The Metropolitan Water District of Southern California

Agenda

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

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

Engineering, Operations, and Technology Committee

Meeting with Board of Directors *

June 12, 2023

8:30 a.m.

Monday, June 12, 2023 Meeting Schedule
08:30 a.m. EOT
10:30 a.m. DMCPP
12:30 p.m. Break
01:00 p.m. LRAC
03:00 p.m. OWS

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

MWD Headquarters Building • 700 N. Alameda Street • Los Angeles, CA 90012
Teleconference:
8700 Beverly Boulevard, Ste M313 • Los Angeles, CA 90048

* 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))

2. SUBCOMMITTEE REPORTS

NONE

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

3. CONSENT CALENDAR OTHER ITEMS - ACTION

a. Approval of the Minutes of the Engineering, Operations, and Technology Committee for May 8, 2023 (Copies have been submitted to each Director, Any additions, corrections, or omissions) **21-2171**

Attachments: 06132023 EOT 3A (05082023) Minutes

4. CONSENT CALENDAR ITEMS - ACