on February 7, 2022. As shown in Attachment 2, three bids were received and opened on April 19, 2022. The bid from Siemens Industry, Inc., in the amount of \$6,176,521, complies with the requirements of the specifications. The other bids ranged from \$8.8 million to \$11.6 million, while the engineer's estimate was \$7.5 million. Metropolitan established a Small Business Enterprise (SBE) participation level of at least 15 percent of the bid amount. Siemens Industry, Inc has committed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**.

This action awards a \$6,176,521 contract to Siemens Industry, Inc. to construct a BESS facility on the grounds of the Weymouth plant. The total cost of construction for this project is \$6,422,521, which includes the amount of the contract (\$6,176,521), cyber security protection system equipment (\$200,000), and Metropolitan force activities (\$46,000). Engineering Services' goal for inspection of projects with construction greater than \$3 million is 9 to 12 percent. For this project, the anticipated cost of inspection is approximately 11.6 percent of the total construction cost.

Alternatives Considered

Staff considered two design alternatives: (1) installing a single 1 MW/4000 kWh BESS at a centralized location on the Weymouth site; and (2) installing two 500kW/2000kWh systems adjacent to the two existing solar facilities. With a centralized BESS, a new substation would be required. With the second alternative, constructing a BESS facility adjacent to each of the two existing solar facilities allows each BESS to be connected to the existing solar substation. This recommended approach eliminates the need for construction of a new substation, thus providing a cost-effective alternative. Furthermore, the selected approach with two BESS facilities provides additional redundancy, reliability, and operational flexibility.

Technical Support During Construction (Stantec Inc.) – Amendment to Agreement

Stantec Inc. performed final design of the BESS facility at the Weymouth site. As the engineer of record, Stantec Inc. is recommended to provide technical support during construction. This support includes review of the contractor-supplied systems and equipment, review of shop drawing submittals, and responding to requests for information from the contractor; advising staff on technical issues that may arise; and preparing record drawings. The estimated cost for Stantec Inc. to provide these services is \$300,000. For this agreement, Metropolitan has established an SBE participation level of five percent. Stantec Inc. has agreed to meet this level of participation. The planned subconsultants for this agreement are Project Line Technical Services, Inc. and Integrated Engineering Management.

This action authorizes an increase of \$300,000 to the existing agreement with Stantec Inc. for a new not-to-exceed total of \$1,750,000 to provide technical support during construction of the BESS facilities.

Summary

This action awards a \$6,176,521 contract to Siemens Industry, Inc. for the construction of the BESS facilities at the Weymouth plant. This action also authorizes an amendment to an existing agreement with Stantec Inc. to provide technical consulting services during construction. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the listing of Subcontractors for Low Bidder, and **Attachment 4** for the Location Map.

Project Milestones

July 2023 – Completion of construction and commissioning of the BESS facility at the Weymouth plant

August 2023 – Filing of incentive claim with the SGIP

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

By Minute Item 51963, dated April 14, 2020, the Board appropriated a total of \$500 million for projects identified in the Capital Investment Plan for Fiscal Years 2020/21 and 2021/22.

By Minute Item 52140, dated September 13, 2021, the Board authorized increase of \$550,000 to an agreement with Stantec Inc. in an amount not-to-exceed \$1,450,000.

By Minute Item 52778, dated April 12, 2020, the Board appropriated a total of \$600 million for projects identified in the Capital Investment Plan for Fiscal Years 2022/23 and 2023/24.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The environmental effects from the construction and operation of the BESS facilities at the F.E. Weymouth Water Treatment Plant were evaluated in the Metropolitan Climate Action Plan Final Program Environmental Impact Report (Final PEIR), which was certified by the Board on May 10, 2022. The Board also approved the Findings of Fact (Findings), the Statement of Overriding Considerations (SOC), the Mitigation Monitoring and Reporting Program (MMRP), and the project itself. The current board action is solely based on authorizing award of construction for the BESS facilities, and not on any changes to the approved project itself. Hence, the previous environmental documentation acted on by the Board in conjunction with the proposed action fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act on the proposed action.

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed project was previously addressed in the certified 2022 Final PEIR, Findings, SOC, and MMRP, and that no further environmental analysis or documentation is required; and

- a. Award a \$6,176,521 contract to Siemens Industry, Inc. to construct Battery Energy Storage System facilities at the Weymouth plant.
- b. Authorize an increase of \$300,000 to agreement with Stantec Inc. for a new not-to-exceed total of \$1,750,000, to provide technical support.

Fiscal Impact: Net expenditure of \$6.905 million in capital funds. Metropolitan will receive \$2.125 million in incentives from the SGIP to offset the total anticipated project expenditure (\$9.03 million). This includes approximately \$1 million at the completion of construction in August 2023 and an approximate additional \$1 million over a three- to five-year period thereafter. Approximately \$50,000 will be incurred in the current biennium and has been previously authorized. The remaining funds for this action are accounted for in the next biennial budget and were authorized in April 2022.

Business Analysis: This option will enable Metropolitan to reduce retail electricity expenditures and increase treatment plant resiliency to power-supply outages. Based on projected electric utility rate increases, the net present value of this option ranges from \$2.0 million to \$2.8 million over ten years, and the payback period is from 5 to 6 years.

Option #2

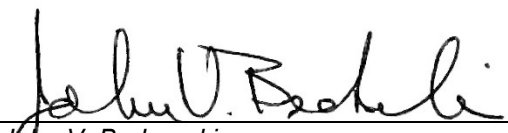
Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: Metropolitan will forego an opportunity to receive \$2.125 million in incentives from the SGIP, reduce operating costs, and improve resiliency at critical facilities.

Staff Recommendation


Option #1



John V. Bednarski
Manager/Chief Engineer
Engineering Services

5/20/2022

Date



Adel Hagekhalil
General Manager

5/23/2022

Date

Attachment 1 – Allocation of Funds**Attachment 2 – Abstract of Bids****Attachment 3 – Subcontractors for Low Bidder****Attachment 4 – Location Map**

Ref# es12683787

Allocation of Funds for BESS at the Weymouth plant

| | Current Board Action (June 2022) |
|---|---|
| Labor | |
| Studies & Investigations | \$ - |
| Final Design | - |
| Owner Costs (Program mgmt., envir. monitoring) | 363,000 |
| Submittals Review & Record Drwgs. | 391,000 |
| Construction Inspection & Support | 743,000 |
| Metropolitan Force Construction | 46,000 |
| Materials & Supplies | 200,000 |
| Incidental Expenses | 70,000 |
| Professional/Technical Services | - |
| Stantec Inc. | 300,000 |
| Environmental monitoring | 45,000 |
| Right-of-Way | - |
| Equipment Use | - |
| Contracts | - |
| Siemens Industry, Inc. | 6,176,521 |
| Remaining Budget | 695,479 |
| Total | \$ 9,030,000 |

The total amount expended to date to install BESS facilities at the Weymouth plant is approximately \$3.5 million. The total estimated cost to complete the project, including the amount appropriated to date and funds allocated for the work described in this action, is \$12.53 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on April 19, 2022, at 2:00 P.M.

**Specifications No. 2014
Weymouth Battery Energy Storage Systems**

The work consists of furnishing and constructing two 500 kW/2,000 MWh Battery Energy Storage Systems adjacent to the two existing solar facilities at the Weymouth plant. It includes equipment pads, monitoring and control systems with microgrid capability, conduits and cables to the power substation, security system, and site grading and paving. The contract also includes testing and commissioning the system.

Engineer's estimate: \$7.5 million

| Bidder and Location | Total | SBE \$ | SBE % | Met SBE¹ |
|--|--------------------|--------------------|--------------|----------------------------|
| Siemens Industry, Inc. Cypress, CA | \$6,176,521 | \$1,090,000 | 17% | Yes |
| Ameresco, Inc. Ontario, CA | \$8,804,199 | - | - | - |
| Morrow-Meadows Corporation City of Industry, CA | \$11,567,242 | - | - | - |

¹ Small Business Enterprise (SBE) participation level established at 15% for this contract.

The Metropolitan Water District of Southern California**Subcontractors for Low Bidder****Specifications No. 2014****Weymouth Battery Energy Storage Systems**

Low bidder: Siemens Industry, Inc.

| Subcontractor and Location |
|-------------------------------|
| SE Energy LLC Sikeston, MO |





Engineering & Operations Committee

Battery Energy Storage Systems at Weymouth

Item 7-6

June 13, 2022

Battery Energy Storage Systems at Weymouth

Current Action

- Award \$6,176,521 contract to Siemens Industry, Inc. for the construction of battery energy storage systems (BESS) at the F. E. Weymouth plant
- Authorize increase of \$300,000 to an agreement with Stantec Inc., for construction support for a new not-to-exceed total of \$1,750,000

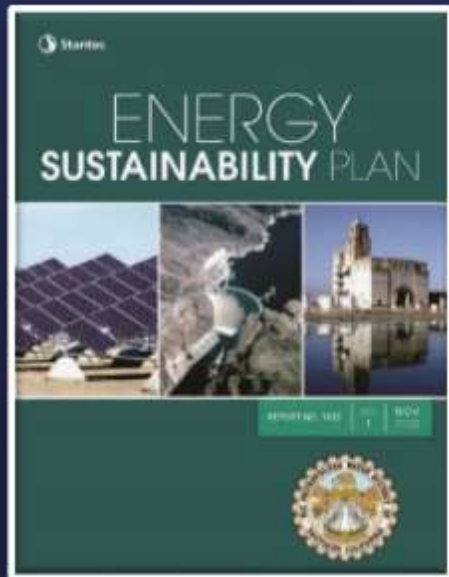
Distribution System



Weymouth BESS – Project Locations



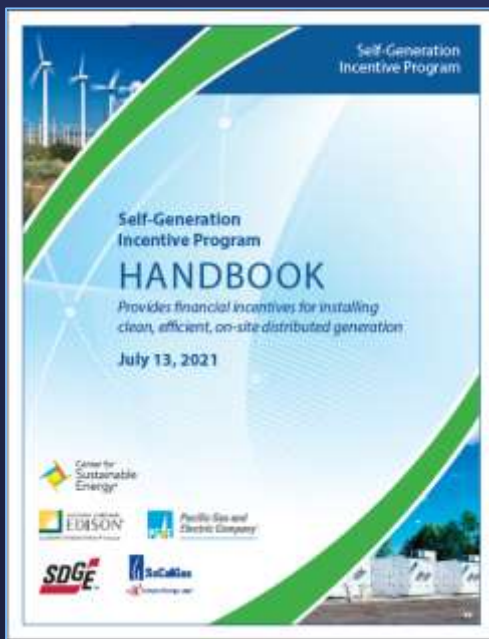
Battery Energy Storage Systems at Weymouth



Background

- Energy Sustainability Plan (2020)
 - Analysis of electricity needs & energy supply risk
 - Holistic multi-criteria assessment
- Key benefits of BESS to Metropolitan
 - Reduce energy cost and GHG emission
 - Increase operational flexibility and resiliency
- Support Climate Action Plan

Battery Energy Storage Systems at Weymouth



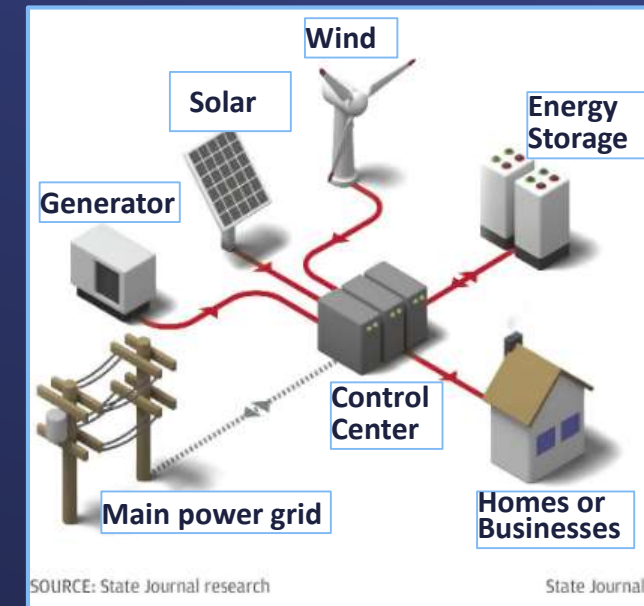
Background (Cont.)

- Self-Generation Incentive Program (SGIP)
 - 4 applications submitted in May 2020 - \$10M solicited
 - Jensen, Skinner & OC-88 confirmed in August 2020
 - Weymouth confirmed in May 2021
- Current project status
 - OC-88 cancelled
 - Skinner and Jensen in construction phase
 - Weymouth advertised and received bids

Battery Energy Storage Systems at Weymouth

BESS Concept Basis of Design

- Battery paired with solar facilities on site
- Store excess solar energy for later use
- Peak load reduction
 - Energy arbitrage: charge when power is cheap and discharge when power is expensive
- GHG reduction
- Micro-grid configuration



Battery Energy Storage Systems at Weymouth

Alternatives Considered

- Single 1 MW/4000 kWh battery energy storage system at a centralized location
 - New unit substation needed
- Two 500 kW/2000 kWh systems adjacent to the two existing solar facilities – Selected alternative
 - Connect to existing unit substations
 - Provide redundancy and additional reliability & operational flexibility
 - Cost-effective

Battery Energy Storage Systems at Weymouth

Contractor Scope

- Construction of equipment pads and sound walls
- Furnish and install
 - Battery energy storage systems and appurtenant equipment
 - Monitoring and control systems with microgrid capability
- Perform testing and commissioning per SCE and SGIP's requirements

Battery Energy Storage Systems at Weymouth

Metropolitan Scope

- SCADA programming
- Installation of network infrastructure for cyber security protection
- Construction management & inspection
- Environmental monitoring, contract administration & PM
- Testing, start-up & commissioning

Bid Results

Specifications No. 2014

| | |
|----------------------|------------------------|
| Bids Received | April 19, 2022 |
| No. of Bidders | 3 |
| Low Bidder | Siemens Industry, Inc. |
| Low Bid | \$6,176,521 |
| Range of Higher Bids | \$8.8 M to \$11.6 M |
| Engineer's estimate | \$7.5 M |
| SBE Participation* | 17% |

*SBE (Small Business Enterprise) participation level set at 15%

Battery Energy Storage Systems at Weymouth

Stantec Inc. Agreement Amendment

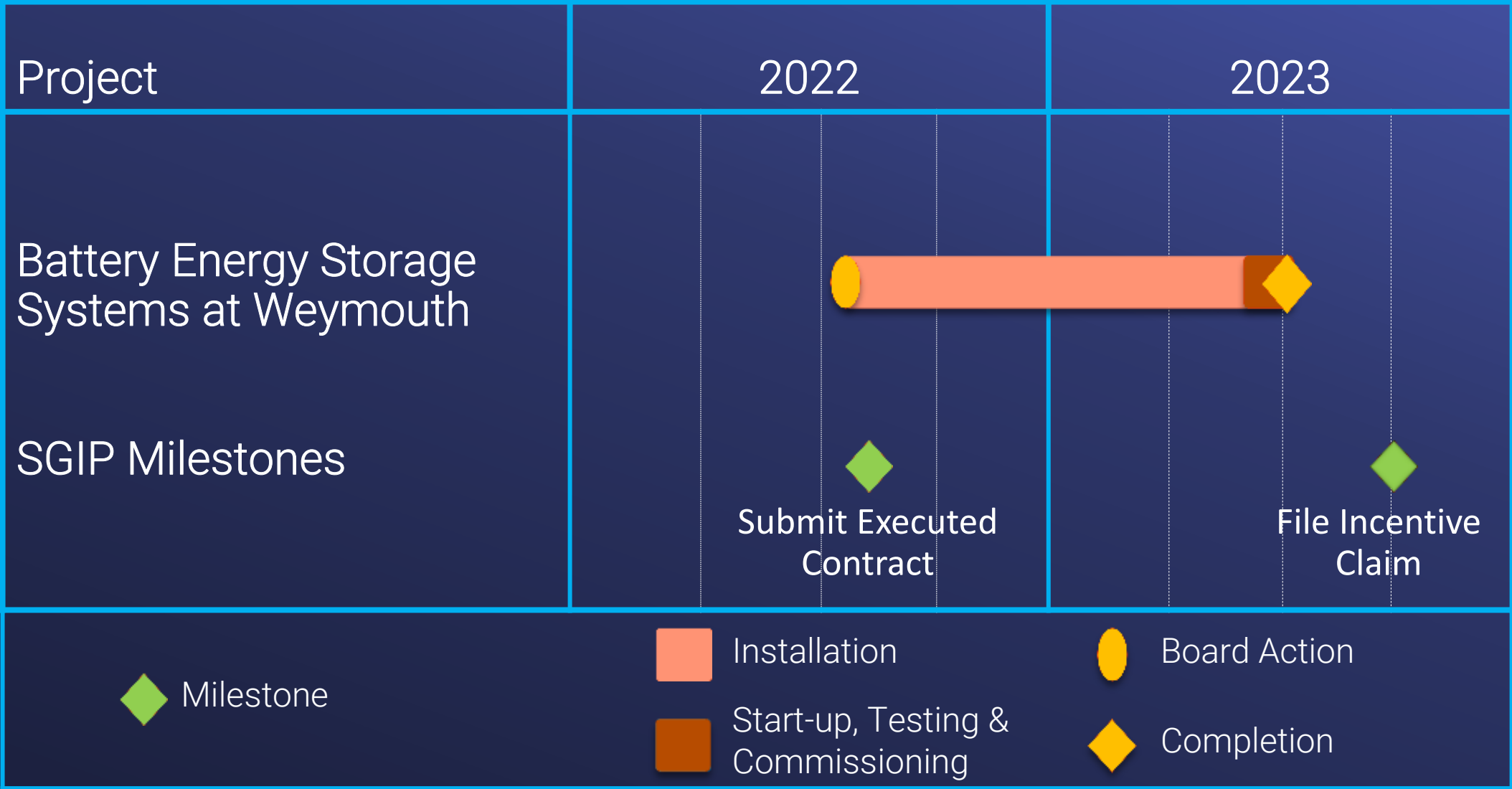
- Engineer of record
- Scope of work
 - Engineering and technical support during construction
 - Submittals review and record drawings
 - Support for testing and commissioning
- SBE participation level: 5%
- Amendment amount: \$300,000
- NTE amount: \$1,750,000

Allocation of Budgeted Funds

| | |
|---|-------------|
| Contract | |
| Siemens Industries, Inc. | \$6,176,521 |
| Metropolitan Labor | |
| Program mgmt. & contract administration | 363,000 |
| Force construction | 46,000 |
| Construction management/inspection | 743,000 |
| Submittal review, technical support & record drawings | 391,000 |
| Materials & Supplies | 270,000 |
| Professional Services | |
| Stantec Inc. | 300,000 |
| Environmental monitoring | 45,000 |
| Remaining Budget | 695,479 |
| <hr/> | |
| Total * | \$9,030,000 |

***Metropolitan will receive \$2.125 M incentive to offset project cost**

Project Schedule



Board Options

- Option #1

Adopt the CEQA determination that the proposed project was previously addressed in the certified 2022 Final PEIR, Findings, SOC, and MMRP, and that no further environmental analysis or documentation is required; and

- a) Award a \$6,176,521 contract to Siemens Industry, Inc. to construct Battery Energy Storage System facilities at the Weymouth plant.
- b) Authorize an increase of \$300,000 to agreement with Stantec Inc. for a new not-to-exceed total of \$1,750,000, to provide technical support.

- Option #2

- Do not proceed with the project at this time.

Staff Recommendation

- Option #1





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

6/14/2022 Board Meeting

7-7

Subject

Award a \$2,257,897 contract to Leed Electric, Inc. for replacement of ozone power supply units at the Joseph Jensen Water Treatment Plant; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

Ozone is used as the primary disinfectant at Metropolitan's five water treatment plants. Reliable operation of the ozonation system is essential for Metropolitan to meet drinking water regulations and address treatment challenges resulting from periodic water supply events. The existing ozone power supply units (PSUs) at the Joseph Jensen Water Treatment Plant (Jensen plant) have reached the end of their service life and need to be replaced. The procurement of the replacement PSUs was authorized through a board action in February 2020 and the units are scheduled for delivery in July 2022. A construction contract for installation of the new ozone PSUs was awarded by the Board in November 2021, but the contract was terminated in January 2022 due to contractor debarment. This action awards a new construction contract for installation of the ozone PSUs at the Jensen plant.

Details

Background

The Jensen plant was placed into service in 1972 with an initial capacity of 400 million gallons per day (mgd) and expanded to its current capacity of 750 mgd in the 1990s. Located in Granada Hills, the Jensen plant normally treats water from the West Branch of the State Water Project (SWP) and delivers it to Metropolitan's Central Pool and to exclusive service areas on the west side of the distribution system.

Metropolitan employs ozone as the primary disinfectant at each of its water treatment plants to substantially reduce the formation of disinfection byproducts for compliance with the United States Environmental Protection Agency's Disinfectants and Disinfection Byproducts Rule. Ozone pre-disinfection also controls taste-and-odor-causing compounds and algal toxins. The ozonation process involves numerous equipment items and support systems, including high voltage PSUs, ozone generators, cooling system, ozone destruct system, ozone contactors, programmable logic controllers, liquid oxygen system, and safety and water quality monitoring equipment.

The ozone generation system at the Jensen plant was originally placed into operation in 2005. Five ozone generators and five PSUs were originally installed to reliably treat up to 750 mgd. While the currently available ozone generation system components are suitable for operation in the short-term, the existing ozone PSUs and generator dielectrics have reached the end of their service life and require replacement to maintain the plant's long-term operational reliability. In February 2020, Metropolitan's Board awarded a procurement contract for four PSUs and four sets of generator dielectrics to rehabilitate the ozone generation system at the Jensen plant. Fabrication of the equipment has been completed, and delivery is scheduled for July 2022. In November 2021, Metropolitan's Board awarded a \$1,477,000 construction contract to Minako America Corporation (dba Minco Construction) for the replacement of ozone PSUs at the Jensen plant.

Following the construction contract award, staff received a notification from the State of California's Department of Industrial Relations regarding the debarment of Minco Construction. Pursuant to the Labor Code and California Code of Regulations, Minco Construction is disqualified from bidding and working on public works

projects during the debarment period, which extends through September 26, 2022. As a result, staff issued a Notice of Termination of the contract with Minco Construction, effective January 25, 2022. The project has been re-advertised following the contract termination. Staff recommends proceeding with the award of a new construction contract to replace the ozone PSUs at the Jensen plant at this time.

In accordance with the April 2020 action on the biennial budget for fiscal years 2020/21 and 2021/22, the General Manager will authorize staff to proceed with the action described herein, pending board award of the construction contract described below. Based on the current CIP expenditure forecast, funds for the work to be performed pursuant to the subject contracts during the current biennium are available within the Capital Investment Plan Appropriation for Fiscal Years 2020/21 and 2021/22 (Appropriation No. 15517). Funds required for work to be performed pursuant to the subject contract after fiscal year 2021/22 are budgeted within the Capital Investment Plan Appropriation for Fiscal Years 2022/23 and 2023/24. This project has been reviewed in accordance with Metropolitan's CIP prioritization criteria and was approved by Metropolitan's CIP evaluation team to be included in the Treatment Plant Reliability Program.

Jensen Ozone PSUs Replacement – Construction

The scope of the construction contract includes sequential removal of five PSUs and installation of four Metropolitan-furnished PSUs; installation of associated electrical power distribution equipment, instrumentation and control equipment, high voltage cables, and communication components; and modifications of the cooling water system.

In addition to the above, Metropolitan forces will install dedicated fiber-optic signal wiring and conduit from the ozone master control panel to each PSU; modify the plant's Supervisory Control and Data Acquisition system; replace ozone generator dielectrics; provide field support for equipment start-up and testing, shutdown and tie-in coordination; and salvage of PSU internal components. Finally, the PSU vendor Suez Treatment Solutions, will perform start-up and testing and will provide field assistance during equipment installation, under the existing procurement contract.

A total of \$4.76 million is required to perform the construction work, which includes the amount of the contract, and funds previously allocated following the November 2021 Board action, including \$615,000 for construction management and inspection; \$670,000 for Metropolitan force activities described above; \$120,000 for submittals review and responding to requests for information; \$230,000 for technical support during construction and commissioning activities, and preparation of record drawings by CDM Smith, Inc. under the professional service agreement previously authorized by the Board; \$460,000 for contract administration, environmental monitoring, and project management; and \$407,103 for remaining budget. **Attachment 1** provides the allocation of required funds.

Award of Construction Contract (Leed Electric, Inc.)

Specifications No. 2001A for the Jensen PSU Replacement project was advertised for bids on March 3, 2022. As shown in **Attachment 2**, one bid was received and opened on April 27, 2022. This single bid result occurred despite staff's efforts to expand bidder awareness of the project during the advertisement period, and is a similar result to the project's original bidding process that took place in 2021, in which a single bid was received. The bid from Leed Electric, Inc. (Leed Electric) in the amount of \$2,257,897 complies with the requirements of the specifications. The engineer's estimate was \$1.86 million. Staff conducted a survey among prospective bidders to investigate possible reasons for a single bid and concluded that most firms may have decided not to submit bids due to the region's current active construction market, and their committed resources on existing projects. Staff attributes the higher-than-expected bid amount to increased costs for materials, labor, and transportation. For this contract, Metropolitan established a Small Business Enterprise participation level of at least 25 percent of the bid amount. Leed Electric is an SBE firm, and thus achieves 100 percent participation. The subcontractors for this contract are listed in **Attachment 3**.

This action awards a \$2,257,897 million contract to Leed Electric, Inc. to replace the ozone PSUs at the Jensen plant.

As described above, construction management and inspection will be performed by Metropolitan staff. The total cost of construction for this project is \$7.09 million, which includes \$4.16 million for the pre-purchased equipment, \$2,257,897 for the contract, and \$670,000 for Metropolitan force work, materials, and supplies.

Engineering Services' performance metric target range for construction management and inspection of projects with construction greater than \$3 million is 9 to 12 percent. For this project, the performance metric goal for inspection is 8.7 percent of the total construction cost.

Alternatives Considered

A single bid for this project was received, and the engineer's estimate for the project was lower than the bid price. Staff considered rejecting the single bid and rebidding the project. Under this approach, it would take approximately six months to repackage the construction bid documents, perform additional contractor outreach, and return to the Board for the award of a contract. However, based on the current rising costs for materials and labor, the potential for a subsequent advertisement/bidding process to yield a lower bid price at a later date is uncertain. Additionally, this project has already experienced a six-month delay due to the termination of the original contract for this work.

Staff recommends the award of a contract at this time as this approach will allow for the timely installation of Metropolitan-furnished PSUs. The PSU equipment is currently in fabrication and is scheduled to ship next month. The recommended approach will allow for completion of the PSU replacement with minimal operational impacts since the plant is currently operating at relatively low flow rates as a result of the anticipated low SWP allocation.

Summary

This action awards a \$2,257,897 contract to Leed Electric, Inc. for replacement of ozone PSUs at the Jensen plant. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the listing of Subcontractors for Low Bidder, and **Attachment 4** for the Location Map.

Project Milestone

December 2023 – Completion of ozone PSU replacement at the Jensen plant

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

By Minute Item 51895, dated February 11, 2020, the Board awarded a contract to procure power supply units and dielectrics for Jensen's ozone generation system.

By Minute Item 51963, dated April 14, 2020, the Board appropriated a total of \$500 million for projects identified in the Capital Investment Plan for Fiscal Years 2020/21 and 2021/22.

By Minute Item 52575, dated November 9, 2021, the Board awarded a construction contract to Minco Construction for replacement of ozone power supply units at the Jensen plant; and authorized an agreement with CDM Smith Inc. for engineering services to support Jensen ozone generation system rehabilitation.

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

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action involves operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use and no possibility of significantly impacting the physical environment. In addition, the proposed action includes the replacement and reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have the same purpose and capacity as the structure replaced. Accordingly, the proposed action qualifies under Class 1 and Class 2 Categorical Exemptions (Sections 15301 and 15302 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

CEQA determination for Option #3:

None required

Board Options

Option #1

Award a \$2,257,897 contract to Leed Electric, Inc. for replacement of ozone power supply units at the Jensen plant.

Fiscal Impact: Expenditure of \$4.76 million in capital funds. Approximately \$10,000 will be incurred in the current biennium and has been previously authorized. The remaining funds from this action are accounted for in the next biennial budget and were authorized in April 2022.

Business Analysis: This option will enhance the operational reliability of the ozone generation system at the Jensen plant.

Option #2

Reject all bids and advertise/bid the project again in 12 months when economic conditions stabilize, and perform additional contractor outreach.

Fiscal Impact: Additional costs associated with repackaging of construction bid documents and contractor outreach efforts.

Business Analysis: This option may or may not result in a lower bid price. However, it would delay the replacement of ozone PSUs at the Jensen plant and increase the risk of an unplanned outage of the ozone disinfection system.

Option #3


Do not proceed with the project at this time.

Fiscal Impact: Extended storage cost for pre-purchased equipment.

Business Analysis: This option would forgo an opportunity to enhance the operational reliability of the Jensen plant.

Staff Recommendation

Option #1



John V. Bednarski
Manager/Chief Engineer
Engineering Services

5/20/2022

Date



Adel Hagekhalil
General Manager

5/23/2022

Date

Attachment 1 – Allocation of Funds**Attachment 2 – Abstract of Bids****Attachment 3 – Subcontractors for Low Bidder****Attachment 4 – Location of Map**

Ref# es12689228

Allocation of Funds for Jensen Ozone Generation System Rehabilitation

| | Current Board Action ¹ (Jun. 2022) |
|---|--|
| Labor | |
| Studies & Investigations | \$ - |
| Final Design | - |
| Owner Costs (Program mgmt., envir. monitoring) | 460,000 |
| Submittals Review & Record Drwgs. | 120,000 |
| Construction Inspection & Support | 615,000 |
| Metropolitan Force Construction | 650,000 |
| Materials & Supplies | 20,000 |
| Incidental Expenses | - |
| Professional/Technical Services | - |
| CDM Smith | 230,000 |
| Right-of-Way | - |
| Equipment Use | - |
| Contracts | - |
| Leed Electric, Inc. | 2,257,897 |
| Remaining Budget | 407,103 |
| Total | \$ 4,760,000 |

¹The total amount expended to date to rehabilitate the Jensen plant's ozone generation system is approximately \$1.9 million. The total estimated cost to complete the project, including the amount appropriated to date and the new construction contract described in this action, is \$11.0 million. \$4.63 million of the required total was allocated to the project after the November 2021 board action.

The Metropolitan Water District of Southern California**Abstract of Bids Received on April 27, 2022, at 2:00 P.M.****Specifications No. 2001A
Jensen Ozone Power Supply Units Replacement**

The work consists of removal of five ozone generator power supply units (PSU) and installation of four Metropolitan-furnished PSUs; removal, modification, or installation of associated electrical power distribution and control system, instrumentation and control equipment, cooling water system, high voltage cables, and control and communication modules.

Engineer's estimate: \$1,860,000

| Bidder and Location | Total | SBE \$ | SBE % | Met SBE¹ |
|--|--------------------|--------------------|--------------|----------------------------|
| Leed Electric, Inc. Santa Fe Springs, CA | \$2,257,897 | \$2,257,897 | 100% | Yes |

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

The Metropolitan Water District of Southern California**Subcontractors****Specifications No. 2001A****Jensen Ozone Power Supply Units Replacement**

Bidder's name: Leed Electric, Inc.

| Subcontractor and Location |
|--|
| Mehta Mechanical Company, Inc. La Palma, CA |
| United Riggers & Erectors, Inc. Walnut, CA |





Engineering & Operations Committee

Jensen Ozone Power Supply Unit Replacement

Item 7-7

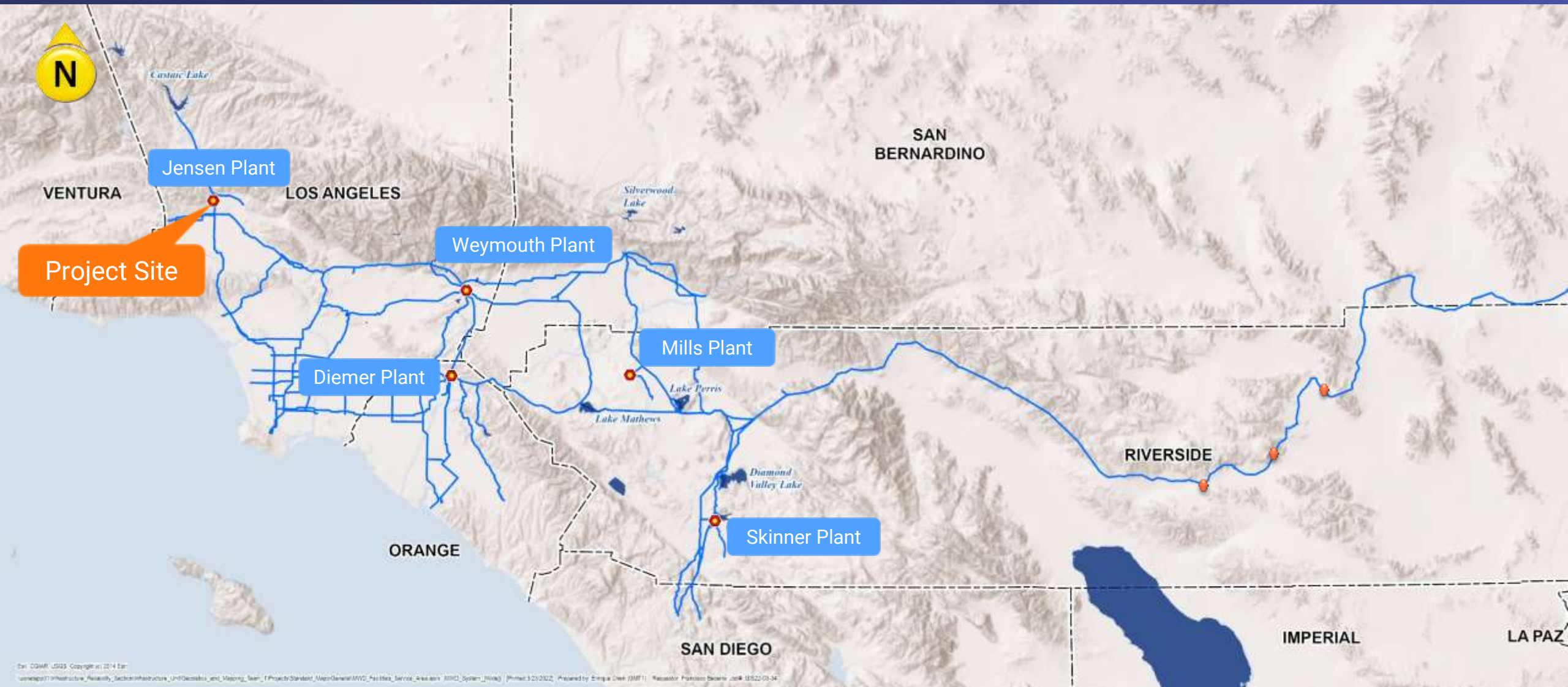
June 13, 2022

Jensen Ozone Power Supply Unit Replacement

Current Action

- Award a \$2,257,897 contract to Leed Electric, Inc. to replace ozone power supply units at the Jensen plant
- Construction contract previously awarded by the Board in Nov. 2021 was terminated

Distribution System



Jensen Plant



Jensen Ozone Generation System



Ozone Generators



Power Supply Unit

Jensen Ozone PSU – Components



Disconnect Switch
with Fuses



Cooling Water
& Feed Section

Power Stage



High Voltage Transformer

Ozone System Rehabilitation

- Placed in operation in 2005
- Five ozone generators and power supply units (PSUs) originally installed – units are obsolete
- PSU replacement
 - Feb. 2020 – Board awarded procurement contract for new PSUs & generator dielectrics
 - Jul. 2022 – Equipment delivery



New Power Supply Unit

Previously Awarded Contract

- November 9, 2021 – Board awarded a \$1,477,000 contract to Minco Construction
 - Single bid
- November 17, 2021 – State notification of Minco debarment
 - Disqualified from public works project
 - Debarred through September 2022
- January 25, 2022 – Notice of Termination issued

Jensen Ozone Power Supply Unit Replacement

Contractor Scope

- Remove existing PSUs
- Install Metropolitan-furnished PSUs
- Install associated electrical, instrumentation & control, and communication equipment
- Modify the cooling water system
- Provide support for PSU start-up and testing

Jensen Ozone Power Supply Unit Replacement

Metropolitan Scope

- Install new fiber optic signal wiring & conduit to each PSU
- Modify plant's SCADA system
- Coordinate shutdown & tie-ins
- Provide construction inspection & submittal review
- Provide project mgmt. & contract admin.

Jensen Ozone Power Supply Unit Replacement

Consultant/Vendor Scope (Previously Authorized)

- Suez Treatment Solutions/Veolia (PSU Manufacturer)
 - Provide start-up, testing, & field assistance under existing procurement contract
- CDM Smith, Inc.
 - Provide support during construction & commissioning
 - Preparation of record drawing

Bid Results

Specifications No. 2001A

| | |
|---------------------|---------------------|
| Bids Received | April 27, 2022 |
| No. of Bidders | 1 |
| Sole Bidder | Leed Electric, Inc. |
| Bid | \$2,257,897 |
| Engineer's estimate | \$1,860,000 |
| SBE Participation* | 100% |

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

Jensen Ozone Power Supply Unit Replacement

Alternatives Considered

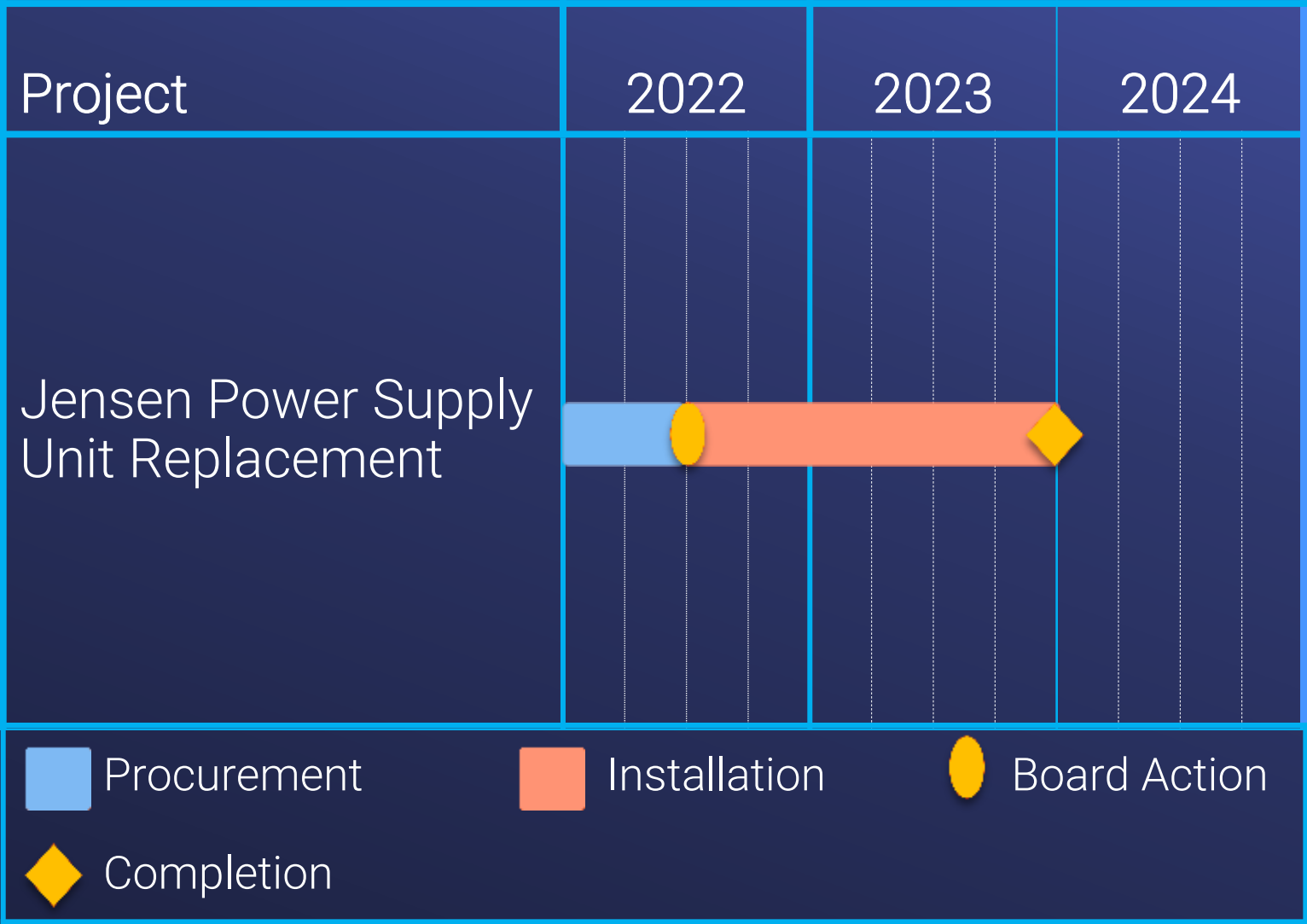
- Reject bid and readvertise the project
 - Six months to repack/rebid/award
 - Uncertain if this would result in more favorable bids
 - Prolongs project schedule
- Award contract at this time (Selected Option)
 - PSU delivery in July 2022
 - Timely installation of PSUs
 - Minimal operational impacts

Allocation of Funds

| | | Jensen Ozone Power Supply Unit Replacement |
|------------------------------------|--|--|
| Contract | | |
| Leed Electric, Inc. | | \$2,257,897 |
| Metropolitan Labor | | |
| Program mgmt. & contract admin. | | 460,000 |
| Submittal review & record drwgs. | | 120,000 |
| Construction management/inspection | | 615,000 |
| Force construction | | 650,000 |
| Materials & Supplies | | 20,000 |
| Professional Services | | |
| CDM Smith Inc. | | 230,000 |
| Remaining Budget | | 407,103 |
| Total | | \$4,760,000 |

Note: \$4.63 million of the required total was allocated to the project after the November 2021 board action.

Project Schedule



Board Options

- Option #1

Award a \$2,257,897 contract to Leed Electric, Inc. for replacement of ozone power supply units at the Jensen plant.

- Option #2

Reject all bids and advertise/bid the project again in 12 months when economic conditions stabilize, and perform additional contractor outreach.

- Option #3

Do not proceed with the project at this time.

Staff Recommendation

- Option #1





Engineering & Operations Committee

Regional Recycled Water Program Update

Item 6a

June 13, 2022

Regional Recycled Water Program Quarterly Update

Outline

- Treatment activities/technical memorandums
- Conveyance activities
- CEQA activities
- Continuing coordination activities
- Next steps

RRWP Environmental Planning Phase

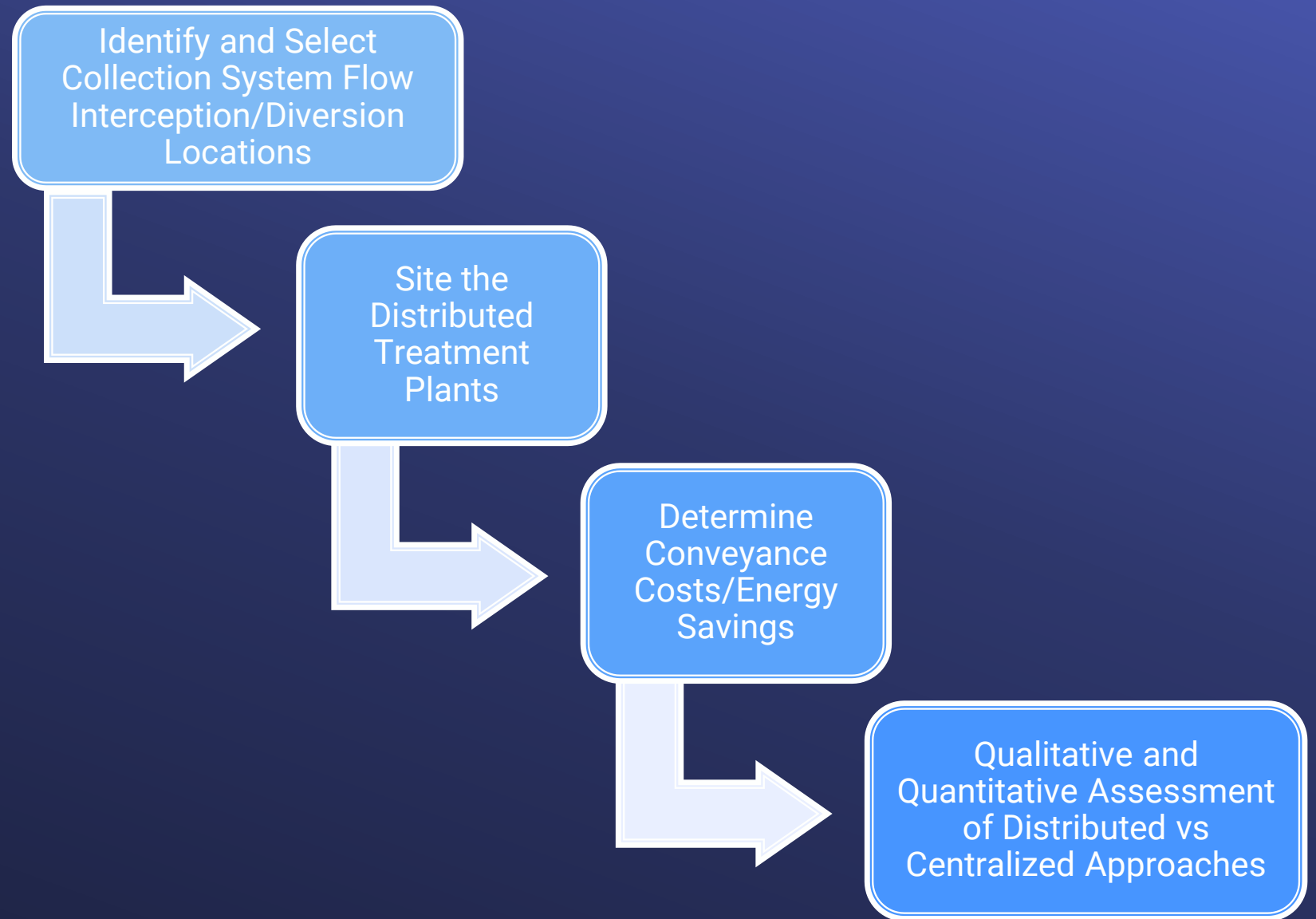
Advanced Water Treatment Activities

- Provided AWT data for CEQA technical analyses
- Continued direct potable reuse (DPR) efforts:
 - Approach to generate CEQA data for DPR facilities
 - Roadmap to address DPR research needs
- Assessed distributed recycled water treatment plants sites (wastewater/AWT processes)
- Evaluated alternative sites for centralized treatment plant

Distributed Treatment Technical Memo

Considerations

- Energy savings/reduced pumping
- Reliability with multiple/independent plants



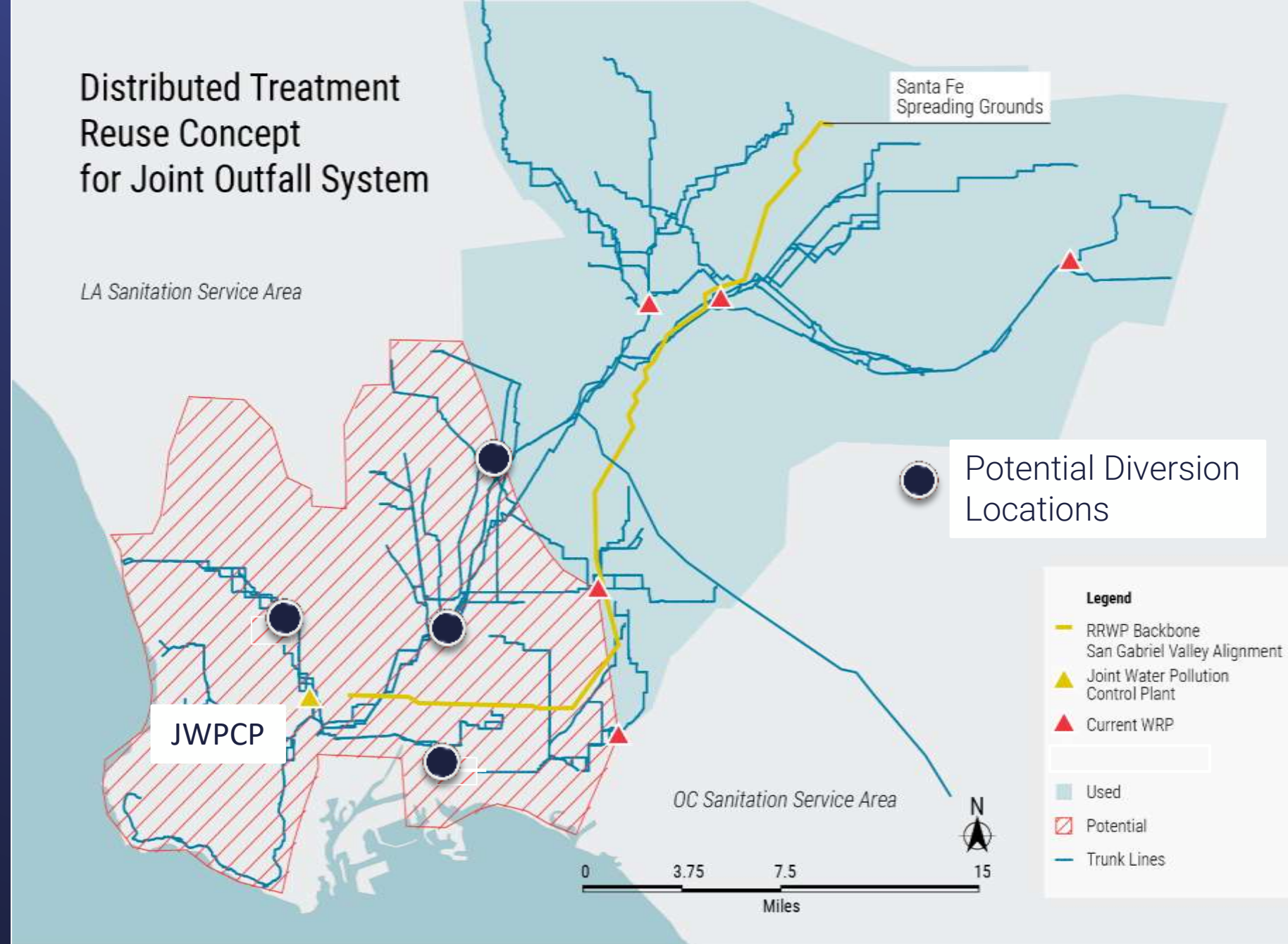
Distributed Treatment Reuse Concept Technical Memo

Siting Criteria for Max. Benefits

- Large flows
- Close to reuse application (RRWP backbone system)

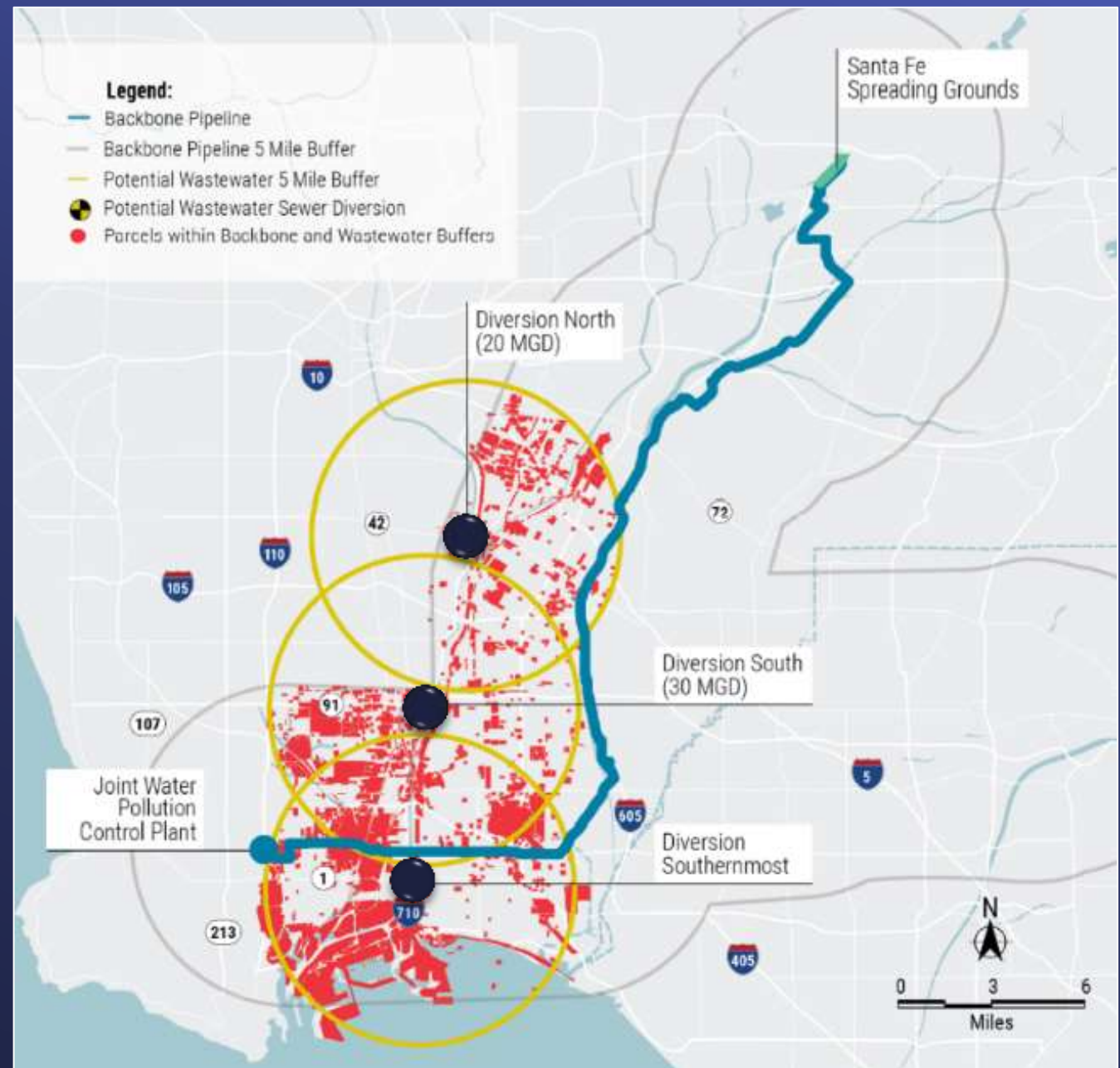
Reality

- Available flows are limited
- Diversion locations are close to the JWPCP



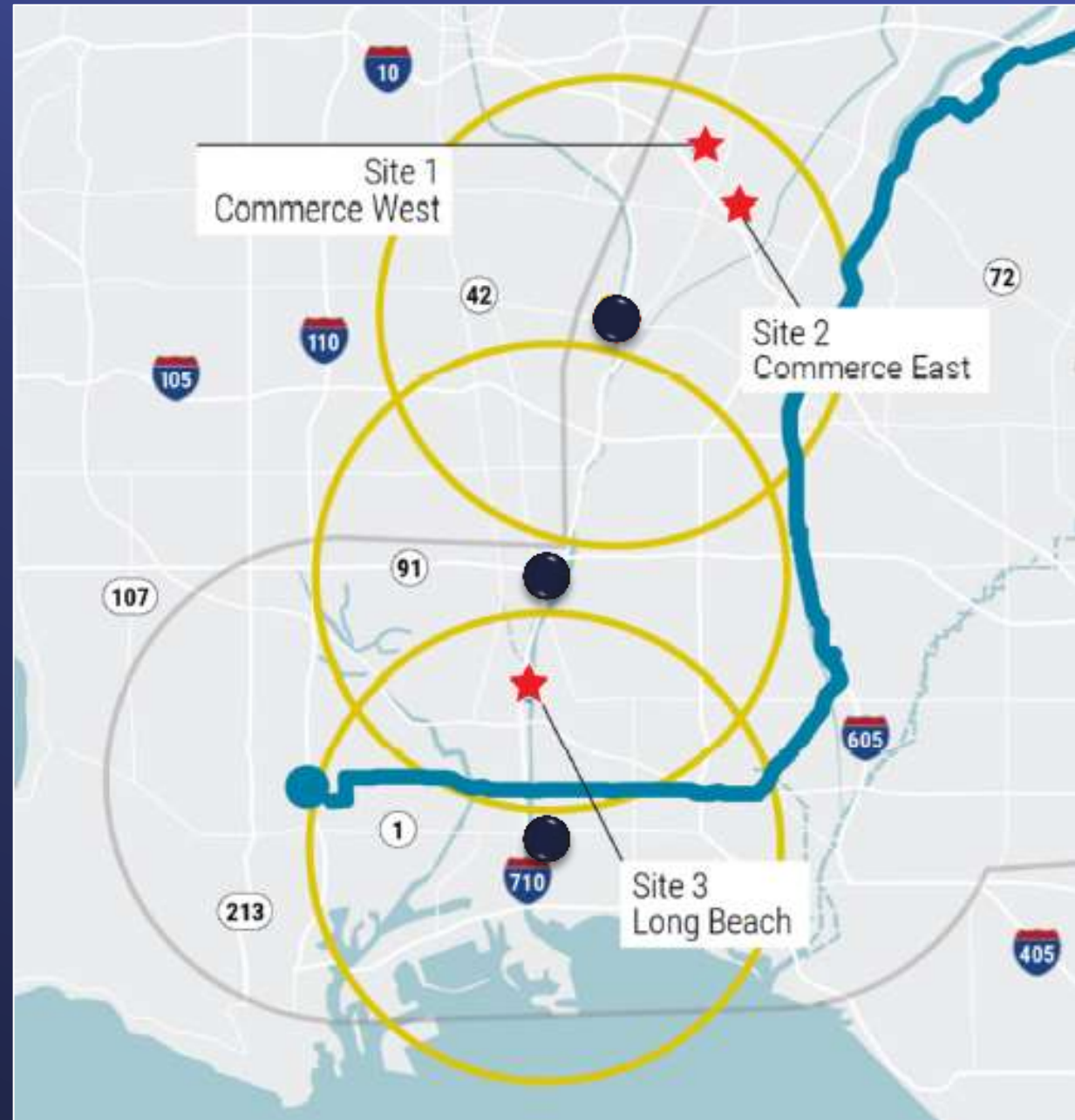
Distributed Treatment Technical Memo

Potential Diversion Sites



Distributed Treatment Technical Memo

Short-Listed Plant Sites



Distributed Treatment Technical Memo

Overall Cost Summary

| Parameter | Centralized Treatment Facility | Distributed Treatment Alternatives | | |
|---|-----------------------------------|--|--|--|
| | | Site 1 Diversion: North Commerce: West | Site 2 Diversion: North Commerce: East | Site 3 Diversion: South Long Beach |
| Influent Flow (MGD) | 186 | 20 | 13 | 30 |
| Net Increase of Capital Cost (\$) | \$1,871M | + \$540M | + \$380M | + \$490M |
| Incremental Pumping Energy Increase (+) or Savings (-) | - | - 2.5% | -1.9% | +1.1% |
| Net O&M Cost (\$/year) | \$108M | + \$1.9M | + \$2.1M | + \$2.4M |
| Unit Treatment Cost (\$/AF) | \$957 | \$2,552 | \$2,757 | \$1,912 |

Distributed Treatment Technical Memo

Findings & Recommendations

- Management and operation of multiple plants at different sites increases complexity
- Reduction in energy usage for distributed plants is minimal compared to centralized plant
- The centralized approach is significantly more cost-effective
- Centralized plant could provide sufficient redundancy with appropriate design
- Uncertainty exists in additional property procurement, permitting, and schedule impact
- Centralized treatment is recommended

Alternative AWT Site Evaluation Technical Memo



Siting Evaluation

- Identify and evaluate alternative AWT sites
 - Further reduce potential health/safety concerns
- Site criteria considered
 - LACSD-owned and other sites
 - Minimum site area: approximately 25 acres
 - Proximity: within 5 miles of the JWPCP
- Technical criteria: proximity to wastewater sources, conveyance facilities, and residuals management facilities
- Other criteria: community impact, zoning, access, flooding, and availability

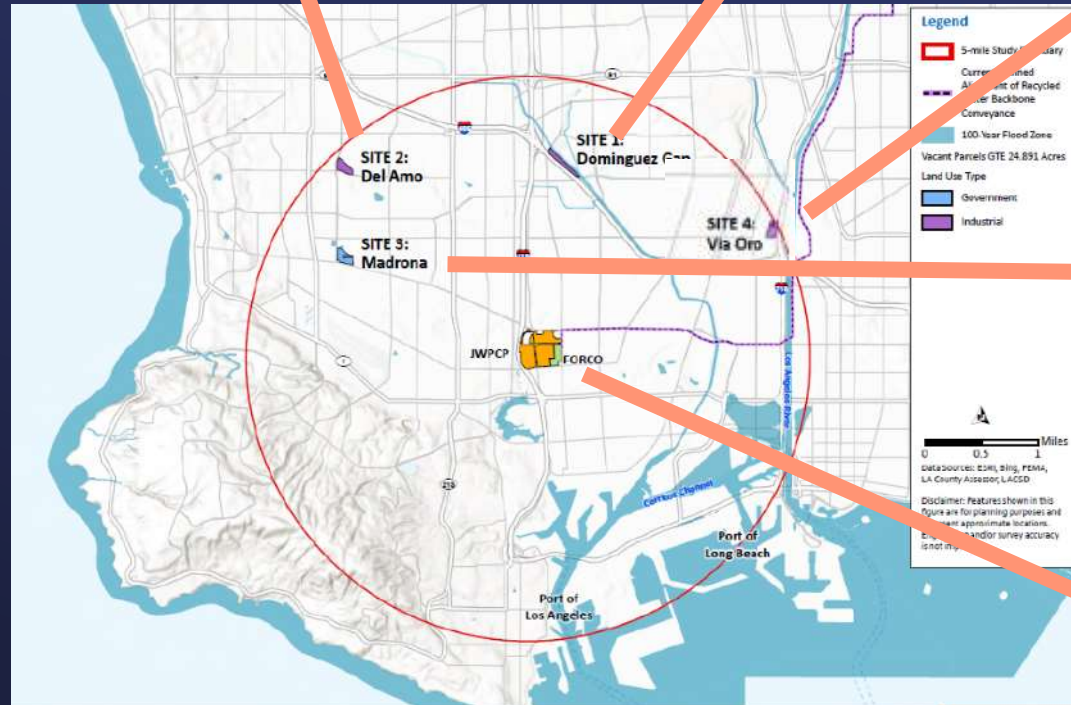
Site 2: Del Amo



Site 1: Dominguez Gap



Site 4: Via Oro



Site 3: Madrona



JWPCP/FORCO



Alternative AWT Site Evaluation Technical Memo

No sites were considered viable because:

- Environmental cleanup concerns
- Distance from backbone conveyance facilities
- Within 100-yr flood zone
- Distance from wastewater source

Alternative AWT Site Evaluation Technical Memo

Findings and Recommendations

- There are no viable alternative properties within a 5-mile radius of the JWPCP
 - Alternative sites require significant additional studies to fully assess the overall suitability and potential environmental concerns
 - Environmental clean-up would delay project
 - Property acquisition may not be possible/cause delay
 - Significant conveyance infrastructure would be required to establish an alternative site
 - Extensive community outreach potentially necessary to build support for new site

Alternative AWT Site Evaluation Technical Memo

Findings and Recommendations (continued)

- The JWPCP/FORCO site is recommended
 - Human health risk assessment is complete
 - Mitigation strategies to reduce potential health risks have been established
 - Proximity to the source water and residual disposal
 - Site is buffered from residential neighborhoods
 - The property is owned by a program partner (LACSD)

RRWP Environmental Planning Phase - AWT Site Planning

[illegible]

RRWP Environmental Planning Phase

Conveyance Activities Summary

- Provided CEQA data needs to Environmental Team
- Discussed pipeline alignment with City of Carson
- Identified potential early start projects
- Continued outreach & discussions with cities
- Continued to evaluate & refine conveyance pipeline alignment

CEQA Activities

- **Environmental Documentation**

- Current Technical Studies:
 - Biological Resources
 - Cultural Resources
 - Geology and Soils
 - Hazards and Hazardous Materials
 - Noise
- Other technical studies scheduled to start in two weeks following receipt of additional data

- **Tentative Schedule**

- **Notice of Preparation:** Fall 2022
- **Draft Program EIR Public Review:** Mid-2023
- **Final Program EIR Public Review:** January 2024
- **Board Certification of Program EIR:** March 2024

Addressing the Needs of Small Businesses During Construction

The Regional Recycled Water Program would involve construction of a new, large-diameter pipeline to deliver purified recycled water to the region. The Metropolitan Water District of Southern California and the Los Angeles County Sanitation Districts are developing strategies to address construction impacts to businesses and residences. The list below describes approaches to manage impacts to small businesses.

RRWP Environmental Planning Phase



Continuing Coordination Activities

- Cities and agencies
 - Cities and communities along pipeline route
 - West Coast Basin agencies
 - Central Basin agencies
- Discussion topics
 - Potential demands for and use of purified water
 - Pipeline alignment analyses
 - Community/business impacts

Next Steps

- Continue technical and environmental studies
- Continue public outreach efforts
- Continue pursuit of State and Federal grants
- Investigate early start/delivery projects
- Begin Demo Plant sMBR baseline testing
- Program name change
 - Program re-naming process
 - Short-list evaluation/external focus group
 - Pure Water Southern California
 - Formal roll-out this summer







Engineering & Operations Committee

Emergency Response Program Update

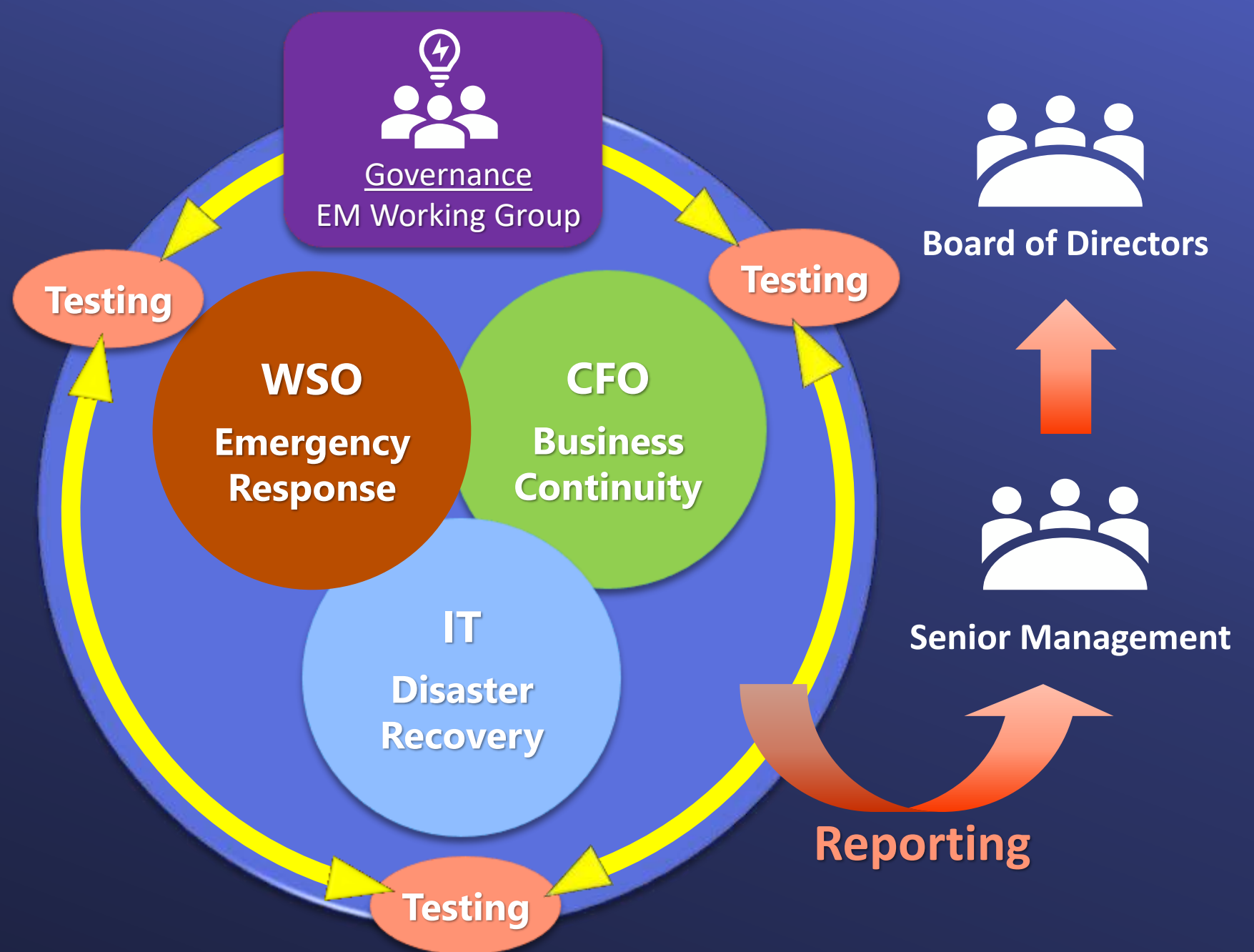
Item 6b

Monday, June 13, 2022
10:30 a.m.

Outline

- Program Overview and Goals
- Program Achievements
- Real-World Responses
- Current Planning Activities
- Future Actions

Emergency Management: Organized for Focused and Coordinated Response



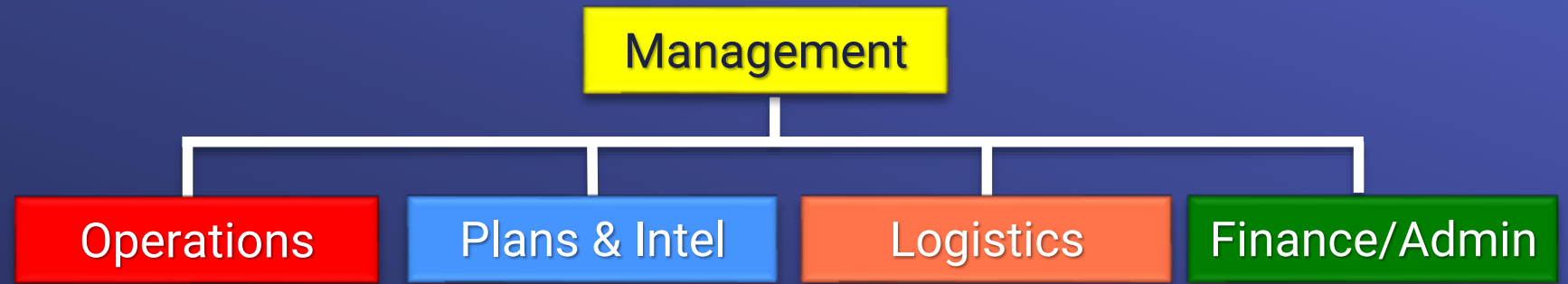
Goal of Maintaining Readiness

Components of Emergency Response

- Organizing response teams
- Ensuring availability of equipment and supplies
- Coordinating with Member Agencies and Emergency Partners
- Conducting exercises to practice and improve
- Communicating effectively



Emergency Response Structure

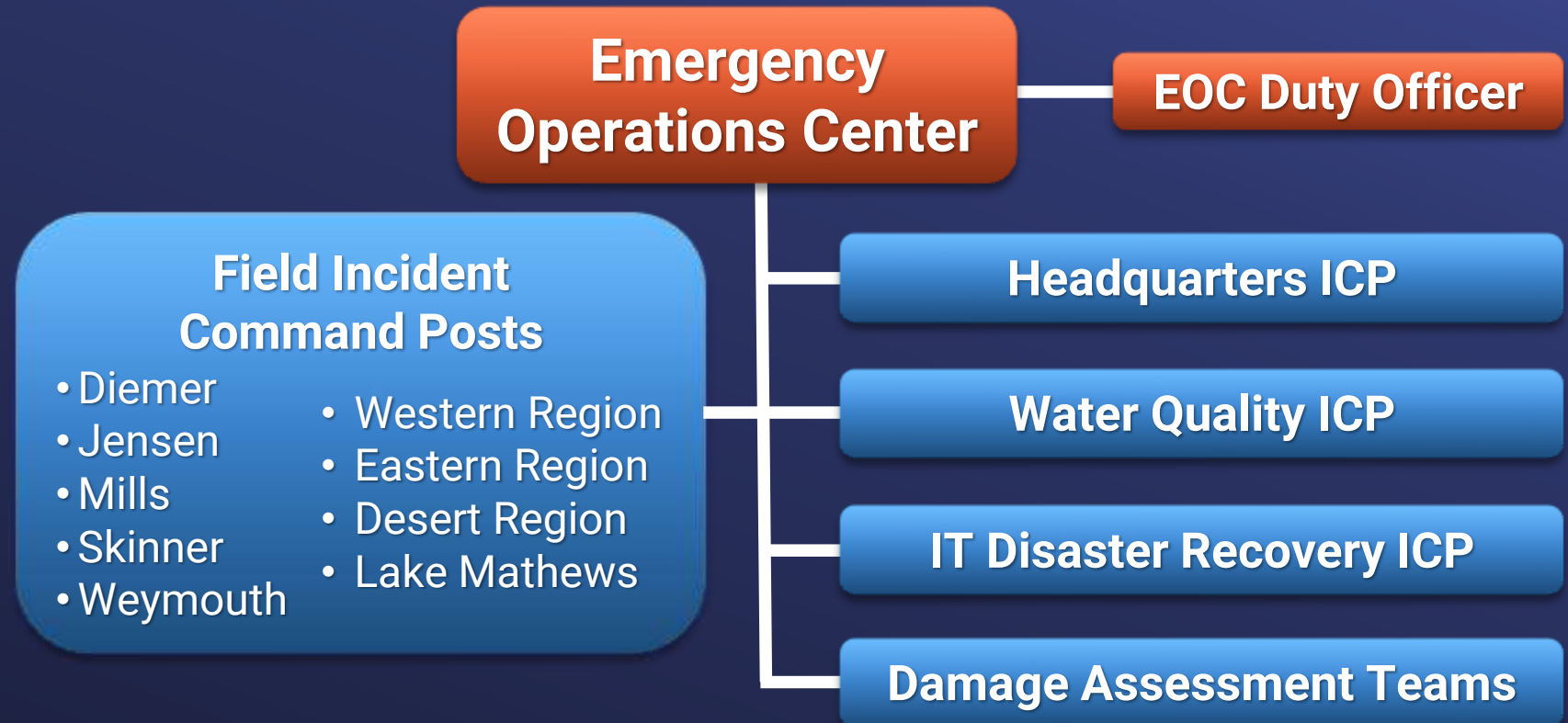


- Organized in accordance with State and Federal emergency standards
- Standardized approach easily integrates MWD response with outside agency response



Emergency Response Incident Command Posts

- Local Incident Command Posts (ICPs) are activated at the location of the emergency
- Emergency Operations Center (EOC) is activated when a heightened need for coordination exists
- Duty Officer provides continuous monitoring, coordination and communication



EOC Duty Officer

- Ready to Respond at All Times
- Maintains 24/7 situational awareness for EOC
- Serves as primary contact for emergencies
- Coordinates with internal Metropolitan groups to address potential threats/concerns
- Collaborates with external agencies and resources to ensure coordinated response and support

Blue Ridge Fire
View from Diemer plant
Nov 2021



Ensuring Adequate Equipment and Supplies Prepared for a Two Line-Break Emergency



Tracking Heavy Equipment for Immediate Mobilization



Maintaining Inventory of Structural Repair Resources



Ensuring Shop Capacity

Member Agencies and Emergency Partners Coordination and Response to Ensure Resiliency

- Member Agency Response System (MARS)
 - Provides emergency radio communication to all member agencies, State and Metropolitan resources
- California Utilities Emergency Association
 - Metropolitan has seat on CUEA Board of Directors
 - Allows for collaboration and access to resources between statewide utilities and Cal OES
- California Water/Wastewater Agency Response Network (Cal WARN)
 - Supports emergency response and mutual assistance for utilities
- County EOCs
- Department of Water Resources

Mutual Aid and Disaster Reimbursement



Fiber Optic Cable Damage at Diemer

Mutual Assistance Provided to Local Agency

- Metropolitan's shops in La Verne quickly fabricated and supplied pipeline joint materials to support South Coast Water District's successful urgent repair



FEMA Reimbursement for Declared Disasters

- Metropolitan has applied for and received over \$21M in FEMA reimbursements for disasters such as the 2008 Freeway Complex Fire (shown at left)

Conducting Exercises Training to Ensure Readiness

Ongoing Staff Training and Exercise

- Goal is to run at least 40 emergency exercises per year
- Monthly, multi-agency communication exercises
- Five-Year Plan to run joint exercises with every Member Agency at least once



Conducting Exercises Preparing for an Earthquake



Great California Shake-Out – October 2020

- All Metropolitan staff participated in virtual exercise
 - Staff were mass-notified using automated software, providing notifications via office phones, email, cell phones, etc.
- Multi-Agency earthquake exercise
 - Radio and satellite phones were tested for effectiveness
 - MWD EOC was activated virtually during exercise



Conducting Exercises Cybersecurity Response

Operation One-Voice – August 2021

- Multi-agency tabletop exercise
 - Use of Metropolitan's 2-way radio system
 - Exercise conducted virtually due to COVID concerns
- Focused on Cybersecurity response
- 5 member agencies and LA County EOC staff participated



Multiple Pathways for Effective Communication



Landline Phones



Cellular Phones



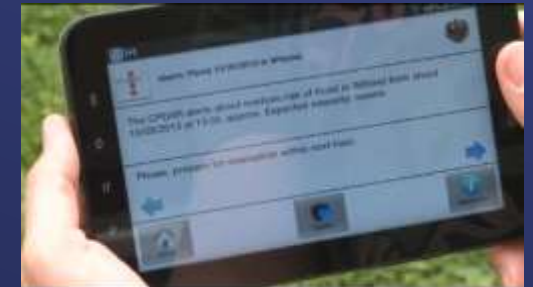
Satellite Phones



WebEOC – Online Response Application



Emergency Radio System



Met-Alert – Mass Notification System



Maintaining Situational Awareness

GIS-Based Common Operating Picture Map Dashboard

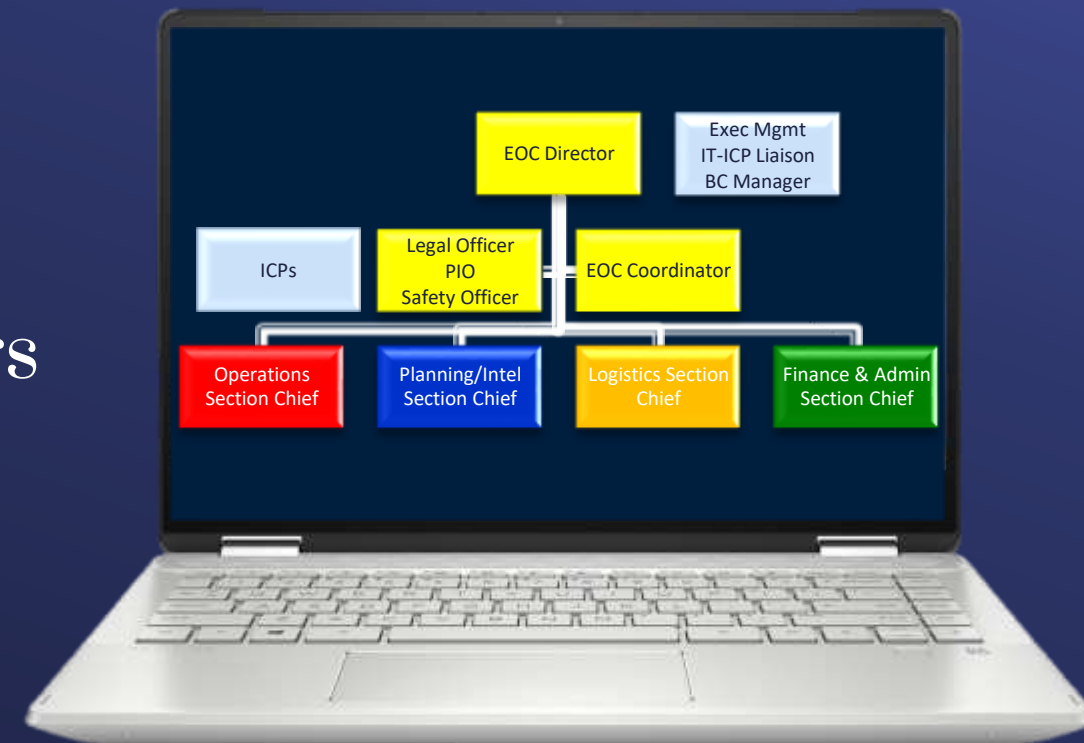
Innovative tool developed in-house that shows all threats on one map:

- Earthquakes
- Weather warnings
- Air quality alerts
- Wildfires
- Thermal imagery
- Local incidents and social media posts
- Duty Officer events



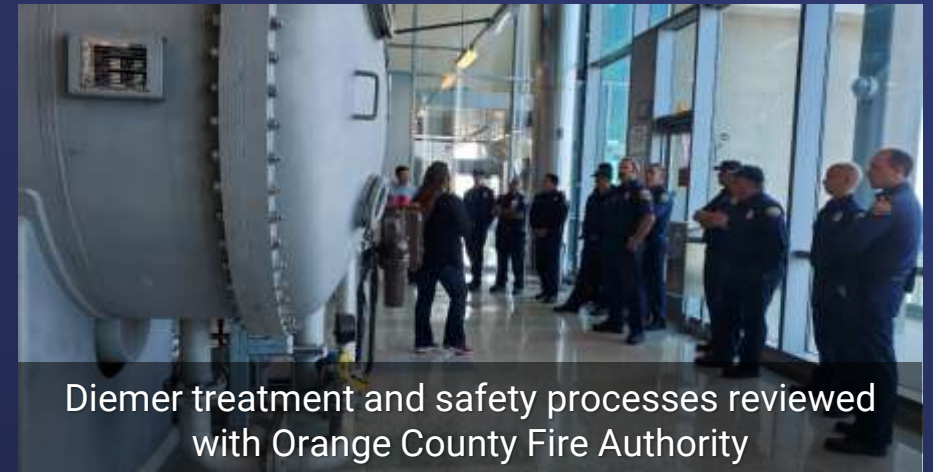
EOC Activation COVID-19 Pandemic Response

- EOC activated for over 3 months at the outset of the pandemic
- Run virtually over internet and phone
- Coordinated initial response across Metropolitan
- Updated Member Agencies and external partners



Wildfire Preparedness Implementing Lessons Learned from Past Events

- Protecting essential operations through control room upgrades and other enhancements to improve indoor air quality for wildfire smoke
- Managing vegetation around facilities to minimize wildfire risk
- Implementing new procedures and training to alert staff when air quality reaches unhealthy levels
- Expanding coordination with local fire authorities



Joint Planning Efforts

Expanding Connections with Our Partners

- Emergency Response Plan updated to comply with America's Water Infrastructure Act (AWIA)
- Dam emergency action planning efforts
- Active outreach with County EOCs
- Increased coordination with utility partners and emergency response agencies



HAZWOPER training at Riverside
County Fire Authority



Full-scale Exercise with
Riverside County hazmat agencies

Moving Forward Future Actions

- Prepare for upcoming fire season and heat/power emergencies
- Update dam emergency action plans
- Participate in local emergency exercises
- Continue Five-Year Exercise Plan with Member Agencies







● **Capital Investment Plan Quarterly Report for period ending March 31, 2022**

Summary

The attached report provides a summary of actions and accomplishments on the Capital Investment Plan (CIP) during fiscal years 2020/21 and 2021/22. It also provides updates on the status of capital projects and capital expenditures to date, and information regarding service connections and relocations authorized by the General Manager during the reporting period of January to March 2022, the third quarter of fiscal year 2021/22, and the seventh quarter of the fiscal years 2020/21 and 2021/22 biennium.

Purpose

Administrative Code Requirement Section 2720(a)(1): General Manager's Quarterly Reports

Section 2720 of Metropolitan's Administrative Code requires the General Manager to report quarterly to the Engineering and Operations Committee on the Capital Investment Plan.

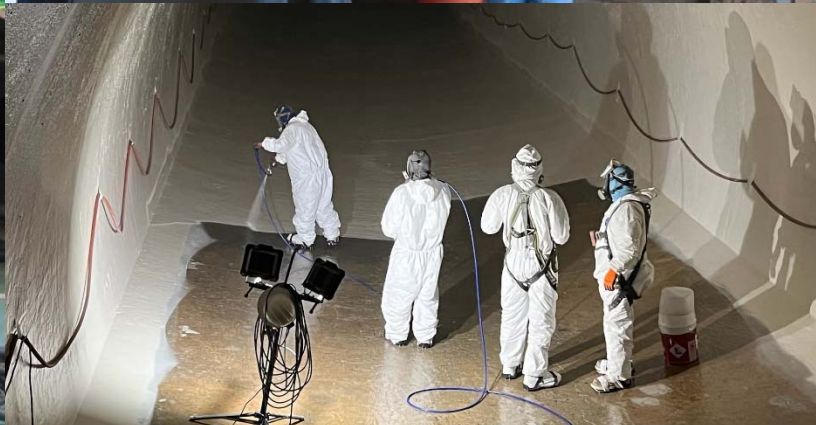
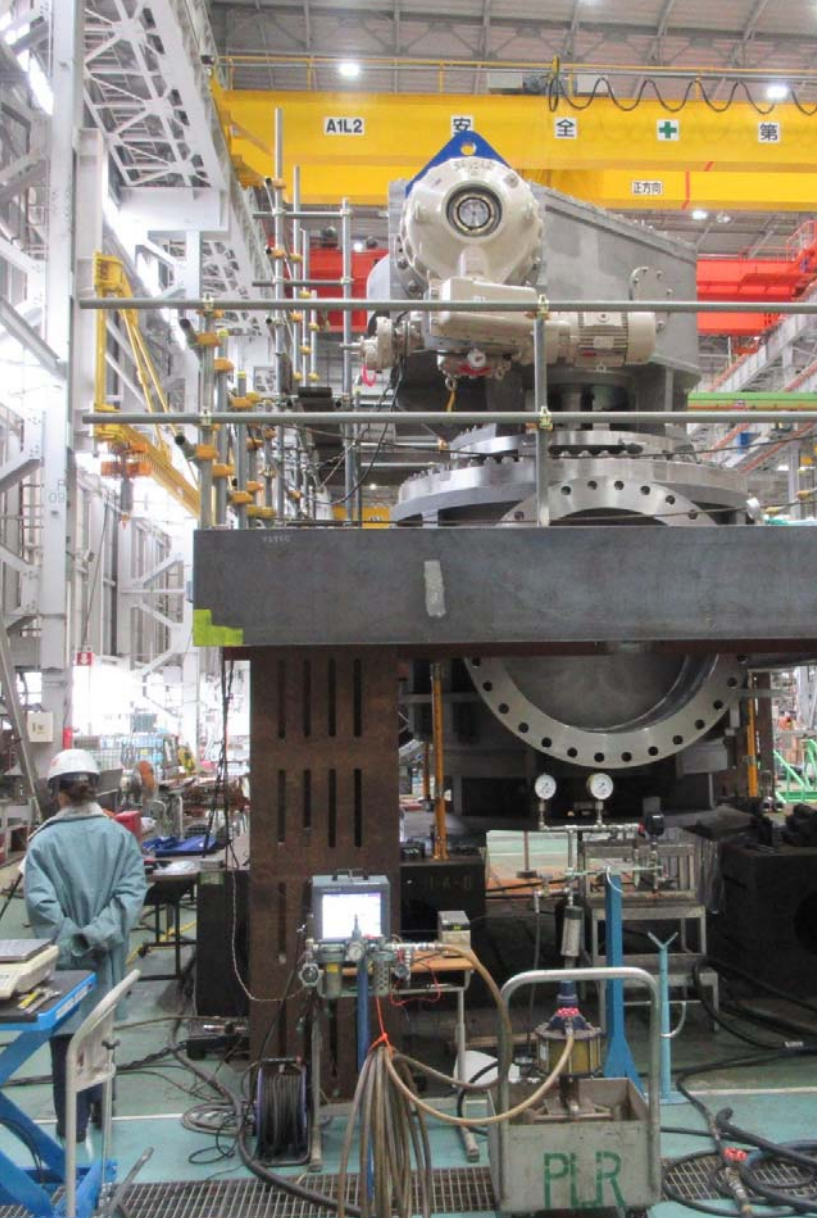
Sections 4700-4708 of Metropolitan's Administrative Code requires the General Manager to report on service connections approved by the General Manager with the estimated cost and approximate location of each.

Section 8122(c) of Metropolitan's Administrative Code requires the General Manager to report on the execution of any relocation agreement under the General Manager's authority involving an amount in excess of \$100,000.

Highlights of progress and major milestones on selected projects are presented in the attached report grouped by CIP program.

Attachments

Capital Investment Plan Quarterly Report for period ending March 2022



THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

CAPITAL INVESTMENT PLAN

Quarterly Report

January – March 2022



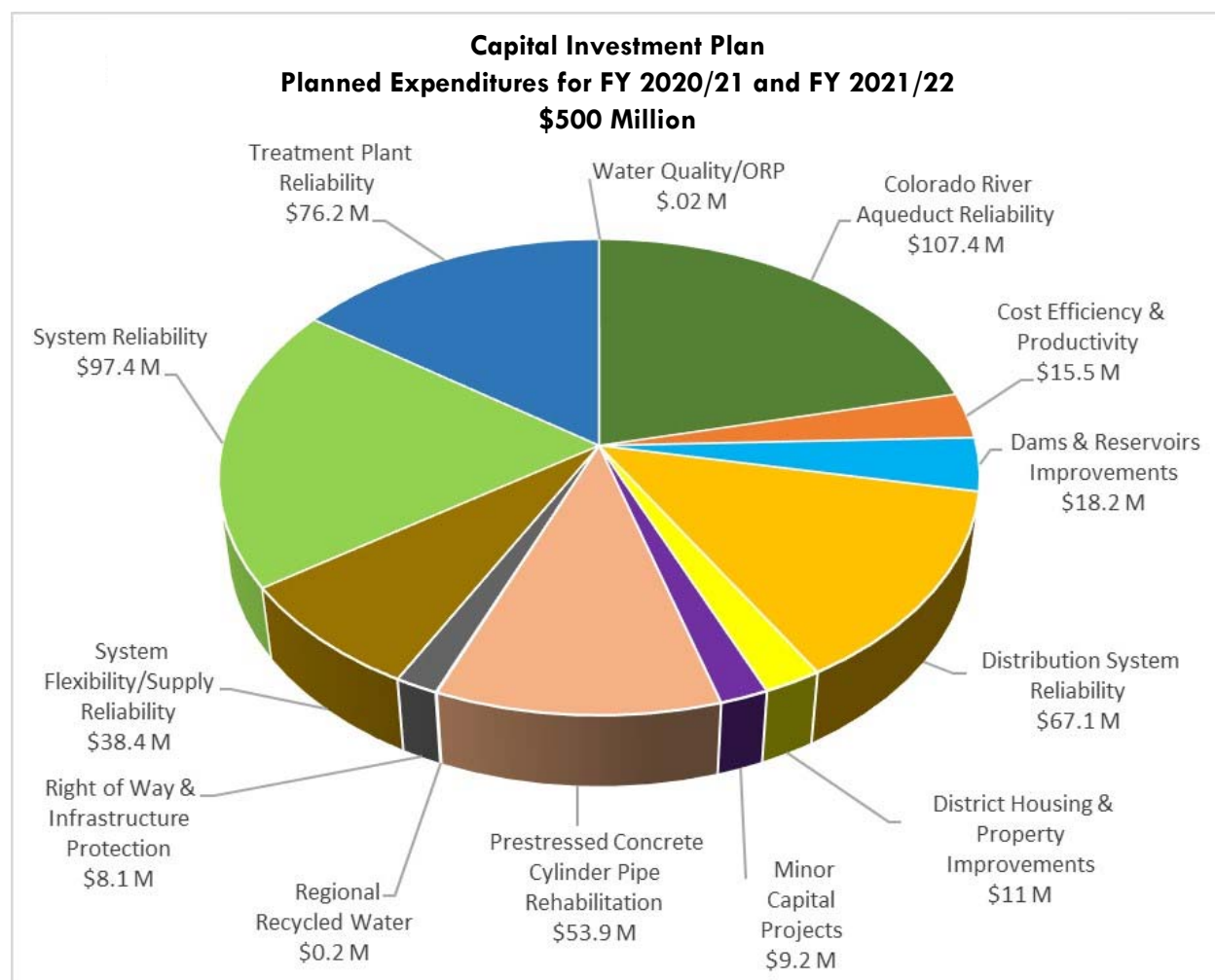
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CAPITAL INVESTMENT PLAN FOR FISCAL YEARS 2020/21 & 2021/22

Metropolitan's total Capital Investment Plan (CIP) planned expenditures for Fiscal Years (FYs) 2020/21 and 2021/22 are \$500 million appropriated by the Board in April 2020, and are shown in Figure 1 below in relation to their associated programs. In the same board meeting, the Board also delegated authority to the General Manager, subject to both CEQA requirements and the General Manager's authority as addressed in Metropolitan's Administrative Code, to initiate or proceed with work on all planned capital projects identified in the CIP for FYs 2020/21 and 2021/22.

Figure 1: CIP for FY 2020/21 and FY 2021/22 by Program



[Cover photos: (left to right; top to bottom): Second Lower Feeder - 54-inch diameter conical plug valve undergoing performance testing at Ebara's manufacturing plant in Japan; Casa Loma Siphon Barrel No. 1 Seismic Upgrade – Kubota pipe vendor conducted installation training of earthquake resistant ductile iron pipe; Cholla Wash Conduit Protection & Lining – contractor applied coating system to the interior surface of the conduit]

THIRD QUARTER SUMMARY

Biennial expenditures through March 2022 totaled \$376.9 million (details shown in Table 15), and expenditures for the 3rd Quarter of Fiscal Year 2021/22, January through March 2022, totaled \$36.8 million for all capital programs.

During the 3rd Quarter, board actions heard in open session included nine project-specific actions summarized in Table 1 below. These actions awarded three contracts totaling approximately \$7.4 million and authorized ten new professional/technical services agreements totaling a not-to-exceed amount of approximately \$15.3 million. Information on the awarded contracts can be found in Table 10 of this report. The table below excludes information on board items heard in closed session.

Table 1: 3rd Quarter Board Actions

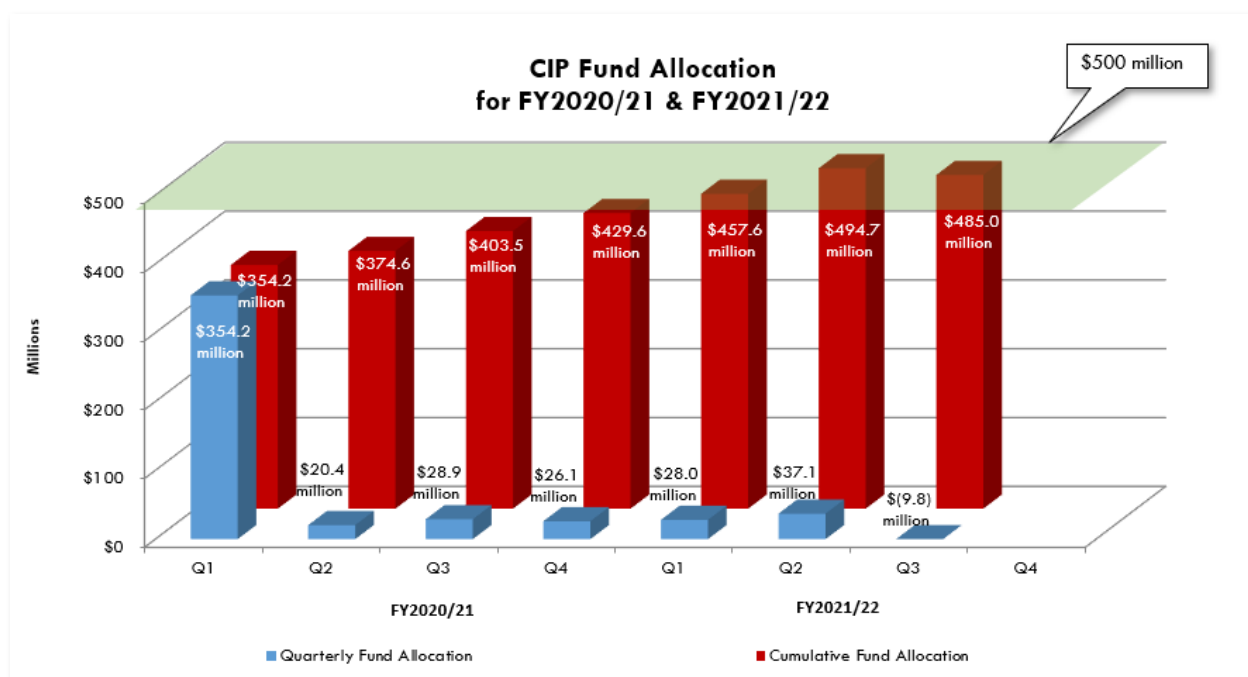
| Month | Board Letter Item No. | Project | Action taken |
|-----------------|-----------------------|---|--|
| January | 7-2 | Skinner Facility Area Paving | Awarded \$1,936,977 construction contract |
| February | 7-2 | Iron Mountain and Gene Pumping Plant Utility Replacement; CRA Desert Region Security Improvements; and Iron Mountain Pumping Plant Station Power and Lighting Switchrack Rehabilitation | Authorized three agreements not-to-exceed \$2,650,000, \$650,000, and \$650,000 |
| February | 7-3 | La Verne Water Quality Laboratory Upgrades | Authorized two agreements not-to-exceed \$4,400,000 and \$550,000 |
| February | 7-4 | West Area Water Supply Reliability Improvements: West Area Supply and Delivery Alternatives, Drought Response Westside Pump Station | Authorized two unplanned projects; authorized an agreement not-to-exceed \$300,000 |
| February | 7-5 | PCCP Rehabilitation Valve and Equipment Storage Building | Awarded \$4,759,000 construction contract |
| March | 7-2 | Cabazon Radial Gate Facility Upgrades and San Diego Canal Radial Gate Replacement | Authorized two agreements not-to-exceed \$890,000 and \$904,000 |
| March | 7-3 | Western San Bernardino County Operating Region Erosion Control Improvements – Stage 1 | Awarded \$677,989 construction contract |
| March | 7-4 | CRA Conduit Erosion Control Improvements | Authorized an agreement not-to-exceed \$2,800,000 |
| March | 7-8 | Diamond Valley Lake East Marina Utility Improvements | Authorized an agreement not-to-exceed \$1,500,000 |

The previously referenced April 2020 board action appropriated \$500 million to perform work on planned capital projects through the current biennium. In order to be considered a planned project, the project must be identified and described in the Capital Investment Plan Appendix for the two-year budget cycle. Consistent with this action, all requests to allocate funds and proceed with planned capital projects are reviewed and approved by the Chief Engineer acting under the General Manager's authority. Unplanned projects, those which are not already identified in the CIP Appendix, require a separate board authorization. Upon board approval of an unplanned project, requested funds are then transferred from the \$500 million (Appropriation No. 15517) to the pertinent capital appropriation under which the project is budgeted. During the 3rd Quarter, the Board amended the CIP to include new capital projects to improve water supply reliability in the west service area. These projects will enhance water delivery capabilities to member agencies that can only receive State Project Water.

During the 3rd Quarter, the total amount of Appropriation No. 15517 funds authorized by the General Manager for the current biennium (FYs 2020/21 and 2021/22) through management actions including the funds for the projects shown in Table 1 is approximately \$13.2 million¹. Reallocations of \$23.0 million returned to the CIP Appropriation (Appropriation No. 15517) from projects with reductions in anticipated expenditures resulting in net decrease of \$9.8 million. Details of these management actions which occurred during the 3rd Quarter can be found in the **Project Actions** section of this report.

Figure 2 shows the allocation of the funds from Appropriation 15517 for this quarter and total for the current biennium through the quarter², which is approximately \$485.0 million, leaving approximately \$15.0 million available to be allocated during the remainder of the current biennium.

Figure 2*: CIP Fund Allocation from Appropriation No. 15517 – FY 2020/21 and FY 2021/22



*Numbers may not sum due to rounding

¹ Total amount authorized excludes \$3.4 million in funding for Diamond Valley Lake East Marina Utility Improvements and \$100,000 in funding for Diamond Valley Lake to Lake Skinner Trail, which are funded with undistributed funds in DVL Recreation Appropriation 15334.

² The CIP Quarterly Report for the 2nd Quarter of FY 2021/22 reported the CIP allocation for Q2 of FY 2021/22 to be \$493.6 million, which is being amended to \$494.7 million in this quarter's report. This change is necessary to reflect the correction of the amount authorized for the current biennium for Jensen Ozone PSUs Replacement – Stage 1 from \$170,000 to \$1,250,000.

Information on construction and procurement contracts activities for the 3rd Quarter of FY 2021/22 is summarized in Table 2 below and presented in further detail in the **Construction and Procurement Contracts** section of this report. Progress payments for these contracts in the 3rd Quarter totaled approximately \$14.81 million and primarily reflect construction progress on Colorado River Aqueduct Cholla Wash Conduit Lining, MWD HQ Building Improvements, MWD HQ Building Fire Alarm & Smoke Control Improvements, Colorado River Aqueduct Replacement of Casa Loma Siphon Barrel No. 1, Joseph Jensen Water Treatment Plant Electrical Upgrade - Stage 2, Gene Wash Reservoir Discharge Valve Replacement, and CRA Mile 12 Flow Monitoring Station Upgrades.

Table 2: 3rd Quarter Contract Action

| Contract Actions during Q3 for FY 2021/2022, January 2022 through March 2022 | |
|--|--|
| Contracts Awarded by Board | 3 construction contracts totaling \$7.37 million (Table 10) |
| Total Payments Authorized | \$14.81 million |
| Construction Contracts Completed | Notice of Completion was filed for 1 construction contract (Table 9) |
| Active Contracts at end of Q3 ³ | 21 construction contracts, totaling \$214.67 million (Table 11) |
| | 15 procurement contracts, totaling \$67.00 million (Table 12) |
| | \$281.66 million total value* |

* Numbers may not sum due to rounding.

IMPACTS OF COVID-19

In response to the Governor's and General Manager's emergency declarations resulting from the COVID-19 pandemic, all active construction contracts were suspended in late March 2020. Since then all contracts, except on-site work for CRA Pumping Plant Sump Rehabilitation, resumed construction activities. Staff and the contractor have negotiated a resolution to the aforementioned CRA Pumping Plant Sump Rehabilitation contract. Metropolitan will take possession of key equipment and will receive a credit for the deleted equipment installation work and equipment not provided. Currently, it is anticipated that the existing contract will be completed by summer of 2022 and the CRA Pumping Plant Sump Rehabilitation project will be re-advertised in the second half of Fiscal Year 2022/23 to install the equipment and materials procured under the existing contract as Metropolitan-furnished equipment. Supply chain issues, especially delivery delays for electrical, control, and computer equipment in addition to construction components such as roofing materials, specialty doors, power door assist hardware, heat pumps, and valves, have been reported on a number of construction contracts and IT projects.

³ Active contracts at the end of the 3rd Quarter are those that are ongoing at the end of March 2022. In other words, contracts completed during the reporting quarter are excluded.

PLANNED EXPENDITURE AND BUDGET

Table 3 and * Numbers may not sum due to rounding.

Figure 3 below show planned and actual expenditures for the biennium through the end of the 3rd Quarter of FY 2021/22, and the forecast of expenditures through the end of the current biennium, against planned expenditures for the same time interval. Actual expenditures through the 3rd Quarter of FY 2021/22 were approximately 86% of planned expenditures.

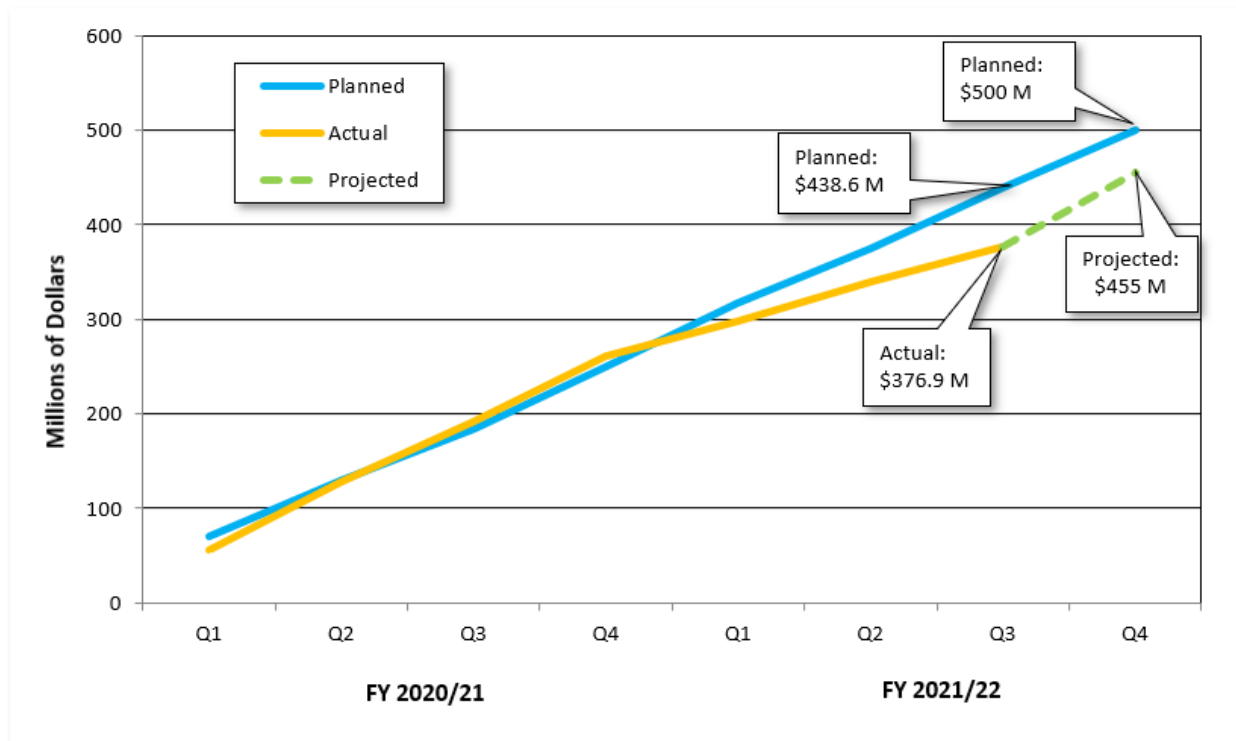
Table 3: Current Biennium: Planned & Actual Expenditures for FYs 2020/21 & 2021/22

| Quarter | Planned Expenditures (millions) | Actual Expenditures (millions) |
|-----------------|------------------------------------|-----------------------------------|
| FY 2020/21 Q1 | \$70.4 | \$55.6 |
| Q2 | \$58.5 | \$72.2 |
| Q3 | \$55.0 | \$63.6 |
| Q4 | \$66.1 | \$70.3 |
| FY 2021/22 Q1 | \$67.0 | \$36.2 |
| Q2 ⁴ | \$58.3 | \$42.3 |
| Q3 | \$63.3 | \$36.8 |
| Totals* | \$438.6 | \$376.9 |

* Numbers may not sum due to rounding.

Figure 3: Current Biennium – Planned, Actual & Forecasted Expenditures

⁴ The CIP Quarterly Report for the 2nd Quarter of FY 2020/21 reported the CIP expenditures for Q2 to be \$42.4 million, which is being amended to \$42.3 million in this quarter's report. This change is necessary to exclude charges for COX Family Farms land acquisition to only account for CIP expenditures.



As shown in * Numbers may not sum due to rounding.

Figure 3, the total planned expenditures in the current biennium are \$500 million. The projected expenditures for the biennium are currently approximately \$455 million with the actual expenditures lower than the planned expenditures during the 3rd Quarter of FY 2021/22 and are projected to stay under the planned expenditures through the end of the biennium.

Expenditures are less than planned in the reporting quarter due to several factors including delays in awarding and completing some construction and procurement contracts due to the difficulties in obtaining permits within the planned timeline, the cancellation of construction portion of one construction contract due to the COVID-19 pandemic leaving only materials and equipment procurement portion, and equipment/materials delivery delays due to manufacturing and supply chain issues attributed to the COVID-19 pandemic.

MAJOR CAPITAL PROGRAMS OVERVIEW

Metropolitan's CIP is structured into three levels. In descending order, they are:

- Program
- Project Group/Appropriation
- Project

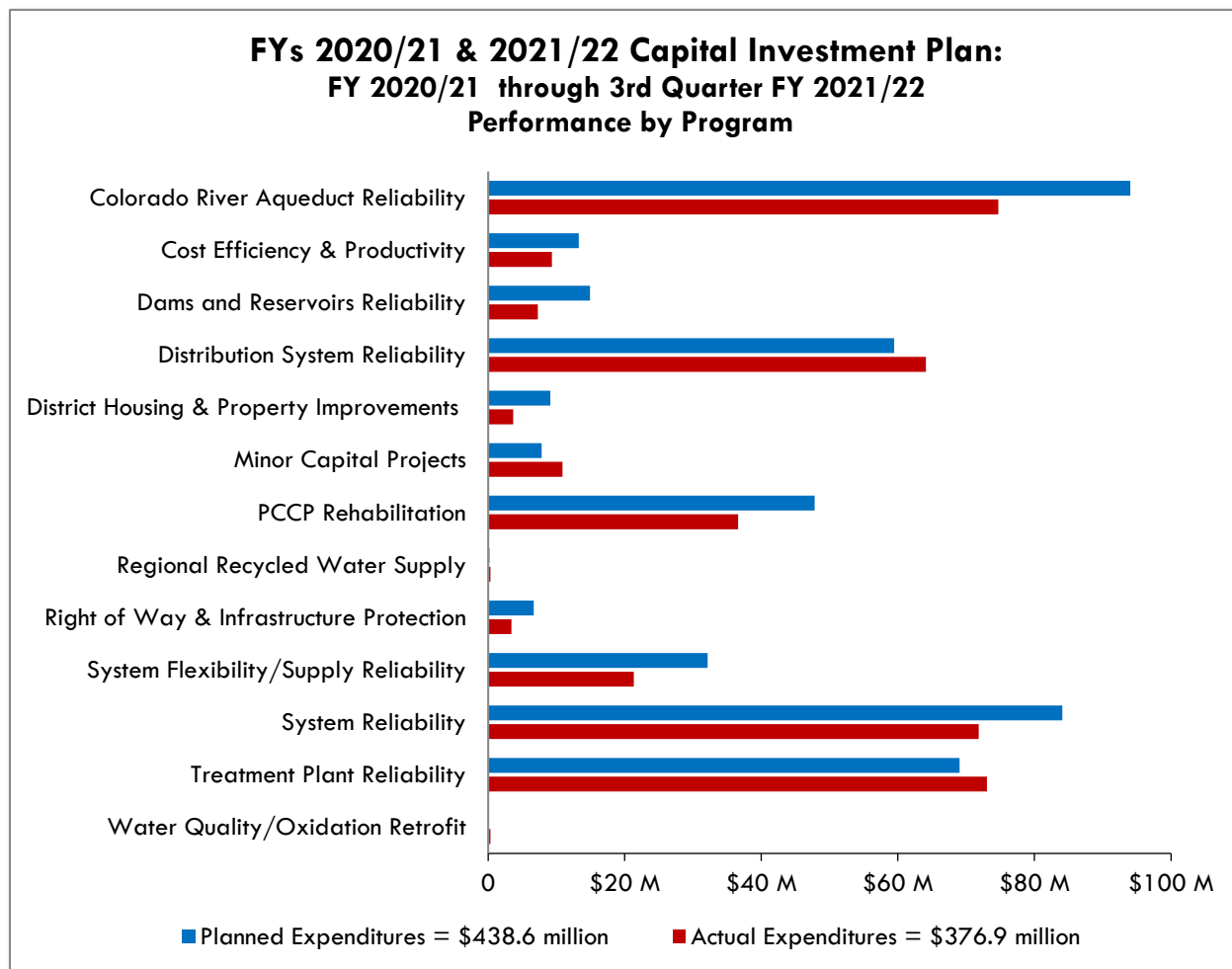
Metropolitan's CIP is comprised of 13 programs, which capture all projects within the CIP. The 13 capital programs are listed below in alphabetical order. Programs are comprised of one or more project groups/appropriations, and project group/appropriations are comprised of one or more projects. The status of each of the programs is provided later in this section of the report.

- Colorado River Aqueduct (CRA) Reliability
- Cost Efficiency & Productivity
- Dams & Reservoirs Improvements
- Distribution System Reliability
- District Housing & Property Improvements
- Minor Capital Projects
- Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation
- Regional Recycled Water Supply
- Right-of-Way and Infrastructure Protection
- System Flexibility/Supply Reliability
- System Reliability
- Treatment Plant Reliability
- Water Quality/Oxidation Retrofit

For the current biennium, there are over 37 project groups, 72 planned appropriations, and 435 planned projects (excluding Minor Capital Projects) within the CIP. The list of appropriations that make up each of the programs, along with planned expenditures and actual costs to date for those appropriations, are provided in Table 15 at the end of this report.

Figure 4 below shows actual versus planned expenditures for the 13 capital programs for 3rd Quarter of FY 2021/22.

Figure 4: Biennium-to-date Expenditures (Actuals vs. Planned) through 3rd Quarter FY 2021/22



Variances between planned and actual expenditures for each program are primarily due to shifts in spending on current and planned construction work. The following information on the top ten capital projects provides examples of activities that contributed to such variances.

The list of projects in Table 4 below reflects the ten projects in the CIP with the highest level of planned expenditures in the current biennium. The planned versus actual expenditures through the end of the 3rd Quarter of FY 2021/22 are also shown in this table.

*Table 4: Top Ten Planned Capital Projects
Planned and Actual Expenditures*

| Project | Planned (FY 2020/21 through FY 2021/22) (millions) | Planned July 2020 to March 2022 (millions) | Actuals July 2020 to March 2022 (millions) |
|--|--|---|---|
| Headquarters Building Improvements | \$31.3 | \$27.5 | \$32.7 |
| Casa Loma Siphon Barrel No. 1 Seismic Upgrade | \$30.0 | \$26.4 | \$16.7 |
| CRA Pump Plant Sump System Rehabilitation | \$28.0 | \$24.6 | \$11.2 |
| Perris Valley Pipeline - Tunnels | \$27.8 | \$21.9 | \$2.5 |
| CRA Discharge Line Isolation Coupling Assemblies | \$23.0 | \$22.3 | \$18.3 |
| Second Lower Feeder PCCP Rehabilitation - Reach 8 | \$22.0 | \$18.0 | \$6.9 |
| Jensen Electrical Upgrades - Stage 2 | \$15.2 | \$13.5 | \$16.7 |
| Diemer West Basin & Filter Building Rehabilitation | \$14.2 | \$14.1 | \$15.7 |
| Second Lower Feeder PCCP Rehabilitation – Reach 2 | \$13.0 | \$13.0 | \$5.7 |
| Orange County Feeder Relining - Reach 3 | \$12.5 | \$11.0 | \$1.1 |
| Total* | \$217.1 | \$192.5 | \$127.5 |

* Numbers may not sum due to rounding.

The cumulative expenditure variance for the top ten projects through the 3rd Quarter of FY 2021/22 reflects a mix of over- and under-spending on projects relative to their planned expenditures. Positive or negative variances do not mean that the projects are over or under budget, it simply reflects variances in timing of expenditures when compared to original budget plans. The following are the variance explanations for the top ten projects where actual expenditures exceeded planned expenditures through the current reporting quarter for the biennium.

- **Headquarters Building Improvements:** The actual expenditures were more than planned because of the following: (1) the approval of additional change orders to complete needed work while the building is lightly occupied due to the COVID-19 pandemic; and (2) the contractor was able to accelerate completion of some work elements as the building has been lightly occupied.
- **Jensen Electrical Upgrades - Stage 2:** Project expenditures for the biennium are higher than originally planned through the 3rd Quarter because the contractor's work activities were expedited after the COVID-19 work suspension was lifted in order to meet the scheduled 2022 shutdown dates.

- **Diemer West Basin & Filter Building Rehabilitation:** Project expenditures for the biennium are higher than originally planned through the 3rd Quarter because the contractor's work activities were expedited to meet the scheduled completion date.

The following are the variance explanations for the top ten projects with actual expenditures less than planned expenditures through the current reporting quarter for the biennium).

- **Casa Loma Siphon Barrel No. 1 Seismic Upgrade:** The actual vs. planned variance is due to a shift in timing of the award of the pipe installation contract from earlier in the biennium to December 2021 to ensure sufficient capacity in the current CIP budget to accommodate expenditures from this project in the biennium.
- **CRA Discharge Line Isolation Coupling Assemblies:** The actual expenditures were less than planned due to the contractor completing more work than planned during the 2020 shutdown.
- **CRA Pump Plant Sump System Rehabilitation:** The actual vs. planned variance is due to the suspension of the on-site work due to the COVID-19 pandemic starting in March 2020, which led to cancellation of the construction portion of the contract. Resolution of outstanding submittal comments and supply chain issues have also caused a delay in the delivery of equipment and materials to the site.
- **Perris Valley Pipeline – Tunnels:** The actual vs. planned expenditure variance is due to postponing the start of construction from November 2020 to late 2022 due to the need to conduct additional subsurface investigations to determine groundwater treatment requirements and potential soil contamination levels. Additionally, complex right-of-way issues needed to be resolved prior to the advertisement of this project for construction bids.
- **Second Lower Feeder PCCP Rehabilitation – Reach 2:** The actual vs. planned variance is due to shifts in the timing of construction completion, which was completed approximately five months earlier than planned and under budget leaving less work for the current biennium. Early completion of this work can be attributed to extensive preconstruction planning and permitting, successful community outreach efforts, and better than expected relining production by the contractor.
- **Second Lower Feeder PCCP Rehabilitation – Reach 8:** This project involved relining approximately 2,900 feet of PCCP pipeline in the City of Placentia, which is a portion of the original length of the Reach 8 project. Construction work was completed in September 2020. The planned expenditures for this biennium were based on relining 17,000 feet of PCCP but during design the scope was reduced to prioritize the most at-risk, 2,900-foot portion of the feeder. The remaining 14,100 feet of PCCP will be included in a future PCCP rehabilitation contract.
- **Orange County Feeder Relining - Reach 3:** The actual vs. planned expenditure variance is due to postponing the start of construction from September 2020 to May 2022 in order to reduce expenditures in this biennium. The final contract, for Reach 3, was awarded for construction in April 2022 to ensure that there is sufficient capacity in the current CIP budget to accommodate expenditures from this project in the biennium.

MAJOR CAPITAL PROGRAMS – HIGHLIGHTS

The section that follows provides 3rd Quarter highlights for the 12 Major Capital Programs; the Minor Capital Program is highlighted in its own section of this report. Status is provided for selected projects within each Major Capital Program. The selected projects typically achieved major milestones during the 3rd Quarter of FY 2021/22, or are scheduled to achieve major milestones in the next quarter.

| Program | Project |
|--|--|
| Colorado River Aqueduct (CRA) Reliability | CRA Pumping Plants Overhead Cranes Replacement |
| Cost Efficiency & Productivity | Enterprise Content Management Phase I and Digital Asset Optimization |
| Dams and Reservoirs Improvements | Diamond Valley Lake Dam Monitoring System Upgrades |
| Distribution System Reliability | Orange County Feeder Relining - Reach 3 |
| District Housing & Property Improvements | Program highlights only |
| Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation | Second Lower Feeder PCCP Rehabilitation - Reach 3 |
| Regional Recycled Water Supply | Program highlights only |
| Right-of-Way & Infrastructure Protection | Program highlights only |
| System Flexibility/Supply Reliability | Wadsworth Pumping Plant Bypass Pipeline |
| System Reliability | Maximo Upgrade |
| Treatment Plant Reliability | Weymouth Basins 5-8 Rehabilitation |
| Water Quality/Oxidation Retrofit | Program highlights only |

Colorado River Aqueduct (CRA) Reliability Program

Program Information: The CRA Reliability Program is composed of projects to replace or refurbish facilities and components of the CRA system in order to reliably convey water to Southern California.

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$94.04 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$74.72 million

PROGRAM HIGHLIGHTS (3rd Quarter)

Status

Expenditures for this program are less than planned through March 2022 due to schedule adjustments in order to optimize the construction activities of multiple contracts within the same CRA shutdown and to accommodate extended 8-pump operation, on-going supply chain disruption, and suspension of construction contracts under Metropolitan's response to COVID-19.

Accomplishments

- Continued construction activities for the following contracts:
 - CRA Mile 12 Flow Meter Upgrades
 - i. Completed work required to be performed during the 2022 CRA Shutdown and returned the system back to service
 - ii. Completed installation of flow monitoring transducers and electrical conduit in CRA barrel structures
 - iii. Completed sitework and placement of the concrete landing at the existing equipment building
 - iv. Began and completed installation of forms and placed concrete footing for the security camera system
 - v. Began and continued excavation and installation of electrical grounding grid and duct banks
 - vi. Continued installation of above ground electrical conduits and junction boxes
 - CRA Pumping Plants Overhead Cranes Rehabilitation
 - i. Completed crane rail alignment at the Iron Mountain Pumping Plant
 - ii. Continued submittals for review
 - iii. Began fabrication of the crane assembly for Gene Pumping Plant
 - Gene Wash Reservoir Discharge Valve Structure Rehabilitation
 - i. Completed removal and demolition of the existing steel grating and framework within the valve house
 - ii. Completed site work for the new concrete catwalk footings and concrete ladder landing at the valve house
 - iii. Completed installation of the electrical equipment and panels inside the valve house; and completed electrical start-up and commissioned electrical panels.
 - iv. Continued to perform punch list work
 - v. Began and continued startup and commissioning activities
- Continued submittals for the water treatment equipment procurement for domestic water treatment systems at all CRA pumping plants with expected deliveries in two shipments, in mid-2022 and early 2024, to coincide with the Domestic Water Treatment System Upgrades construction schedule
- Issued Notice to Proceed of Domestic Water Treatment System Upgrades at all five CRA pumping plants. Contractor began and continued submittals for review.
- Completed all contract work activities for Cholla Wash Conduit Protection & Lining, and filed Notice of Completion

- Under Metropolitan’s response to COVID-19, suspended on-site construction for the CRA Pumping Plant Sump System Rehabilitation and continued submittals and fabrication activities
 - Continued fabrication of new pumps, piping, and other materials that are to be furnished
- Continued to evaluate and establish the course of action and construction repackaging options of the remaining outstanding contract work items for CRA 6.9 kV Power Cable Replacement
- Completed final design and advertised construction bid package for CRA Storage Building Replacement at Hinds, Eagle Mountain, and Iron Mountain
- Continued final design of:
 - CRA Conduits Structural Protection upgrades
 - Gene Communication Reliability Upgrades
- Continued preliminary design of:
 - Black Metal Mountain 2.4 kV Electrical Power Upgrades
 - CRA Desert Region Security Improvements
 - Hinds Pumping Plant Discharge Valve Platform Replacement
- Continued preliminary design and preparation of procurement package for the CRA Main Transformer Replacement
- Continued the CRA main pump rehabilitation efforts at all five pumping plants and feasibility study to install variable frequency drive pumps at Gene and Intake Pumping Plants. Completed fabrication and installation of the headgates at Hinds and Iron Mountain Pumping Plants and installation of recirculation line connections at Eagle Mountain Pumping Plant.

Upcoming Activities

Upcoming work for the next quarter will include:

- Continue construction activities planned for the following contracts:
 - CRA Mile 12 Flow Meter Upgrades
 - CRA Pumping Plants Overhead Crane Replacement
 - Domestic Water Treatment System Upgrades at all five CRA pumping plants
- Complete construction of Gene Wash Reservoir Discharge Valve Structure Rehabilitation
- Continue fabrication activities for CRA Pumping Plant Sump System Rehabilitation and begin final design of the sump system installation contract. Receive final equipment deliveries for the remaining at Intake, Gene, and Hinds Pumping Plants.
- Continue final design of:
 - CRA Conduits Structural Protection Upgrades
 - Gene Communication Reliability Upgrades
- Continue preliminary design of:
 - Black Metal Mountain 2.4 kV Electrical Power Upgrades
 - CRA Desert Region Security Improvements
 - Hinds Pumping Plant Discharge Valve Platform Replacement
- Continue preliminary design and preparation of procurement package for the CRA Main Transformer Replacement
- Continue the CRA main pump rehabilitation efforts at all five pumping plants, complete conceptual study to install variable frequency drive pumps at Gene and Intake Pumping Plants. Continue design of recirculation line up to the connection point at Eagle Mountain Pumping Plant and begin preparation of procurement package for the pilot exciter system installation at Gene Pumping Plant.
- Continue study of CRA 2.3 kV Switchrack Rehabilitation at four CRA pumping plants and continue preliminary design of a pilot Switchrack Rehabilitation project at Iron Mountain Pumping Plant

Estimated Construction**Completion Date:**

September 2023

Total Project Estimate:

\$20.4 million

Current Phase Estimate:

\$17.3 million

Cost to Date for Current Phase:

\$1.1 million

CRA Reliability Program: CRA Pumping Plants Overhead Cranes Replacement

This project replaces the overhead bridge crane at all five pump plants. It also makes improvements to the electrical system, abates hazardous materials, and performs seismic retrofit of the below-grade pump bays.

| Phase | Construction & Closeout |
|-------------------------------|-------------------------|
| % Complete for Construction | 4% |
| Construction Contract Awarded | September 2020 |
| Appropriation Number | 15481 |
| Contract Number | 1946 |

The contractor began fabrication of the overhead cranes. In the upcoming quarter, the contractor plans to mobilize at the Gene Pumping Plant.



Fabrication of hoist for new CRA Pumping Plant overhead crane

Cost Efficiency and Productivity Program

Program Information: The Cost Efficiency and Productivity Program is composed of projects to upgrade, replace, or provide new facilities, software applications, or technology, which will provide economic savings that outweigh project costs through enhanced business and operating processes.

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$13.28 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$9.35 million

PROGRAM HIGHLIGHTS (3rd Quarter)

Status

Biennium expenditures for this program are less than planned through March 2022 due to shifts in timing of the work, with expenditures offset by schedule delays of several projects in the remaining appropriations within this program.

Accomplishments

- Continued construction of battery energy storage systems at the Jensen and Skinner plants
- Completed final design and advertised construction bid package for battery energy storage system at the Weymouth plant
- Completed design and file migrations associated with Enterprise Content Management Phase 1
- Continued WINS Water Billing System Upgrade
- Continued Real Property Group Business System Replacement

Upcoming Activities

Upcoming work for the next quarter will include:

- Continue construction of battery energy storage systems at the Jensen and Skinner plants
- Award construction contract for battery energy storage system at the Weymouth plant
- Continue WINS Water Billing System Upgrade
- Continue Real Property Group Business System Replacement
- Begin preparation of a request for proposal (RFP) associated with Enterprise Content Management Phase II
- Advertise RFP for Payroll-Timekeeping Reimplementation

Design Completion Date:
March 2022

Total Project Estimate:
\$5.1 million

Current Phase Estimate:
\$5.1 million

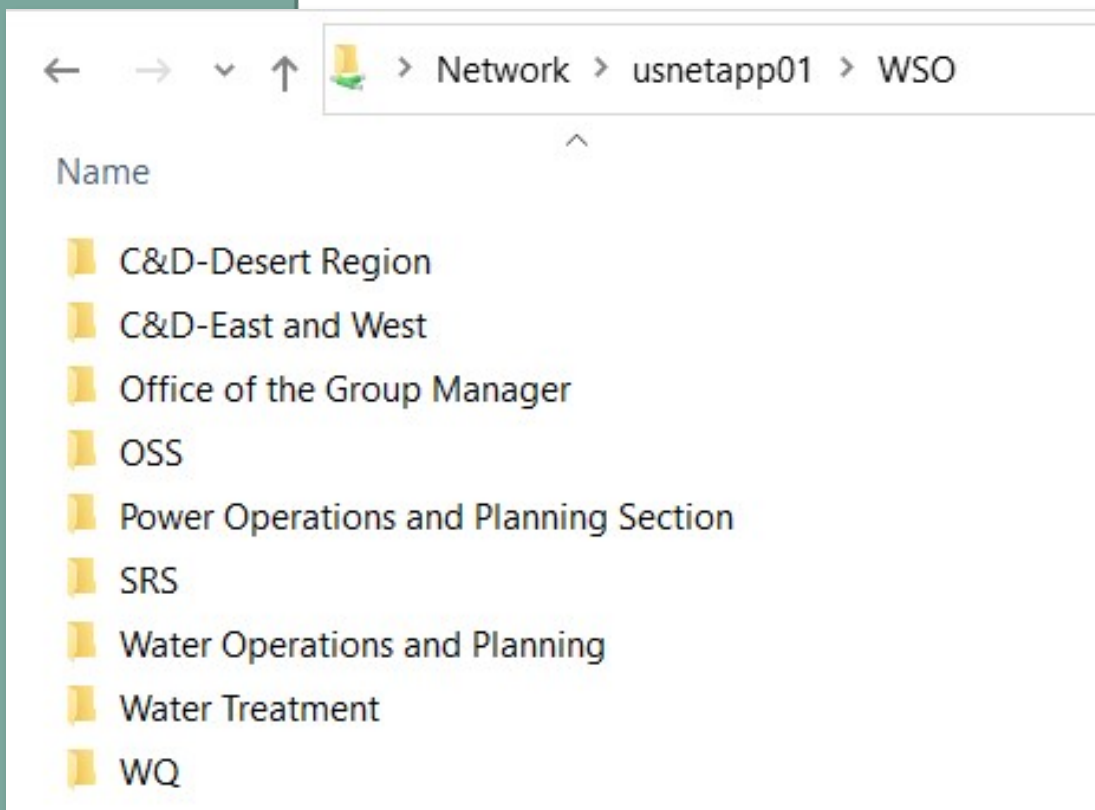
Cost to Date for Current Phase:
\$5.1 million

Cost Efficiency & Productivity Program: Enterprise Content Management Phase I and Digital Asset Optimization

The combined Enterprise Content Management (ECM) and Digital Asset Optimization (DAO) project helps Metropolitan move closer to a digital workspace by identifying and removing redundant, obsolete, and trivial files from our shared drive network and creates new functionally based records retention in preparation of a new system deployment on the cloud.

| Phase | Design |
|------------------------------|-----------|
| % Complete for Current Phase | 100% |
| Current Phase Authorized | July 2017 |
| Appropriation Number – ECM | 15500 |
| Appropriation Number – DAO | 15411 |

Electronic files and existing shared drive structures were consolidated and reorganized to streamline access and improve search function. All remaining work was completed.



Reorganized shared drive folders for Water System Operations Group

Dams and Reservoirs Improvements Program

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

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$14.91 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$7.29 million

PROGRAM HIGHLIGHTS (3rd Quarter)

Status

Biennium expenditures for this program are less than planned through March 2022 due to schedule variances associated with the Dam Monitoring System Upgrades Projects and additional time needed for consultant selection for the Lake Skinner Outlet Tower seismic analysis

Accomplishments

- Diamond Valley Lake Dam Monitoring System Upgrades
 - Initiated a scoping document in preparation of a request for proposal (RFP)
- Garvey Reservoir Rehabilitation
 - Continued preliminary design
- Lake Mathews and Lake Skinner Dam Monitoring System Upgrades
 - Developed scope of work for investigation of monitoring needs and prioritization of instrumentation replacement at both reservoirs
- Lake Skinner Outlet Tower Seismic Upgrade
 - Issued RFP for detailed structural analysis of the outlet tower

Upcoming Activities

Upcoming work for the next quarter will include:

- Diamond Valley Lake Dam and Garvey Reservoir Monitoring System Upgrades
 - Continue to develop scoping document and begin RFP process
- Garvey Reservoir Rehabilitation
 - Continue preliminary design
- Lake Skinner Outlet Tower Seismic Upgrade
 - Select a consultant team for detailed seismic analysis of the outlet tower and initiate the evaluation of alternative solutions

Estimated Study Completion**Date:****October 2022****Total Project Estimate:****\$9.0 million****Current Phase Estimate:****\$2.7 million****Cost to Date for Current Phase:****\$2.1 million****Dams and Reservoirs Improvements Program:
Diamond Valley Lake Dam Monitoring System
Upgrades**

This project will replace the obsolete, increasingly unreliable dam monitoring systems at Diamond Valley Lake (DVL)

| | |
|------------------------------|-----------|
| Phase | Study |
| % Complete for Current Phase | 87% |
| Study Authorized | July 2016 |
| Appropriation Number | 15419 |

A scoping memorandum was prepared in preparation of a request for proposals (RFP). In the upcoming quarter, the memorandum will be finalized and the RFP process will begin.



Existing Diamond Valley Lake west dam remote monitoring station

Distribution System Reliability Program

Program Information: The Distribution System Reliability Program is comprised of projects to replace or refurbish existing facilities within Metropolitan’s distribution system, including reservoirs, pressure control structures, hydroelectric power plants, and pipelines, in order to reliably meet water demands.

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$59.46 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$64.11 million

PROGRAM HIGHLIGHTS (3rd Quarter)

Status

Biennium expenditures for this program are more than the planned expenditures through March 2022 due to differences in timing between planned and actual payments for projects such as the Lakeview Pipeline Improvements and Middle Feeder Relocation for SCE Mesa Substation.

Accomplishments

- Issued Notice to Proceed for construction of the Casa Loma Siphon Barrel No. 1 Seismic Upgrade
- Substantially completed construction of the Lake Mathews IT Disaster Recovery Facility Upgrades
- Awarded a construction contract for the Lake Mathews Sodium Hypochlorite Tank Farm Roof Structure Modifications
- Etiwanda Pipeline Relining - Stage 3:
 - Pipe Procurement - Vendor began fabrication of 136-inch diameter pipe
 - Completed final design for pipe installation and relining

Upcoming Activities

Upcoming work for the next quarter will include:

- Complete construction of Garvey Reservoir Drainage and Erosion Improvements - Areas 6 to 8, 10, and 11
- Complete construction of the Lake Mathews IT Disaster Recovery Facility Upgrades and file NOC
- Award construction contract for:
 - Etiwanda Pipeline Relining - Stage 3
 - OC-88 Pump Station Chiller Replacement
 - Orange County Feeder Relining - Stage 3
 - West Valley, East Valley, and Sepulveda Feeders Intertie Electrical Upgrades
- Continue construction and begin testing of the Garvey Reservoir Sodium Hypochlorite Feed System Upgrades

Final Design Completion Date:
March 2022

Total Project Estimate:
\$25.5 million

Current Phase Estimate:
\$2.9 million

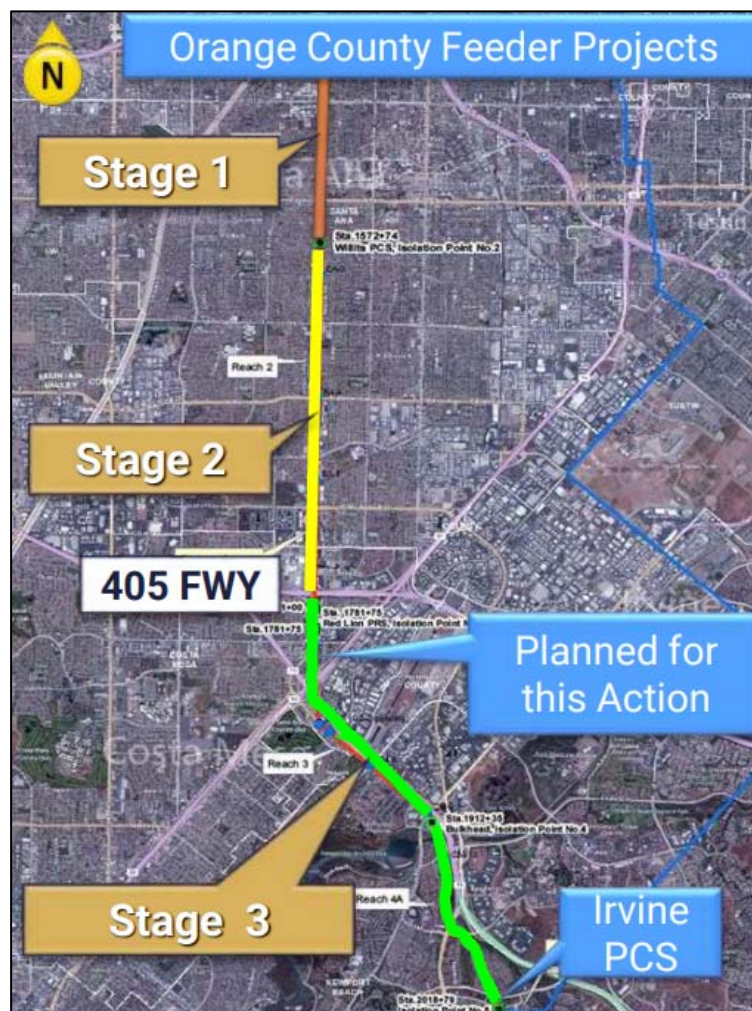
Cost to Date for Current Phase:
\$2.8 million

Distribution System Reliability Program: Orange County Feeder Relining - Reach 3

This project will replace approximately 4 miles of the deteriorated internal coal-tar enamel liner with cement mortar lining, weld all joints, and construct new accessways on the Orange County Feeder Extension within the cities of Costa Mesa and Newport Beach.

| | |
|------------------------------|---------------|
| Phase | Final Design |
| % Complete for Current Phase | 100% |
| Current Phase Authorized | November 2014 |
| Appropriation Number | 15377 |

The construction package was advertised and opened for bids. In the upcoming quarter, the construction contract will be awarded and notice to proceed will be issued.



Orange County Feeder Relining – Reach 3 project location

District Housing & Property Improvements Program

Program Information: The District Housing & Property Improvements Program is composed of projects to refurbish or upgrade workforce housing at Metropolitan to enhance living conditions to attract and retain skilled employees

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$9.11 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$3.66 million

PROGRAM HIGHLIGHTS (3rd Quarter)

Status

Biennium expenditures for this program are less than planned through March 2022 due to unanticipated additional geotechnical analysis that was necessary prior to completion of the preliminary design for all of the villages.

Accomplishments

- Initiated preliminary design of the housing, village enhancements, and the kitchen and lodging improvements at Gene and Iron Mountain Pumping Plants

Upcoming Activities

Upcoming work for the next quarter will include:

- Perform value engineering of the housing, village enhancements, and the kitchen and lodging improvements at the Hinds and Eagle Mountain Pumping Plants
- Continue preparation of preliminary design of the housing, village enhancements, and the kitchen and lodging improvements at Gene and Iron Mountain Pumping Plants
- Continue preparation of the environmental documentation in support of the housing and property improvements program

Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation Program

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

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$47.82 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$36.61 million

PROGRAM HIGHLIGHTS (3rd Quarter)

Status

Biennium expenditures for this program are less than the planned expenditures through March 2022 due to a delay in permitting and subsequent rescheduling of construction contract award for Second Lower Feeder Reach 3.

Accomplishments

- Second Lower Feeder Reach 3:
 - Advertised construction bid package for Reach 3A, which will reline approximately 1.2 miles of pipeline from Oak Street Pressure Control Structure south through City of Rolling Hills Estates to the Palos Verdes Reservoir
 - Continued design and permits acquisition of Reach 3B, which will reline approximately 3.6 miles of pipeline from the intertie with Sepulveda Feeder south to Oak Street PCS, through the cities of Torrance, Los Angeles, and Lomita, and will replace three 48-inch diameter sectionalizing valves at the intertie with Sepulveda Feeder
- Allen-McColloch Pipeline:
 - Continued preliminary design for rehabilitation, including identification of proposed pipe access excavation pits for approximately 9 miles of PCCP
 - Received input from member agencies on proposed shutdown scenarios
- Sepulveda Feeder Reach 1 - Continued final design to rehabilitate approximately 3 miles of Sepulveda Feeder from just north of the Inglewood Lateral south to the West Coast Feeder, through the cities of Inglewood and Hawthorne, and unincorporated Los Angeles County. Work includes preparation of final design drawings, traffic control plans, and permitting.
- Sepulveda Feeder Reach 2 - Continued final design to rehabilitate approximately 3.8 miles of Sepulveda Feeder from the Dominguez Gap Channel crossing south to the intertie with Second Lower Feeder, through the cities of Torrance and Los Angeles. Work includes preparation of final design drawings, traffic control plans, and permitting.
- Second Lower Feeder Isolation Valve Procurement - Completed fabrication of the fourth and fifth of the thirteen large-diameter conical plug valves and actuators. Continued fabrication of the sixth through tenth large-diameter conical plug valves.

- PCCP Rehabilitation Valve and Equipment Storage Building - Awarded a construction contract for a new valve storage building at Lake Mathews to safely store large-diameter valves and actuators to support the PCCP Rehabilitation Program

Upcoming Activities

Upcoming work for the next quarter will include:

- Second Lower Feeder Reach 3A - Award a construction contract
- Second Lower Feeder Reach 3B - Continue final design and seek construction permit approvals
- Sepulveda Feeder Reaches 1 and 2 - Continue developing final designs and initiate permitting process for long-lead permit(s)
- Second Lower Feeder Isolation Valve Procurement - Take delivery of the fourth and fifth of the thirteen large-diameter conical plug valves.
- PCCP Rehabilitation Valve and Equipment Storage Building - Continue contractor submittal reviews and begin construction mobilization
- Allen-McColloch Pipeline - Continue preliminary design and begin preparing a response to member agency's input
- Calabasas Feeder Preliminary Design - Solicit proposals for preliminary design services from Metropolitan's pool of pre-qualified conveyance and distribution system design consultants

Reach 3A Final Design**Completion Date:****January 2022****Estimated Reach 3B Final****Design Completion Date:****August 2022****Total Project Estimate:****\$90.0 million****Current Phase Estimate:****\$8.1 million*****Cost to Date for Current****Phase:****\$7.6 million**

*In March, the current phase estimate was revised from \$7.5 million to \$8.1 million due to additional design work required to repackage the project for two contracts (Reach 3A and Reach 3B)

PCCP Rehabilitation Program: Second Lower Feeder PCCP Rehabilitation – Reach 3

This project will rehabilitate approximately 4.8 miles of PCCP segments of the Second Lower Feeder with steel liner and replace three existing 42-inch diameter sectionalizing valves with three new 48-inch diameter sectionalizing valves. The project will be completed in two stages. The first stage will reline Reach 3A, which stretches approximately 1.2 miles at the southern end of the Reach 3. The second stage will reline Reach 3B, which is approximately 3.6 miles of northern portion of the Reach 3 and includes the three sectionalizing valves.

| Phase | Final Design |
|--|--------------|
| % Complete for Final Design Phase – Reach 3A | 100% |
| % Complete for Final Design Phase – Reach 3B | 98% |
| Design Phase Authorized | January 2015 |
| Appropriation Number | 15497 |

The Reach 3A construction package was advertised for bids and Reach 3B final design continued. In the upcoming quarter, bids for Reach 3A will be opened, the construction contract will be awarded, and notice to proceed will be issued. Reach 3B final design will continue.



Example of a temporary bulkhead that will be installed on Second Lower Feeder Reach 3A

Regional Recycled Water Supply Program

Program Information: The Regional Recycled Water Supply Program includes the design and construction of the Advanced Water Treatment (AWT) Demonstration Plant, which represents the initial step in development of a potential regional recycled water system for recharge of groundwater basins within Southern California.

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$0.21 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$0.33 million

PROGRAM HIGHLIGHTS (3rd Quarter)

| | |
|---------------------|--|
| Status | Biennium expenditures for this program are consistent with the planned expenditures through March 2022. |
| Accomplishments | <ul style="list-style-type: none"> Advanced Water Treatment Demonstration Facility: <ul style="list-style-type: none"> Coordinated with the State Water Resources Control Board on final submittal and reimbursement request as part of the grant funding agreement. Prepared Phase 1 draft testing report |
| Upcoming Activities | <p>Upcoming work for the next quarter will include:</p> <ul style="list-style-type: none"> Continue warranty repairs on equipment and post-contract system improvements to enhance safety and operational reliability of the AWT Advanced Water Treatment Demonstration Facility: <ul style="list-style-type: none"> Continue coordination with the State Water Resources Control Board to submit final reimbursement invoice as part of the grant funding agreement Finalize the Phase 1 testing report Continue post-construction contract improvements to enhance safety and operational reliability Direct Potable Reuse Demonstration Facility: <ul style="list-style-type: none"> Initiate study and preliminary design for modifications to the AWT Demonstration Facility to allow testing of future direct potable reuse processes |

Right-Of-Way and Infrastructure Protection Program

Program Information: The Right of Way Infrastructure Protection Program (RWIPP) is comprised of projects to refurbish or upgrade above-ground facilities and right-of-way along Metropolitan's pipelines in order to address access limitations, erosion-related issues, and security needs.

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$6.68 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$3.42 million

PROGRAM HIGHLIGHTS (3rd Quarter)

Status

Biennium expenditures for this program are less than the planned expenditures through March 2022 due to design resources being diverted to work on urgent drought related projects.

Accomplishments

- Awarded construction contract for Western San Bernardino County - Stage 1
- Began final design for Western San Bernardino County Region - Stage 2
- Began revisions to enhanced preliminary design report based on finalized sites for Los Angeles County Region - Stage 1.
- Continued final design for two urgent repair sites along San Diego Pipelines 4 & 5 as part of Riverside and San Diego County Region - Stage 2

Upcoming Activities

Upcoming work for the next quarter will include:

- Continue final design for Western San Bernardino County Region - Stage 2
- Complete preliminary design for Los Angeles County Region - Stage 1 and begin final design

System Flexibility/Supply Reliability Program

Program Information: The System Flexibility/Supply Reliability Program is comprised of projects to increase the capacity and flexibility of Metropolitan’s water supply and delivery infrastructure to meet service demands.

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$32.15 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$21.33 million

PROGRAM HIGHLIGHTS (3rd Quarter)

Status

Biennium expenditures for this program are less than the planned expenditures through March 2022 due to differences between the planned and actual start of the Perris Valley Pipeline Tunnels and other projects.

Accomplishments

- Initiated the West Service Area Water Supply Reliability Improvements. This effort consists of the following individual projects:
 - West Area Supply and Delivery Alternatives
 - Drought Response West Side Pump Station
- Initiated final design of the Wadsworth Pumping Plant Stage 2 - Badlands Tunnel Surge Tank as part of the Rialto Pipeline Water Supply Reliability Improvements

Upcoming Activities

Upcoming work for the next quarter will include:

- Continue design of the Perris Valley Pipeline Tunnels
- Continue design of the Rialto Pipeline Water Supply Reliability Improvements and award a large diameter isolation valve procurement contract. This effort consists of the following individual projects.
 - Wadsworth Pumping Plant Bypass Pipeline
 - Wadsworth Pumping Plant Stage 2 - Badlands Tunnel Surge Tank Facility
 - Inland Feeder/Rialto Pipeline Intertie
 - Inland Feeder/San Bernardino Valley Municipal Water District (SBVMWD) Pump Station Intertie
- Advertise a contract for procurement of large diameter isolation valves for the Rialto Pipeline Water Supply Reliability Improvements
- Continue record surveys of properties associated with the Verbena Land Acquisition

Estimated Final Design**Completion Date:**

July 2022

Total Project Estimate:

\$14.5 million

Current Phase Estimate:

\$1.7 million

Cost to Date for Current Phase:

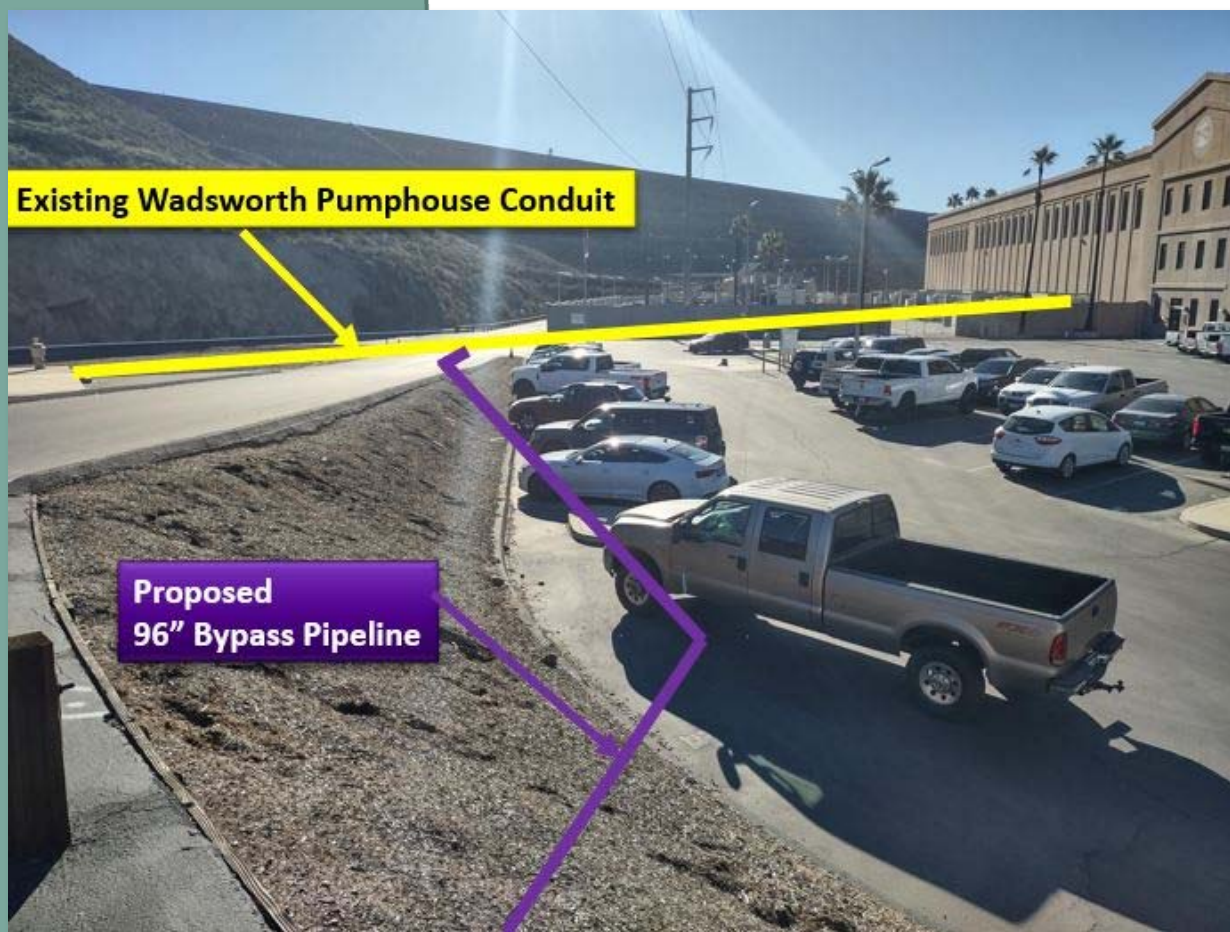
\$0.9 million

**System Flexibility/Supply Reliability Program:
Wadsworth Pumping Plant Bypass Pipeline**

This project will construct a bypass pipeline between the Wadsworth Pumphouse Conduit and the Eastside Pipeline to allow continuous pumping of water from DVL Forebay into the Eastside Pipeline while filling the forebay with water from DVL at the same time. This project is part of the Rialto Pipeline Water Supply Reliability Improvements, a series of drought response projects.

| Phase | Final Design |
|------------------------------|---------------|
| % Complete for Current Phase | 70% |
| Current Phase Authorized | December 2021 |
| Appropriation Number | 15488 |

Final design is underway. In the upcoming quarter, the final design package will be reviewed and a procurement contract will be advertised and awarded for large diameter isolation valves.



Wadsworth Pumping Plant Bypass Pipeline project site showing proposed bypass pipeline alignment

System Reliability Program

Program Information: The System Reliability Program is comprised of projects to improve or modify facilities located throughout Metropolitan’s service area in order to utilize new processes and/or technologies, and improve facility safety and overall reliability. These include projects related to Metropolitan’s Supervisory Control and Data Acquisition (SCADA) system and other Information Technology projects.

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$84.09 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$71.84 million

| PROGRAM HIGHLIGHTS (3 rd Quarter) | |
|--|--|
| Status | Biennium expenditures for this program are less than the planned expenditures through March 2022 due to shift in timing of the work and supply chain disruption. |
| Accomplishments | <ul style="list-style-type: none"> • Skinner Facility Area Paving - awarded construction contract and began construction • Datacenter Modernization Upgrade - completed primary site server installation • WiFi Upgrade: <ul style="list-style-type: none"> ○ Headquarters building access point - began installation • Fuel Management System Upgrade - completed pilot installation of first fuel management unit • Desert Microwave Site Tower Upgrades - completed initial site visits • Applications-Servers Upgrade - initiated project |
| Upcoming Activities | <p>Upcoming work for the next quarter will include:</p> <ul style="list-style-type: none"> • Skinner Facility Area Paving - continue construction • Headquarters Fire Alarm Upgrade - continue upgrade of building fire and life safety systems • Headquarters Security Upgrade - continue installation of new building security features • MWD Cyber Security Upgrade: <ul style="list-style-type: none"> ○ Continue deployment of secure web gateway software to MWD-owned workstations and laptops ○ Continue deployment of privileged access management software to MWD-owned workstations, laptops, and servers • Datacenter Backup Infrastructure Upgrade - advertise a request for proposal (RFP) |

Deployment Completion Date:
December 2021

Total Project Estimate:
\$0.9 million

Current Phase Estimate:
\$84,000

Cost to Date for Current Phase:
\$83,236

System Reliability Program: Maximo Upgrade

This project will upgrade Maximo, Metropolitan's Computerized Maintenance Management System (CMMS), software and hardware. IBM Maximo is used to plan, schedule, and report required maintenance for equipment in use throughout Metropolitan's conveyance and distribution system, water treatment plants, fleet and facilities.

| Phase | Deployment |
|------------------------------|------------|
| % Complete for Current Phase | 100% |
| Current Phase Authorized | July 2017 |
| Appropriation Number | 15501 |

Maximo was monitored for any issues and project closure began. In the upcoming quarter, the project will be closed out.

Screenshot of a fleet asset page in Maximo

Treatment Plant Reliability Program

Program Information: The Treatment Plant Reliability Program is comprised of projects to replace or refurbish facilities and components of Metropolitan’s five water treatment plants in order to continue to reliably meet treated water demands.

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$69.03 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$73.05 million

PROGRAM HIGHLIGHTS (3rd Quarter)

Status

Biennial expenditures for this program are more than planned through March 2022 due to shifts in timing of the work.

Accomplishments

- Completed construction of Diemer Water Sampling System Improvements
- Completed final design of Weymouth Basins Nos. 5-8 & Filter Building No. 2 Rehabilitation
- Completed study of Diemer Filter Rehabilitation
- Authorized an agreement for preliminary design to upgrade Metropolitan’s Water Quality Laboratory at La Verne
- Continued construction of:
 - Jensen Electrical Upgrades - Stage 2
 - Mills Module Nos. 3 and 4 Flash Mix Chemical Containment Upgrades
- Continued procurement of power supply units (PSU) and dielectrics for Jensen ozone generators

Upcoming Activities

Upcoming work for the next quarter will include:

- Continue procurement of Jensen ozone PSUs and dielectrics. Delivery of the equipment is expected in summer of 2022.
- Begin equipment procurement for Diemer Power and Distribution Panel Upgrade
- Award construction contract and begin construction of:
 - Weymouth Basins Nos. 5-8 & Filter Building No. 2 Rehabilitation
 - Jensen Ozone PSU Replacement
- Begin preliminary design of:
 - Diemer Filter Rehabilitation
 - Jensen Reservoir Bypass Gate Replacement
- Continue construction of:
 - Jensen Electrical Upgrades - Stage 2
 - Mills Electrical Upgrades - Stage 2
 - Mills Module Nos. 3 and 4 Flash Mix Chemical Containment Upgrades

Final Design Completion Date:
January 2022

Total Project Estimate:
\$123.0 million*

Current Phase Estimate:
\$4.5 million**

Cost to Date for Current Phase:
\$4.5 million

* In March, the total project estimate was revised from \$61.0 million to \$123.0 million to reflect the latest market condition including material cost increase and market competition

** In March, the current phase estimate was revised from \$3.5 million to \$4.5 million

Treatment Plant Reliability Program: Weymouth Basins 5-8 Rehabilitation

This project will rehabilitate and replace the Weymouth Water Treatment Plant's Basins 5-8 mechanical equipment and auxiliary systems, along with seismic upgrades to the basin inlet channels and needed improvements. The project will also replace basin inlet gates for Basins 1-8.

| Phase | Final Design |
|------------------------------|--------------|
| % Complete for Current Phase | 100% |
| Current Phase Authorized | August 2020 |
| Appropriation Number | 15440 |

Completed final design and advertised construction bid package. In the upcoming quarter, a contract will be awarded.



Example of major mechanical equipment to be replaced including mechanical rotating rake at Basin 6 of the Weymouth plant

Water Quality/Oxidation Retrofit Program

Program Information: The Water Quality/Oxidation Retrofit Program (ORP) is comprised of projects to add new facilities to ensure compliance with water quality regulations for treated water, located at Metropolitan’s treatment plants and throughout the distribution system.

Planned Biennium-to-date Expenditures (July 2020 through March 2022)

\$0.02 million

Actual Biennium-to-date Expenditures (July 2020 through March 2022)

\$0.33 million

PROGRAM HIGHLIGHTS (3rd Quarter)

| | |
|---------------------|--|
| Status | Biennial expenditures and progress are consistent with the plan for this program |
| Accomplishments | <ul style="list-style-type: none"> • Mills Enhance Bromate Control Facilities <ul style="list-style-type: none"> ○ Continued final design |
| Upcoming Activities | <p>Upcoming work for the next quarter will include:</p> <ul style="list-style-type: none"> • Continue final design of Mills Enhance Bromate Control Facilities |

MINOR CAPITAL PROGRAM

The Minor Capital Projects (Minor Cap) Program is authorized biennially to enable staff to expedite small capital projects. At the commencement of each biennium, the Board had appropriated the entire two-year budget for the program. For the current biennium, the minor cap budget was included in the CIP appropriation. In order to be considered for inclusion in the Minor Cap Program, a project must have a planned budget of less than \$400,000. The \$400,000 project budget cap was first established by the June 2018 board action Item 8-3 and the same cap is applied for the new minor caps that are approved for the current biennium. Prior to that action, the budget cap for minor cap projects was \$250,000.

The duration of minor capital projects typically ranges from a few months to three years. Since many of these projects require rapid response to address unanticipated failures, safety or regulatory compliance concerns, or to take advantage of shutdown opportunities, the Minor Cap Program authorizes the General Manager to execute projects that meet defined criteria without seeking additional board approval.

For the past two bienniums, the two-year budgets for the Minor Cap Program have been \$10 million, and \$15.5 million respectively. In April 2020, the Board appropriated funds for the projects identified in the CIP appendix for the current biennium, FYs 2020/21–2021/22, including the Minor Cap Program. \$15 million has currently been allocated for the current biennium.

Minor Cap Program Historical Summary

The following table provides the overall status of the Minor Cap appropriations for the fiscal years 2016/17–2017/18 through 2020/21–2021/22.

| | Fiscal Year | | | Totals |
|---|---------------------|---------------------|---------------------|---------|
| | 2016/17– 2017/18 | 2018/19– 2019/20 | 2020/21– 2021/22 | |
| Amount Appropriated | \$10M | \$15.5M | \$15M | \$40.5M |
| Expenditures (through March 2022) | \$7.2M | \$11.0M | \$5.1M | \$23.3M |
| Number of Projects Approved | 41 | 48 | 47 | 136 |
| Number of Projects Completed (through March 2022) | 40 | 28 | 1 | 69 |
| Percent of Work Complete | 99% | 82% | 35% | N/A |
| Number of Projects with Durations of Over 3 Years | 1 | 2 | 0 | 0 |

Through March 2022, 69 of the 136 projects have been completed, and three active projects have exceeded three years in duration, as described below.

- The Gene Pool Refurbishment has experienced delays due to shortage of local contractors for this type of work due to increased construction activity in the region. Staff will continue reaching out to contractors to complete the remaining work by June 2022.
- The Garvey Reservoir Sodium Hypochlorite Tank Replacement has experienced delays due to the Texas deep freeze event, which caused power and resin supply chain disruptions in 2021. As a result, delivery of the new tank has been rescheduled and is now expected by June 2022. Metropolitan force construction will complete tank installation by December 2022.
- The Gene Inlet Surge Chamber Access Improvement has experienced delays due to re-scheduling of the installation of recently fabricated hatch cover, which can only occur when Gene Wash Reservoir water level is lowered. Metropolitan force construction plans to complete the hatch cover installation during the 2023 CRA shutdown and complete the project by April 2023.

Planned biennium expenditures to date (July 2020 through March 2022) for the Minor Capital Projects Program were \$7.83 million, while actual biennium expenditures for the same period were \$10.89 million.

Minor Cap Projects, 3rd Quarter

Authorized Projects

Six projects were authorized under the Minor Cap Program during the 3rd Quarter of fiscal year 2021/22 (January through March 2022):

- Diemer Foam Abatement Upgrade – This project will design and install a foam abatement system at the Diemer plant's Basin 8 to upgrade plant's capability for removing floating floc. The project budget is \$388,000.
- Diemer Plant Warehouse Upgrades – This project will upgrade and repurpose the existing warehouse and outdoor storage yards located at the Diemer plant, which have not been in use since the completion of the new Orange County Service Center, to allow for storage and staging of the plant's critical O&M spare parts and other inventory. The project budget is \$368,000.
- EM-04A Flow Meter Replacement – This project will replace the electromagnetic flow meter including its accompanying transmitter and power and signal cables at EM-04A service connection. The meter is located on the Colorado River Aqueduct Perris Siphon. The project budget is \$112,000.
- Headquarters SCADA Network Communications Separation – This project will procure, install, configure, and test 10 network switches at Metropolitan's headquarters data center to physically separate SCADA network from business network to eliminate the risk of disruption to the SCADA network that can be triggered by business network activities. The project budget is \$321,612.
- Lake Perris Aeration System Diffuser Replacement – This project will replace the existing 17-year old aeration bar, which has exceeded its useful life, for the Lake Perris aeration system. The project budget is \$98,500.

- WB-06B Meter Replacement – This project will replace the electromagnetic flow meter including its accompanying power and signal cables at WB-06B service connection. The meter is located on the Palos Verdes Feeder. The project budget is \$298,000.

Completed Projects

Two projects were completed under the Minor Cap Program during the 3rd Quarter of fiscal year 2021/22 (January through March 2022):

- Perris Bypass Pipeline Sump Pump Replacement
- San Gabriel PCS Electrical Replacements

Cancelled Projects

- None

PROJECT ACTIONS

Table 5 lists capital project actions authorized by the Board and the General Manager along with funding allocation amounts during the 3rd Quarter of FY 2020/21, through the authority delegated by the Board in April 2020. The total funding amount authorized by the General Manager during the 3rd Quarter is \$16,748,714, through thirty-two management actions. In some cases listed below, the Total Amount Authorized may differ from the Amount Authorized for Current Biennium when the work authorized is scheduled to extend beyond the current biennium. In these cases, it is anticipated that staff will request sufficient funds to be allocated from the CIP Appropriation for the next biennium to cover the planned remaining future-year costs of the project. When the Amount Authorized for Current Biennium is equal to the Total Amount Authorized, the authorized work is planned to be completed within the current biennium. Table 5 excludes any board items heard in closed session.

Table 5: Capital Projects Funded by General Manager Authorization

| Project Authorized | Activity Authorized | Amount Authorized for Current Biennium | Total Amount Authorized |
|---|---------------------------------------|--|-------------------------|
| Cabazon Radial Gate Facility Upgrades ⁵ | Additional Preliminary & Final Design | \$300,000 | \$1,740,000 |
| CRA 6.9kV Power Cable Replacement Units 6 to 9 | Final Design | \$750,000 | \$2,300,000 |
| CRA Conduit Erosion Control Improvements ⁶ | Additional Preliminary Design | \$400,000 | \$5,000,000 |
| CRA Desert Region Security Improvements | Preliminary Design | \$0 | \$1,430,000 |
| Datacenter Backup Infrastructure Upgrade | Design, Development, & Deployment | \$1,000,000 | \$1,788,072 |
| Diamond Valley Lake East Marina Utility Improvements ⁷ | Preliminary & Final Design | \$3,400,000 | \$3,400,000 |
| Diamond Valley Lake to Lake Skinner Trail ⁸ | Design | \$100,000 | \$100,000 |
| Diemer Administration Building HVAC Upgrade | Study | \$90,000 | \$90,000 |

⁵ Additional preliminary and final design funding was required due to change of design scope from passive weirs to refurbishment and upgrade of existing mechanical radial gates.

⁶ Additional preliminary design funding was required due to extensive erosion caused by October 2018 storms.

⁷ Diamond Valley Lake East Marina Utility Improvements was funded with undistributed funds from DVL Recreation Appropriation 15334.

⁸ Diamond Valley Lake to Lake Skinner Trail will be funded with undistributed funds from DVL Recreation Appropriation 15334.

| Project Authorized | Activity Authorized | Amount Authorized for Current Biennium | Total Amount Authorized |
|---|---|--|-------------------------|
| Drought Response Westside Pump Station | Study | \$175,000 | \$350,000 |
| East Lake Skinner Bypass and Bypass No.2 Screening Structure Upgrade ⁹ | Additional Preliminary Design; Construction of Algae Discharge Pipeline | \$370,000 | \$445,000 |
| Foothill Hydroelectric Plant Seismic Upgrade ¹⁰ | Additional Final Design | \$1,025,000 | \$1,025,000 |
| Iron Mountain and Gene Pumping Plant Utility Replacement | Preliminary & Final Design | \$600,000 | \$4,100,000 |
| Iron Mountain Pumping Plant Station and Lighting Switchrack Rehabilitation | Preliminary Design | \$400,000 | \$1,600,000 |
| Jensen Sulfuric Acid Tank Rehabilitation | Preliminary Design | \$299,000 | \$550,000 |
| Lake Mathews Forebay Discharge Facility Upgrades | Site Investigation, Design, Fabrication, & Procurement for Slide Gate Replacement | \$1,100,000 | \$1,100,000 |
| La Verne Water Quality Laboratory Upgrades | Preliminary Design | \$160,000 | \$7,280,000 |
| Live Oak Reservoir Asphalt Liner Replacement | Study | \$300,000 | \$360,000 |
| PCCP Rehabilitation Valve and Equipment Storage Building | Construction | \$800,000 | \$7,100,000 |
| San Diego Canal Radial Gate Replacement | Preliminary & Final Design | \$291,000 | \$1,960,000 |
| Six Minor Capital Projects | Design & Construction | \$1,586,112 | \$1,586,112 |

⁹ Additional preliminary design funding was required after it was discovered that the existing structure for the bypass inlet trash rack will need to be upgraded to construct a new motor-operated lifting mechanism.

¹⁰ Additional final design funding was required to relocate electrical equipment, cables, and conduits to uncover the building columns and foundations for the seismic upgrades to take place.

| Project Authorized | Activity Authorized | Amount Authorized for Current Biennium | Total Amount Authorized |
|---|--|--|----------------------------------|
| Skinner Facility Area Paving | Construction | \$1,880,000 | \$2,880,000 |
| Skinner Ozone Contactors 1-2 and Influent Channel Concrete Refurbishment | Final Design | \$80,000 | \$80,000 |
| Wadsworth Pumping Plant Stage 2 - Badlands Tunnel Surge Tank Facility | Study, Design, & Rights-of-Way Acquisition | \$660,000 | \$2,000,000 |
| West Area Supply and Delivery Alternatives | Study | \$174,500 | \$350,000 |
| Western San Bernardino County Operating Region Erosion Control Improvements – Stage 1 | Construction | \$327,102 | \$990,000 |
| Western San Bernardino County Operating Region Erosion Control Improvements – Stage 2 | Preliminary & Final Design | \$243,000 | \$910,000 |
| Weymouth Area Paving | Final Design | \$238,000 | \$238,000 |
| | Total | \$16,748,714 | \$50,752,184¹¹ |

Due to a reduction in anticipated expenditures through March 2022 on the following projects, \$23.0 million was returned to the CIP Appropriation (Appropriation No. 15517). While these reallocations changed the biennial funded amount, the total authorized funding for each project remained the same.

Table 6: General Manager Actions to Reallocate Capital Project Funds

| Project | Amount Authorized for Reallocation to CIP Appn. | Total Amount from CIP Appn. for Current Biennium |
|--|---|--|
| Second Lower Feeder PCCP Rehabilitation – Remaining Budget | \$(7,000,000) | \$830,625 |
| CRA Pumping Plants Sump Rehabilitation | \$(16,000,000) | \$18,569,500 |
| Total: | \$(23,000,000) | |

¹¹ Total amount authorized excludes adjustment of \$1,477,000 to the prior authorized amount for the Jensen Ozone PSUs Replacement – Stage 1 project which was underreported in Q2 of FY 2021/22.

CEQA DETERMINATIONS

Table 7 lists CEQA exemption determinations made by the General Manager during the 3rd Quarter. Consistent with CEQA, the Board delegated this authority to the General Manager in April 2020. Adoption of Negative Declarations and Mitigated Negative Declarations, and certification of Environmental Impact Reports will continue to require action by Metropolitan's Board. This table excludes information on board items heard in closed session.

Table 7: CEQA Exemption Determinations

| Projects |
|---|
| Riverside & San Diego County Operating Region Erosion Control Improvements |
| CRA Pumping Plant Storage Buildings at Hinds, Eagle Mountain, and Iron Mountain |

CONSTRUCTION AND PROCUREMENT CONTRACTS

The table below summarizes the status of all construction and procurement contracts that were active during the reporting quarter. These contracts are listed in Table 9, Table 11, and Table 12. Total contract earnings for the 3rd Quarter were approximately \$14,812,844.

*Table 8: Summary of Construction and Procurement Contracts during 3rd Quarter
(January through March 2022)*

| Summary | Construction | Procurement |
|--|---------------|--------------|
| Number of Contracts Active during this Quarter ¹² | 22 | 16 |
| Total Contract Amount of Active Contracts | \$218,039,043 | \$67,380,780 |
| Number of Contracts Completed this Quarter ¹³ | 1 | 1 |
| Number of Contracts Awarded this Quarter | 3 | 0 |
| Total Contract Amount of Contracts Awarded this Quarter | \$7,373,875 | \$0 |
| Contract Earnings ^{14, 15, 16} this Quarter | \$13,710,366 | \$1,102,478 |

The figures on the next two pages show the locations of the twenty-two active construction contracts during the 3rd Quarter.

¹² Number of Contracts Active during this Quarter includes those that were underway as well as those that were completed during the 3rd Quarter.

¹³ Completed construction contracts are those which Metropolitan has accepted as physically complete and has filed Notice of Completion during the 3rd Quarter. Completed procurement contracts are those which Metropolitan has received complete delivery and use of field services during the 3rd Quarter. One procurement contract to Furnish Two Sodium Hypochlorite Storage Tanks to Replace Existing Tanks at Lake Mathews (PO 188876) was completed during the 3rd Quarter.

¹⁴ Contract earnings reflected in this report represent the value of the work performed by the contractor by the 25th day of the month. Contract earnings include contract retention and other similar deductions for the amounts earned by the contractor, but otherwise required to be withheld by Metropolitan by law or by contract.

¹⁵ Contract payments are typically made by Metropolitan in the month following performance of the work.

¹⁶ For the reasons listed above in the preceding two footnotes, contract payments in Metropolitan's financial system may be less than the earnings until the final payment has been made to the contractor.

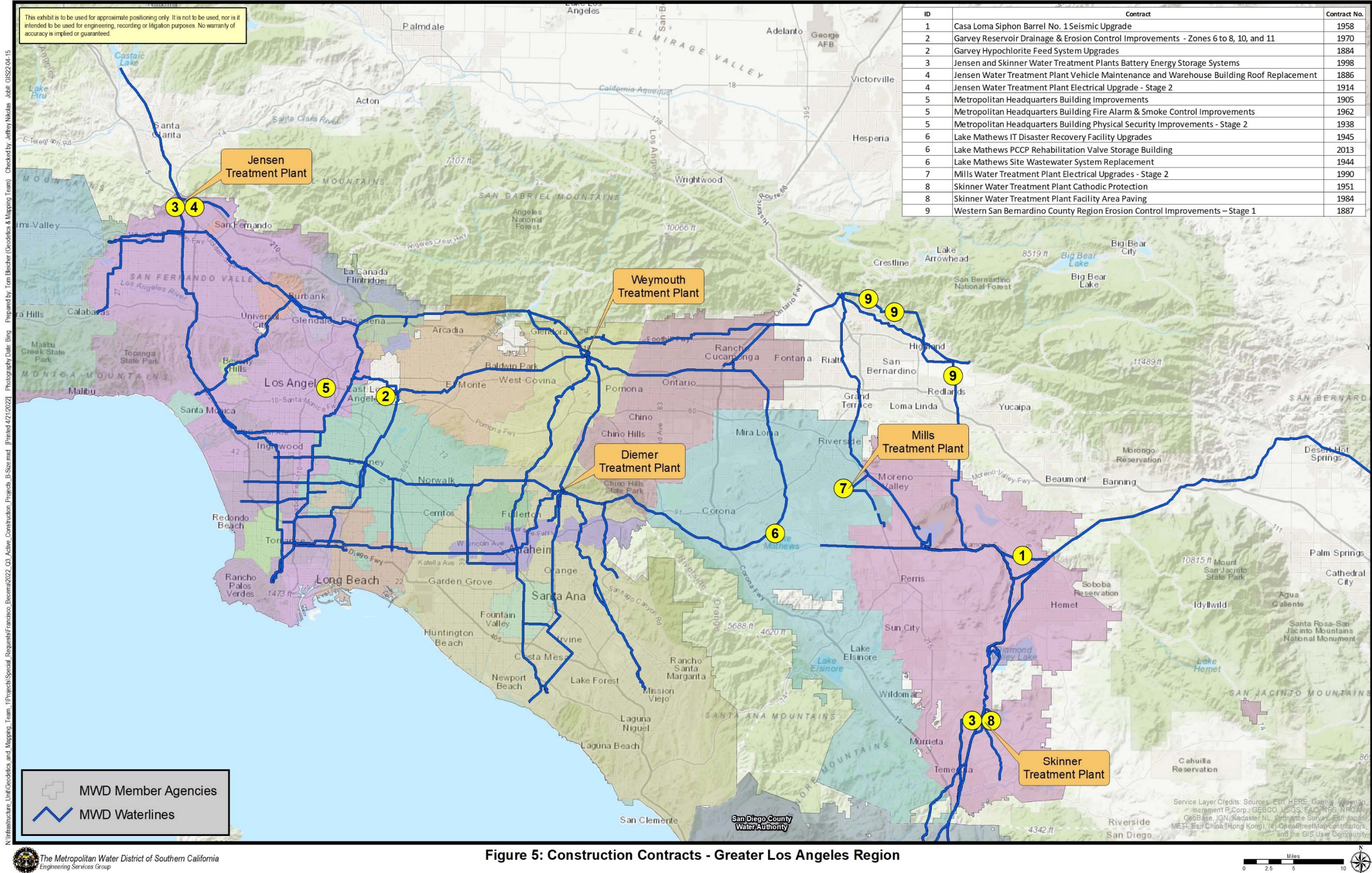


Figure 5: Construction Contracts - Greater Los Angeles Region

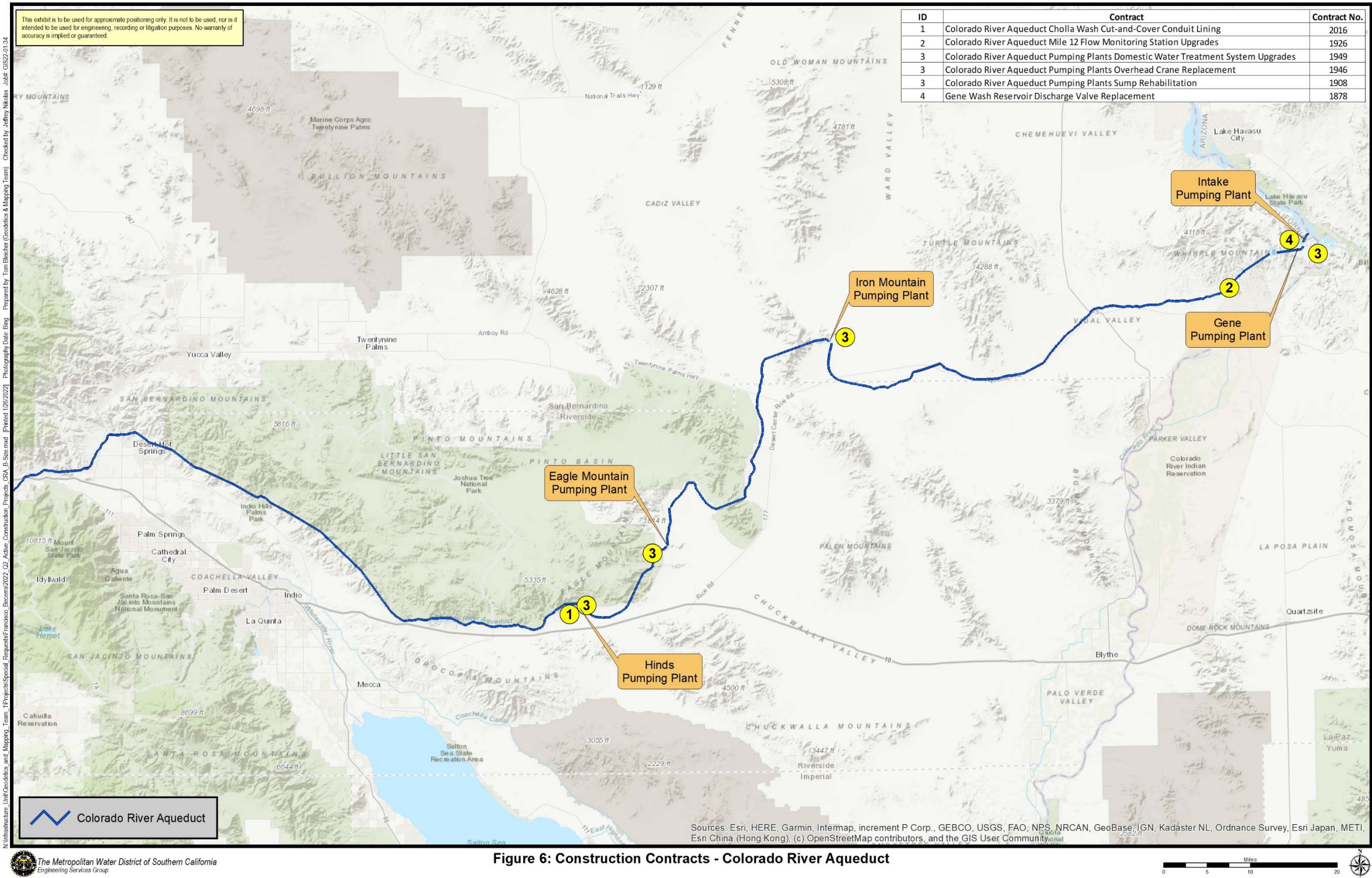


Figure 6: Construction Contracts - Colorado River Aqueduct

Metropolitan's Administrative Code authorizes the General Manager to execute change orders on construction contracts in an aggregate amount not to exceed five percent of the original amount of the contract or \$250,000, whichever is greater. If changes occur on a construction contract that will exceed this total, additional authorization from the Board is required. In addition, the General Manager is authorized to execute change orders on procurement contracts in an amount not to exceed \$250,000. In the 3rd Quarter, the Board did not authorize any increases to the General Manager's change order authority.

Notices of Completion during 3rd Quarter:

The following table shows the one contract for which Metropolitan accepted the contract as completed during the 3rd Quarter of FY 2021/22 and filed a Notice of Completion (NOC) with the county where the work was performed. In accordance with Section 9204 of the Civil Code of the State of California, an NOC is filed within 15 days of acceptance by Metropolitan of completion of construction by the contractor.

Table 9: Notices of Completion Filed This Quarter

| Contract No. | Contract | Notice of Completion | Original Bid Amount | Final Contract Costs | Change Order | Change Order % |
|----------------|--|----------------------|---------------------|----------------------|--------------|----------------|
| 2016 | CRA Cholla Wash Conduit Lining -MM 126.55 to MM 126.74 | March 2022 | \$3,280,920 | \$3,373,480 | \$92,560 | 2.8% |
| Totals: | | | \$3,280,920 | | | |

For the 3rd Quarter, the total bid amount of the completed contract was approximately \$3.3 million. The final contract costs can differ from the original bid amount due to change orders and actual costs incurred on unit price or other various bid items. For Contract No. 2016, there was a difference between the actual quantities of unit price bid items and the estimated quantities shown on the bid sheet. The rolling average of change orders on completed contracts during the preceding 12-month period (April 2021 through March 2022) is 1.76 percent¹⁷.

| | | |
|--|---|---------------|
| ¹⁷ Original amount of contracts completed (Apr. 2021 through Mar. 2022) | = | \$182,705,504 |
| Change orders for completed contracts (Apr. 2021 through Mar. 2022) | = | \$3,206,841 |
| Change order percentage for (Apr. 2021 through Mar. 2022) | = | 1.76% |

Contracts Awarded by the Board during 3rd Quarter:

During the period of January through March 2022, three construction contracts totaling \$7,373,875 were awarded by the Board.

Table 10: Construction and Procurement Contracts Awarded This Quarter

| Construction Contracts | |
|--|------------------------------------|
| Lake Mathews PCCP Rehabilitation Valve Storage Building | |
| Contract Number | 2013 |
| Contractor | Facility Builders & Erectors, Inc. |
| Amount | \$4,759,000 |
| Skinner Water Treatment Plant Facility Area Paving | |
| Contract Number | 1984 |
| Contractor | All American Asphalt |
| Amount | \$1,936,977 |
| Western San Bernardino County Region Erosion Control Improvements – Stage 1 | |
| Contract Number | 1887 |
| Contractor | Jeremy Harris Construction, Inc. |
| Amount | \$677,898 |

The table on this page lists the 21 ongoing construction contracts through the end of the 3rd Quarter. Also, Metropolitan is negotiating a settlement with the contractor on Construction Contract No. 1908 to remove the remaining construction portion of the contract, which was suspended due to Metropolitan's response to COVID-19. As part of the settlement, Metropolitan is procuring materials and equipment from the contractor for a future construction contract.

Table 11: Active Construction Contracts at the End of 3rd Quarter

| | Cont. No. | Contract Title | Contractor | Contract Amount ¹⁸ | Earnings Through March 2022 | Start Date | Est. Completion Date | Est. Percent Complete |
|----|-----------|---|--|-------------------------------|-----------------------------|------------|----------------------|-----------------------|
| 1 | 1878 | Gene Wash Reservoir Discharge Valve Replacement | Gracon, LLC | \$5,353,254 | \$5,334,054 | 1/21/20 | 4/22 | 99% |
| 2 | 1884 | Garvey Reservoir Sodium Hypochlorite Feed System Upgrades | Metro Builders & Engineers Group, Ltd. | \$2,418,149 | \$1,692,362 | 4/9/21 | 7/22 | 70% |
| 3 | 1886 | Joseph Jensen Water Treatment Plant Vehicle Maintenance Building Roof Replacement | AME Builders, Inc. dba AME Roofing | \$282,390 | \$47,640 | 11/1/21 | 7/22 | 17% |
| 4 | 1887 | Western San Bernardino County Region Erosion Control Improvements - Stage 1 | Jeremy Harris Construction, Inc. | \$677,898 | \$0 | 4/1/22 | 11/22 | 0% |
| 5 | 1905 | Metropolitan Headquarters Building Improvements | Bernards Bros. Inc. | \$50,402,874 | \$50,344,474 | 1/14/19 | 7/22 | 99% |
| 6 | 1908 | CRA Pumping Plants – Sump Rehabilitation | Michels Corp dba Michels Pipeline Construction | \$27,242,360 | \$10,669,770 | 1/24/19 | 7/22 | 39% |
| 7 | 1914 | Joseph Jensen Water Treatment Plant Electrical Upgrade - Stage 2 | Helix Electric, Inc. | \$15,111,157 | \$14,905,557 | 8/14/19 | 8/22 | 98% |
| 8 | 1926 | CRA Mile 12 Flow Monitoring Station Upgrades | R2 Engineering dba R2Build | \$2,022,000 | \$783,240 | 6/16/21 | 7/22 | 39% |
| 9 | 1938 | MWD HQ Bldg. Physical Security Improvements | Bernards Bros. Inc. | \$5,843,525 | \$5,583,460 | 9/22/20 | 8/2 | 96% |
| 10 | 1944 | Lake Mathews Reservoir Wastewater System Replacement | Creative Home dba CHI Construction | \$3,815,000 | \$115,000 | 12/13/21 | 3/23 | 3% |

¹⁸ The Contract Amount may differ from the original bid amount due to periodic change orders approved by the General Manager or, if required, by the Board.

| | Conf. No. | Contract Title | Contractor | Contract Amount ¹⁸ | Earnings Through March 2022 | Start Date | Est. Completion Date | Est. Percent Complete |
|---|-----------|--|---------------------------------------|-------------------------------|-----------------------------|------------|----------------------|-----------------------|
| 11 | 1945 | Lake Mathews IT Disaster Recovery Facility Upgrades | MLC Constructors, Inc. | \$448,900 | \$447,400 | 2/10/21 | 4/22 | 99% |
| 12 | 1946 | Colorado River Aqueduct Pumping Plants - Overhead Crane Replacement | J.F. Shea Construction, Inc. | \$13,505,020 | \$570,520 | 10/14/20 | 9/23 | 4% |
| 13 | 1949 | Colorado River Aqueduct Pumping Plants Domestic Water Treatment System Replacement | J.F. Shea Construction, Inc. | \$32,824,000 | \$580,000 | 1/20/22 | 2/25 | 2% |
| 14 | 1951 | Skinner WTP Cathodic Protection | National Corrosion | \$240,933 | \$5,500 | 12/13/21 | 8/22 | 2% |
| 15 | 1958 | Colorado River Aqueduct Replacement of Casa Loma Siphon Barrel No. 1 | J.F. Shea Construction, Inc. | \$11,499,000 | \$1,422,425 | 1/20/22 | 6/23 | 12% |
| 16 | 1962 | MWD HQ Building Fire Alarm & Smoke Control Improvements | Bernards Bros. Inc. | \$14,085,744 | \$6,505,384 | 9/24/20 | 1/23 | 46% |
| 17 | 1970 | Garvey Reservoir Drainage and Erosion Improvements - Areas 6, 7, 8, 10, and 11 | Kaveh Engineering & Construction, Inc | \$1,392,861 | \$1,118,391 | 11/20/20 | 7/22 | 80% |
| 18 | 1984 | Skinner Water Treatment Plant Facility Area Paving | All American Asphalt | \$1,936,977 | \$140,000 | 2/11/22 | 8/22 | 7% |
| 19 | 1990 | Henry J. Mills Water Treatment Plant Electrical Upgrades, Stage 2 | CSI Electrical Contractors, Inc. | \$9,200,000 | \$280,000 | 12/13/21 | 12/24 | 3% |
| 20 | 1998 | Jensen and Skinner Water Treatment Plants Battery Energy Storage Systems | Ameresco, Inc. | \$11,604,521 | \$284,008 | 10/7/21 | 10/22 | 2% |
| 21 | 2013 | Lake Mathews PCCP Rehabilitation Valve Storage Building | Facility Builders & Erectors, Inc. | \$4,759,000 | \$0 | 3/10/22 | 8/23 | 0% |
| Total contract value for active construction contracts: | | | | \$214,665,563 | | | | |

The following table lists the 15 ongoing procurement contracts through the end of the 3rd Quarter.

Table 12: Active Procurement Contracts at the End of 3rd Quarter

| | Cont. No. | Contract | Contractor | Contract Amount ¹⁹ | Earnings Through March 2022 | Start Date | Est. Delivery Completion Date | Est. Percent Complete ²⁰ |
|----|--------------------|---|---|-------------------------------|-----------------------------|------------|-------------------------------|-------------------------------------|
| 1 | 1851 | Furnishing Horizontal Axially Split Centrifugal Pumps for the Greg Avenue Pump Station | Xylem Water Solutions U.S.A., Inc. | \$1,734,103 | \$1,478,043 | 5/16/17 | D ²¹ | 85% |
| 2 | 1861 | Furnishing Lubricated Plug Valves for Second Lower Feeder | Southwest Valve & Equipment, Inc. | \$2,380,909 | \$2,362,968 | 9/11/17 | D ²¹ | 99% |
| 3 | 1867 ²² | Furnishing Butterfly Valves for the Weymouth Water Treatment Plant – Schedule 1 | Crispin Valve, LLC | \$5,066,975 | \$850,303 | 12/18/17 | 12/22 | 17% |
| 4 | 1868 | Furnishing Butterfly Valves for the Weymouth Water Treatment Plant – Schedule 2 | DeZurick, Inc. | \$771,984 | \$760,384 | 12/18/17 | D ²¹ | 98% |
| 5 | 1873 | Furnishing One Hydraulic Shear System for the La Verne Maintenance Shops | Landmark Solutions, LLC | \$151,870 | \$146,970 | 3/21/18 | D ²¹ | 97% |
| 6 | 1912 | Furnishing Large-Diameter Conical Plug Valves | Ebara Corporation | \$23,750,060 | \$8,591,901 | 12/24/18 | 6/23 | 36% |
| 7 | 1922 | Furnishing One Double Column Vertical Machining Center for the La Verne Maintenance Shops | Gosiger Machine Tools, LLC (Gosiger West) | \$2,193,356 | \$2,142,295 | 9/17/18 | D ²¹ | 98% |
| 8 | 1948 | Refurbishing Valve Actuators for the Diemer Water Treatment Plant | Flowserve Litorque | \$3,532,700 | \$1,780,948 | 2/16/19 | 8/22 | 50% |
| 9 | 1955 | Furnishing Membrane Filtration Systems for the CRA Domestic Water Treatment Systems | Wigen Water Technologies | \$1,206,535 | \$54,900 | 5/28/20 | 7/25 | 5% |
| 10 | 1965 | Furnishing Equipment for the Jensen Ozone Power Supply Units Upgrades | Suez Treatment Solutions, Inc. | \$4,100,000 | \$354,309 | 3/30/20 | 3/22 | 9% |

¹⁹ The Contract Amount may differ from the original bid amount due to periodic change orders approved by the General Manager or, if required, by the Board.

²⁰ Estimated Percent Complete is based on contract payments and may not reflect actual progress of fabrication. The contract will be 100% complete upon delivery of fabricated items and field services.

²¹ All items were delivered but contract remains open pending use of manufacturer field services.

²² Contract 1867 includes tariff and work on Furnishing Butterfly Valves for the Weymouth Water Treatment Plant – Schedule 1 per extra work directed in the November 2020 Board Letter, Item 7-1.

| | Cont. No. | Contract | Contractor | Contract Amount ¹⁹ | Earnings Through March 2022 | Start Date | Est. Delivery Completion Date | Est. Percent Complete ²⁰ |
|--|------------|--|----------------------------|-------------------------------|-----------------------------|------------|-------------------------------|-------------------------------------|
| 11 | 1968 | Furnishing Earthquake-Resistant Ductile Iron Pipe for the Casa Loma Siphon Barrel No. 1 | Kubota Corporation | \$9,237,782 | \$9,021,862 | 2/12/20 | D ²¹ | 98% |
| 12 | 1969 | Furnishing Inlet Valve Gearboxes for Skinner Module No. 7 | R&B Automation, Inc. | \$192,185 | \$0 | 4/29/20 | 4/22 | 0% |
| 13 | 1978 | Furnishing Steel Pipe for the Casa Loma Siphon Barrel No. 1 | Northwest Pipe Company | \$6,134,208 | \$5,365,992 | 1/16/20 | 12/23 | 87% |
| 14 | 2011 | Furnishing Steel Pipe for Etiwanda Pipeline North Relining, Stage 3 | Northwest Pipe Company | \$6,044,897 | \$0 | 12/20/21 | 12/23 | 0% |
| 15 | PO 206 047 | Furnish Equipment to Upgrade the Ozone Control System at the Mills Water Treatment Plant | Royal Industrial Solutions | \$492,440 | \$0 | 12/6/21 | 8/22 | 0% |
| Total contract value for active procurement contracts: | | | | \$66,990,004 | | | | |

PERFORMANCE METRICS

In order to measure project performance efficiency and to identify areas for continuous improvements, Metropolitan's Engineering Services Group has established two primary performance metrics for projects that will result in construction activities. These metrics serve as performance targets for Metropolitan staff for both final design and inspection activities. The inspection metric includes fabrication and construction inspection, as well as construction management services.

Separate performance targets have been established for two categories of project size; those with projected construction costs greater than \$3 million, and those with projected construction costs less than \$3 million.

Metropolitan's **performance metric targets** for the two categories of construction projects are listed below:

| Project Category | Final Design, % of Construction | Inspection % of Construction |
|--|------------------------------------|---------------------------------|
| Projects with Construction Costs > \$3 Million | 9% to 12% | 9% to 12% |
| Projects with Construction Costs < \$3 Million | 9% to 15% | 9% to 15% |

Prior to proceeding with final design or construction, budgets are established for design and inspection that best provide a quality and timely product. Efforts are made to optimize staff and consultant hours based on project complexity and location. The calculated values for the design and inspection costs, as a percentage of total construction costs, in almost all cases lie within or below the metric target ranges. In rare cases, the calculated values may exceed the metric target ranges.

Once a project phase is complete, either final design or construction, staff's performance against these metrics is then calculated and compared to the target metrics. Table 13 and Table 14 on the following page summarize the comparison between the target metrics and the actual performance metrics for each project category for the current reporting period. In cases where the actual performance exceeded the target metric, explanations for the variance are provided. Actual performance for in-house construction projects and minor capital projects are not reported in this section, since the efforts required for final design and inspection are different.

Table 13: Performance Metric Actuals, Projects > \$3 Million

| Project | Metric | Actual Cost of Metric | Construction Cost | Target Range | Actual % |
|--|--------------|-----------------------|-------------------|--------------|----------|
| CRA Cholla Wash Cut-and Cover Conduit Lining | Inspection | \$202,911 | \$3,373,480 | 9-12% | 6.0% |
| PCCP Rehabilitation Valve and Equipment Storage Building | Final Design | \$442,000 | \$4,849,000 | 9-12% | 9.1% |

Table 14: Performance Metric Actuals, Projects < \$3 Million

| Project | Metric | Actual Cost of Metric | Construction Cost | Target Range | Actual % |
|---|--------------|-----------------------|-------------------|--------------|---------------------|
| Lake Mathews Sodium Hypochlorite Tank Replacement | Final Design | \$102,000 | \$668,000 | 9-15% | 15.3% |
| Skinner Facility Area Paving | Final Design | \$133,660 | \$2,146,977 | 9-15% | 6.2% |
| Western San Bernardino County Operating Region Erosion Control Improvements – Stage 1 | Final Design | \$145,575 | \$677,898 | 9-15% | 21.5% ²³ |

²³ Final Design costs for Western San Bernardino County Region Erosion Control Improvements – Stage 1 were higher than the target range due to re-design resulting from strong storm events which changed topographical site conditions, which required significant redesign.

SERVICE CONNECTIONS AND RELOCATIONS

Service Connections

No new agreements for service connections were approved by the General Manager pursuant to Sections 4700-4708 during the reporting period (January through March 2022).

Relocations

No new relocation agreements involving an amount in excess of \$100,000 were approved under the authority of Section 8122(c) during the reporting period.

PROJECTS EXPENSED TO OVERHEAD

There are no expensed projects to report during the third quarter of fiscal year 2021/22 (January through March 2022).

PROGRAM/APPROPRIATION STATUS

The following table provides the program and appropriation level budget versus cost-to-date and biennium planned expenditures versus actuals-to-date.

Table 15: Program and Appropriation Budget vs. Cost and Planned Expenditures vs. Actuals

| Capital Programs/Appropriations | Appn. No. | Total to Date | | Biennium to Date | |
|--|--------------|--------------------------|-----------------------------------|---|--|
| | | Appn. Amount (\$1,000's) | Costs thru March 2022 (\$1,000's) | Biennium to Date Planned Expenditures (\$1,000's) | Biennium Actual Expenditures (\$1,000's) |
| Colorado River Aqueduct Reliability Program | Total | \$471,498 | \$414,501 | \$94,514 | \$74,722 |
| Cabazon Radial Gate Facility Improvements | 15320 | \$1,016 | \$684 | \$0 | \$58 |
| White Water Siphon Protection ²⁴ | 15341 | \$15,585 | \$14,548 | \$0 | \$58 |
| CRA - Conveyance Reliability | 15373 | \$117,828 | \$115,320 | \$14,627 | \$7,822 |
| CRA Pumping Plant Reliability Program | 15374 | \$24,467 | \$23,994 | \$0 | \$5 |
| CRA - Electrical/Power Systems Reliability | 15384 | \$56,515 | \$47,344 | \$6,236 | \$6,505 |
| CRA – Discharge Containment | 15385 | \$8,129 | \$7,973 | \$0 | \$394 |
| CRA - Reliability for FY2006/07 through FY2011/12 | 15438 | \$134,194 | \$117,289 | \$34,214 | \$22,506 |
| CRA Main Pump Reliability | 15481 | \$65,730 | \$51,478 | \$27,070 | \$23,856 |
| CRA - Reliability for FY2012/13 through FY2017/18 | 15483 | \$40,127 | \$31,517 | \$12,358 | \$10,389 |
| CRA - Reliability for FY2018/19 through FY2023/24 | 15507 | \$7,907 | \$4,354 | \$10 | \$3,130 |

²⁴ Approximately \$2.85 million reimbursement from Federal Emergency Management Agency (FEMA) for construction of Whitewater Erosion Protection Structure Rehabilitation was credited in Q4 of FY 2020/21. The credited work was completed prior to the current biennium and has been reversed in this table to account all capital work performed in the current biennium.

| Capital Programs/Appropriations | Appn. No. | Total to Date | | Biennium to Date | |
|---|--------------|--------------------------|-----------------------------------|---|--|
| | | Appn. Amount (\$1,000's) | Costs thru March 2022 (\$1,000's) | Biennium to Date Planned Expenditures (\$1,000's) | Biennium Actual Expenditures (\$1,000's) |
| Cost Efficiency & Productivity Program | Total | \$217,235 | \$179,818 | \$13,345 | \$9,351 |
| DVL Recreation Facilities ²⁵ | 15334 | \$87,104 | \$63,947 | \$2,283 | \$25 |
| Power Reliability and Energy Conservation | 15391 | \$54,795 | \$52,842 | \$0 | \$0 |
| Information Technology System - Business, Finance, and HR | 15411 | \$22,468 | \$22,387 | \$999 | \$47 |
| Yorba Linda Power Plant Modifications | 15446 | \$17,125 | \$17,086 | \$30 | \$74 |
| Business Operations Improvement | 15484 | \$15,396 | \$9,818 | \$7,426 | \$3,132 |
| Project Controls and Reporting System | 15490 | \$6,440 | \$6,302 | \$0 | \$348 |
| Enterprise Content Management | 15500 | \$3,600 | \$3,562 | \$93 | \$1,961 |
| DVL Recreation Rehabilitation & Refurbishment | 15515 | \$1,030 | \$828 | \$2,514 | \$718 |
| Energy Sustainability Improvements | 15521 | \$9,276 | \$3,047 | \$0 | \$3,047 |
| Dams and Reservoirs Reliability Program | Total | \$76,454 | \$68,479 | \$14,984 | \$7,291 |
| Reservoir Cover and Replacement | 15417 | \$65,214 | \$58,949 | \$9,592 | \$6,433 |
| Dam Rehabilitation & Safety Improvements | 15419 | \$11,240 | \$9,530 | \$5,392 | \$858 |
| Distribution System Reliability Program | Total | \$379,704 | \$350,701 | \$59,760 | \$64,111 |
| Conveyance and Distribution System - Rehabilitation | 15377 | \$102,686 | \$99,643 | \$14,399 | \$6,201 |
| Conveyance and Distribution System - Rehabilitation for FY2006/07 through FY2011/12 | 15441 | \$111,912 | \$108,719 | \$4,583 | \$5,202 |
| Hydroelectric Power Plant Improvements | 15458 | \$20,403 | \$16,989 | \$72 | \$2,285 |
| Conveyance and Distribution System - Rehabilitation for FY2012/13 through FY2017/18 | 15480 | \$120,633 | \$107,969 | \$27,844 | \$37,088 |
| Pipeline Rehabilitation and Replacement | 15482 | \$1,143 | \$1,031 | \$0 | \$827 |

²⁵ Approximately \$107K was credited in Q4 of FY 2020/21 and \$4.5 million was credited in Q2 of FY 2021/22 from the sales of surplus DVL properties per the November 2005 Board Letter, Item 7-3 and the March 2020 Board Letters, Item 8-2. These credits were reversed in this table to account for all capital work performed in the current biennium.

| Capital Programs/Appropriations | Appn. No. | Total to Date | | Biennium to Date | |
|--|--------------|--------------------------|-----------------------------------|---|--|
| | | Appn. Amount (\$1,000's) | Costs thru March 2022 (\$1,000's) | Biennium to Date Planned Expenditures (\$1,000's) | Biennium Actual Expenditures (\$1,000's) |
| Conveyance and Distribution System - Rehabilitation for FY2018/19 through FY2023/24 | 15503 | \$22,927 | \$16,351 | \$12,862 | \$12,507 |
| District Housing & Property Improvements Program | Total | \$10,607 | \$4,588 | \$9,159 | \$3,659 |
| Employee Village Enhancement | 15513 | \$10,607 | \$4,588 | \$9,159 | \$3,659 |
| Minor Capital Projects Program | Total | \$53,500 | \$29,957 | \$7,874 | \$10,888 |
| Capital Program for Projects Costing Less Than \$250,000 for FY2014/15 through FY2015/16 | 15489 | \$8,000 | \$6,709 | \$0 | \$16 |
| Capital Program for Projects Costing Less Than \$250,000 for FY2016/17 through FY2017/18 | 15498 | \$10,000 | \$7,172 | \$1,721 | \$413 |
| Capital Program for Projects Costing Less Than \$400,000 for FY2018/19 through FY2019/20 | 15504 | \$15,500 | \$11,008 | \$1,861 | \$5,392 |
| Capital Program for Projects Costing Less Than \$400,000 for FY2020/21 through FY2021/22 | 15518 | \$20,000 | \$5,068 | \$4,293 | \$5,068 |
| Prestressed Concrete Cylinder Pipe Rehabilitation Program | Total | \$304,327 | \$256,864 | \$48,067 | \$36,614 |
| PCCP Rehabilitation and Replacement | 15471 | \$24,243 | \$22,561 | \$2,105 | \$2,104 |
| Sepulveda Feeder PCCP Rehabilitation | 15496 | \$30,525 | \$26,960 | \$752 | \$3,934 |
| Second Lower Feeder PCCP Rehabilitation ²⁶ | 15497 | \$234,427 | \$197,082 | \$42,971 | \$23,452 |
| Allen-McColloch Pipeline, Calabasas Feeder, and Rialto Pipeline PCCP Rehabilitation | 15502 | \$15,132 | \$10,261 | \$2,238 | \$7,124 |
| Regional Recycled Water Supply Program | Total | \$22,150 | \$21,257 | \$210 | \$329 |
| Demonstration-Scale Recycled Water Treatment Plant ²⁷ | 15493 | \$22,150 | \$21,257 | \$210 | \$329 |

²⁶ Approximately \$220K tariff refund from Northwest Pipe Company was credited in Q3 of FY 2021/22 for Contract No. 1940 - Second Lower Feeder PCCP Rehabilitation – Reach 4. The credit was reversed in this table as the tariff payment was made prior to the current biennium.

²⁷ \$1 million grant from the California State Water Resources Control Board for the construction of Advanced Water Treatment Demonstration Facility was credited in Q3 of FY 2020/21. The credited work was completed prior to the current biennium and has been reversed in this table to account all capital work performed in the current biennium.

| Capital Programs/Appropriations | Appn. No. | Total to Date | | Biennium to Date | |
|---|--------------|--------------------------|-----------------------------------|---|--|
| | | Appn. Amount (\$1,000's) | Costs thru March 2022 (\$1,000's) | Biennium to Date Planned Expenditures (\$1,000's) | Biennium Actual Expenditures (\$1,000's) |
| Right of Way & Infrastructure Protection Program | Total | \$30,385 | \$26,396 | \$6,716 | \$3,418 |
| Right of Way & Infrastructure Protection | 15474 | \$30,385 | \$26,396 | \$6,716 | \$3,418 |
| System Flexibility/Supply Reliability Program | Total | \$664,503 | \$637,476 | \$32,312 | \$21,334 |
| Hayfield and Lake Perris Groundwater Recovery | 15402 | \$1,500 | \$1,109 | \$0 | \$252 |
| Perris Valley Pipeline | 15425 | \$130,800 | \$130,692 | \$21,910 | \$2,506 |
| Water Delivery System Improvements | 15488 | \$70,914 | \$66,137 | \$10,402 | \$16,648 |
| Verbena Property Acquisition | 15492 | \$264,000 | \$261,823 | \$0 | \$1,344 |
| Delta Wetlands Properties (Delta Islands) | 15494 | \$197,289 | \$177,715 | \$0 | \$584 |
| System Reliability Program | Total | \$374,160 | \$297,466 | \$84,512 | \$71,838 |
| Information Technology System - Infrastructure | 15376 | \$51,306 | \$47,688 | \$481 | \$1,974 |
| Information Technology System - Security | 15378 | \$12,351 | \$10,681 | \$3,211 | \$2,449 |
| La Verne Shop Facilities Upgrade ²⁸ | 15395 | \$46,560 | \$46,691 | \$9,145 | \$1,201 |
| Water Operation Control | 15467 | \$51,414 | \$41,779 | \$3,131 | \$2,459 |
| Union Station Headquarters Improvements | 15473 | \$107,845 | \$82,633 | \$27,483 | \$33,652 |
| IT Infrastructure Reliability | 15487 | \$49,271 | \$35,213 | \$21,873 | \$18,520 |
| Operations Support Facilities Improvement | 15495 | \$25,001 | \$17,865 | \$7,657 | \$1,077 |
| Metropolitan Security System Enhancements | 15499 | \$15,910 | \$10,283 | \$5,724 | \$7,525 |
| Infrastructure Reliability Information System | 15501 | \$5,770 | \$2,714 | \$3,173 | \$1,208 |

²⁸ One appropriation, La Verne Shop Facilities Upgrade (Appropriation No. 15395) has exceeded its authorized budget during the 3rd Quarter of FY 2021/22. This variance was rectified in May 2022.

- Final Design of the La Verne Shops - Stage 4 Buildings Completion & Equipment Installation project was more extensive than originally anticipated due to unforeseen concrete wall damages discovered during the final design phase.

| Capital Programs/Appropriations | Appn. No. | Total to Date | | Biennium to Date | |
|---|--------------|--------------------------|-----------------------------------|---|--|
| | | Appn. Amount (\$1,000's) | Costs thru March 2022 (\$1,000's) | Biennium to Date Planned Expenditures (\$1,000's) | Biennium Actual Expenditures (\$1,000's) |
| System-Wide Paving & Roof Replacements for FY 2020/21 through FY 2021/22 | 15516 | \$3,541 | \$1,049 | \$1,252 | \$902 |
| System-Wide Paving & Roof Replacements for FY2020/21 through FY2023/24 | 15519 | \$1,501 | \$865 | \$0 | \$865 |
| Enterprise Data Analytics | 18910 | \$3,690 | \$5 | \$1,382 | \$5 |
| Treatment Plant Reliability Program | Total | \$945,657 | \$896,276 | \$69,382 | \$73,047 |
| Chlorine Containment and Handling Facilities | 15346 | \$162,370 | \$160,536 | \$0 | \$89 |
| Weymouth Water Treatment Plant Improvements | 15369 | \$190,910 | \$186,007 | \$5,855 | \$4,304 |
| Jensen Water Treatment Plant Improvements | 15371 | \$47,062 | \$46,638 | \$43 | \$54 |
| Diemer Water Treatment Plant Improvements | 15380 | \$213,657 | \$205,794 | \$17,783 | \$16,643 |
| Mills Water Treatment Plant Improvements | 15381 | \$5,525 | \$5,277 | \$0 | \$0 |
| Skinner Water Treatment Plant Improvements for FY2006/07 through FY2011/12 | 15435 | \$3,860 | \$2,142 | \$0 | \$33 |
| Diemer Water Treatment Plant Improvements for FY2006/07 through FY2011/12 | 15436 | \$70,939 | \$64,610 | \$2,620 | \$2,316 |
| Weymouth Water Treatment Plant Improvements for FY2006/07 through FY2011/12 | 15440 | \$24,079 | \$23,339 | \$4,522 | \$4,578 |
| Jensen Water Treatment Plant Improvements for FY2006/07 through FY2011/12 | 15442 | \$91,376 | \$83,356 | \$21,300 | \$24,289 |
| Mills Water Treatment Plant Improvements for FY2006/07 through FY2011/12 | 15452 | \$29,152 | \$23,011 | \$480 | \$3,617 |
| Weymouth Water Treatment Plant Improvements for FY2012/13 through FY2017/18 | 15477 | \$76,989 | \$76,800 | \$6,038 | \$11,283 |
| Diemer Water Treatment Plant Improvements for FY2012/13 through FY2017/18 | 15478 | \$1,425 | \$1,417 | \$0 | \$410 |
| Mills Water Treatment Plant Improvements for FY2012/13 through FY2017/18 | 15479 | \$1,094 | \$746 | \$0 | \$293 |

| Capital Programs/Appropriations | Appn. No. | Total to Date | | Biennium to Date | |
|---|--------------|--------------------------|-----------------------------------|---|--|
| | | Appn. Amount (\$1,000's) | Costs thru March 2022 (\$1,000's) | Biennium to Date Planned Expenditures (\$1,000's) | Biennium Actual Expenditures (\$1,000's) |
| Skinner Water Treatment Plant Improvements for FY 2012/13 Through FY 2017/18 | 15485 | \$1,990 | \$1,729 | \$0 | \$6 |
| Jensen Water Treatment Plant Improvements for FY2012/13 through FY2017/18 | 15486 | \$8,339 | \$7,480 | \$0 | \$720 |
| Weymouth Water Treatment Plant Improvements for FY2020/21 through FY2023/24 | 15505 | \$685 | \$258 | \$468 | \$35 |
| Jensen Water Treatment Plant Improvements for FY2020/21 through FY2023/24 | 15508 | \$8,779 | \$2,837 | \$7,871 | \$2,514 |
| Diemer Water Treatment Plant Improvements for FY2020/21 through FY2023/24 | 15510 | \$835 | \$687 | \$1,245 | \$305 |
| Skinner Water Treatment Plant, Improvements for FY 2020/21 Through FY 2023/24 | 15512 | \$3,961 | \$3,277 | \$508 | \$1,224 |
| Mills Water Treatment Plant Improvements for FY2020/21 through FY2023/24 | 15520 | \$2,631 | \$334 | \$649 | \$334 |
| Water Quality/Oxidation Retrofit Program | Total | \$631,914 | \$628,233 | \$19 | \$329 |
| Diemer Water Treatment Plant Oxidation Retrofit | 15389 | \$370,192 | \$370,024 | \$0 | \$0 |
| Weymouth Water Treatment Plant Oxidation Retrofit | 15392 | \$251,482 | \$248,594 | \$19 | \$18 |
| Enhanced Bromate Control | 15472 | \$10,240 | \$9,615 | \$0 | \$312 |
| Total CIP | | \$4,182,094 | \$3,812,012 | \$440,853 | \$376,932 |

Notes on above table:

- Numbers may not sum due to rounding.
- Numbers are based on the general ledger information downloaded on 04/11/2022.
- \$0 under **Planned Expenditures** indicate that while no expenditures are planned during the reporting period, expenditures may be planned during upcoming periods
- Negative actual expenditures indicate the result of cost transfers, write-offs, or credits greater than actual costs for this biennium through the reporting quarter
- Total appropriation amount to date and total cost through March 2022 include land acquisitions for Verbena Property and Delta Wetlands Properties.

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Engineering & Operations Committee

Water System Operations Manager's Report

Item 7a

Monday, June 13, 2022
10:30 a.m.

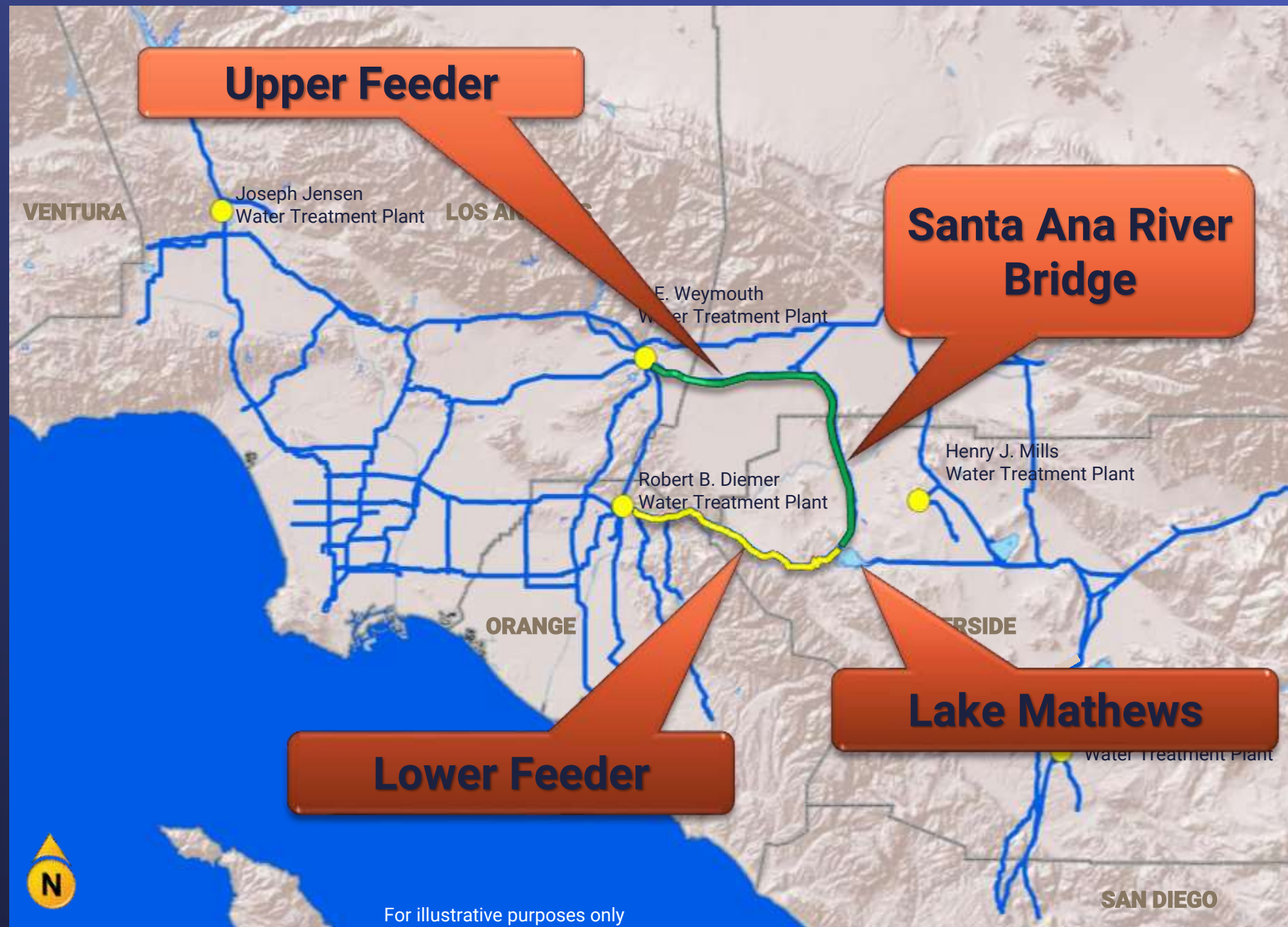
Current Operational Conditions

Continuing Drought Operations

- 2022 SWP Allocation is 5%
- SWP blend targets are 0% at Weymouth, Diemer, and Skinner plants
- DVL to Mills drought operation continues to perform well
- Managing storage based on WSDM principles
- May 2022 deliveries of 144 TAF were 2 TAF higher than May 2021

Upper Feeder and Lower Feeder Constraints

The only two
feeders bringing
CRW into the
Central Pool



Lower Feeder and Diemer Plant High Flow Challenges

- Lower Feeder is a falling grade pipeline
- Prone to air entrainment at high flows (>425 cfs)
- Air entrainment causes operational challenges at Diemer, such as floating foam and excessive filter media loss
- Staff works diligently to overcome these challenges
- Lost filter media must be replaced before flows are increased; flow incrementally increased starting June 8



Diemer Plant Backwash Valve Failure

- Backwash valve failure caused water hammer damage to 36" diameter filter backwash system piping
- Damage to piping temporarily took 12 of 48 filters out of service
- Staff quickly isolated the damage to return 10 of the 12 filters back into service
- Two filters remain out of service, limiting Diemer flow by 4% through summer months. Max flow 498 MGD



Upper Feeder - Santa Ana River Bridge

- 1010' Long
- 116" Diameter
- 750 cfs max flow



Stainless steel bellows joint allows
for pipeline expansion/contraction

Upper Feeder Leak Repair Current Status



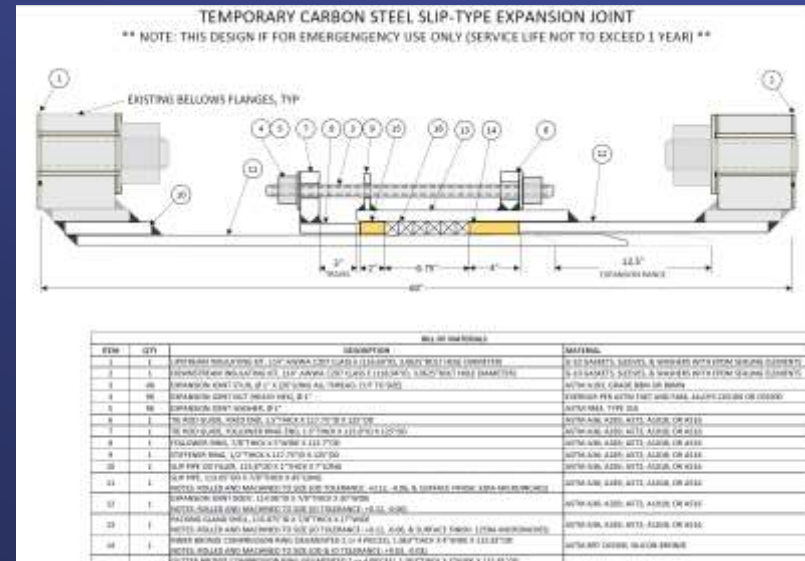
Inspection

- Inspected on 6/1 with no crack growth
- No crack growth since 5/19 measurement
- Monitoring weekly

Fabrication

- Completed carbon steel joint design
- Fabrication of replacement slip joint underway with flanges under procurement (estimated early August completion)
- Planning to install slip joint once fabricated to restore feeder capacity to 750 cfs

Upper Feeder Slip Joint Ring Fabrication



Shutdown Planning Current Status

- Coordinate access/permits/dewatering for shutdown
- 14-day shutdown planned for August or September (estimated)
- Estimated SWP use: ~20,000 AF







Engineering & Operations Committee

Engineering Services Manager's Report

Item 7b

June 13, 2022

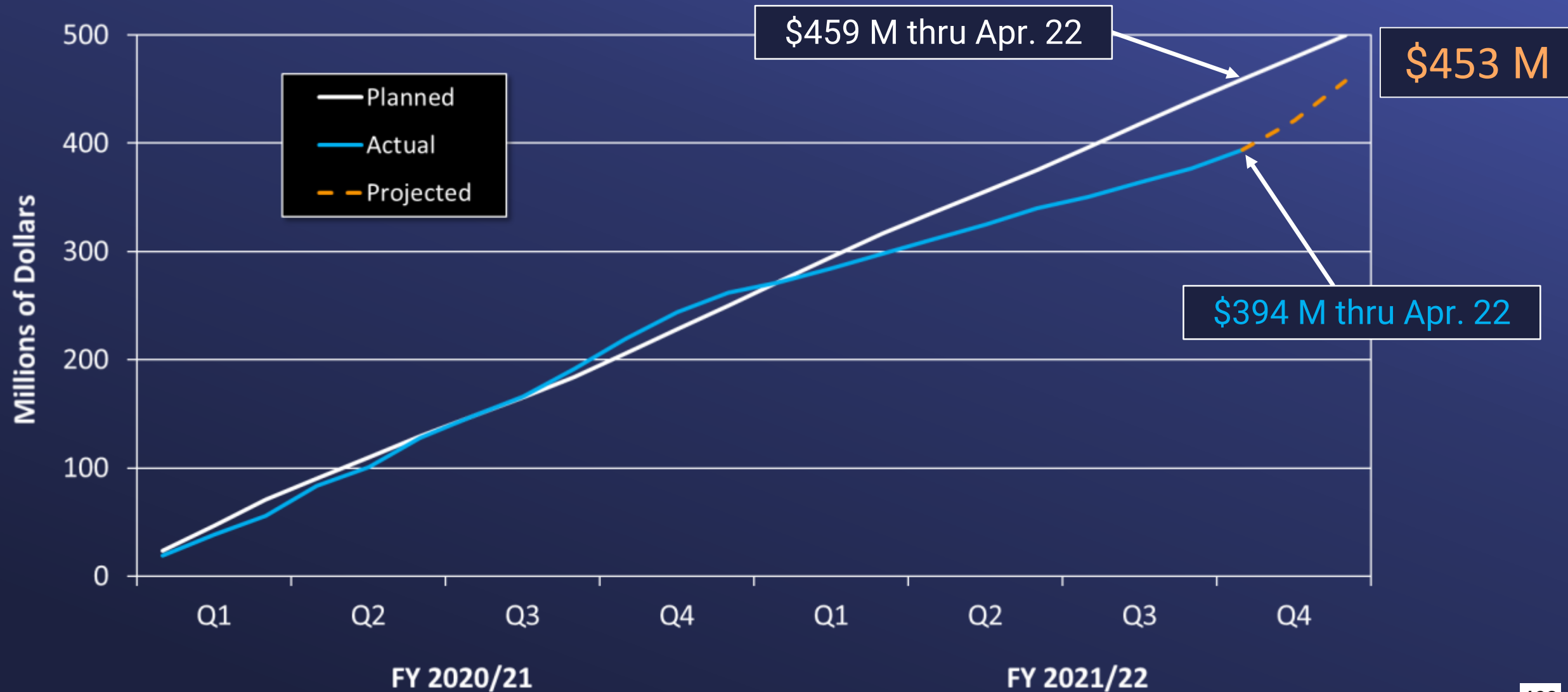
Construction & Procurement Contracts April 2022

Construction & Procurement Contracts Through April 2022

| | |
|--|--------|
| Number of Contracts at end of April 2022 | 38 |
| Total Bid Amount of Contracts in Progress at end of April 2022 | \$294M |
| Contracts Awarded in April 2022 | 1 |
| Contracts With Notice To Proceed Issued in April 2022 | 1 |
| Contracts Completed in April 2022 | 1 |
| Contract Gross Earnings in April 2022 | \$5.4M |

CIP Expenditures Forecast

FYs 2020/21 & 2021/22



Factors Affecting Contract Expenditures

- **Supply chain issues**
 - CRA Crane, Jensen & Skinner BESS, various procurement contracts: -\$12.9 M
 - WIFI System, Two-way Radio System, Fuel Management System: -\$4.5 M
- **Contract scope changes**
 - CRA Pump Plant Sump System Rehabilitation: -\$10.4 M
- **Contract completion delays**
 - HQ Fire Alarm & Smoke Control Improvements: -\$5.5 M
- **Contract award delays**
 - SCADA System Upgrade for Mills Plant: -\$6.0 M
 - La Verne Shops – Stage 5: -\$1.5 M
 - Jensen Ozone PSU Installation: -\$0.2 M

Upper Feeder Monitoring and Repair Measures



June 13, 2022

Monitoring Plan

- Monitor crack length weekly
- Survey pipe/bridge movements weekly
- Install Automated Total Stations (AMTS) by late June to gather real-time data continuously

Near-term Repair – Carbon Steel (CS) Slip Joint

- Fabricate new CS joint to replace existing bellows
- Establish emergency contract for August 2022 shutdown installation
- Restore flow in Upper Feeder

Emergency Repair Plan – if necessary

- Implement emergency bellows weld repair if crack length increases over 30%
- Install a special seismic JFE pipe section in case of an unexpected failure (limited movements)

Upper Feeder Monitoring and Repair Measures

GM's Emergency Contracting Authority

- Authority granted under § 8122(b) - General Manager's Contracting Authority in Specified Circumstances
- Immediately award emergency contract to PCL Construction, Inc. under General Manager's Authority
- Negotiate final contract with PCL in anticipation of July Board action to ratify contract
 - Contract may be lump sum or T&M plus markup
 - Staff must return to Board monthly to discuss whether there is a need to continue the action
 - Continued emergency contract must be ratified by the Board on a monthly basis by 4/5th vote

CRA Storage Building Project

- Engineer's Estimate : \$14M
- 3 bids were received.
 - Range of bids: \$10.5M to \$18M
 - Low bidder withdrew their bid
- Staff rejected all bids
- Planning to re-design project to enhance overall value



The Dilapidated Existing Buildings



PCCP Inspection Summary 2021-22 Shutdown Season

- Detected only minor increases in condition deterioration
- No unplanned actions resulted from this year's inspections

2021/2022 PCCP Lengths Inspected

| Pipeline | Miles |
|---------------------------------|-------|
| Sepulveda Feeder – January 2022 | 6.12 |
| Second Lower Feeder | 3.44 |
| Sepulveda Feeder – March 2022 | 9.42 |
| Total | 18.98 |



Insertion of Pipe Diver for Electromagnetic Inspection of Second Lower Feeder Reach 3B

Metropolitan's Hazard Mitigation Plan

- Metropolitan currently developing a Hazard Mitigation Plan focused on mitigation of damage/impacts from natural hazards (e.g., earthquake, wildfire, drought)
- Recently Approved for \$150,000 grant for development of plan
- Completion of plan will open state and federal grant funding opportunities for related mitigation projects

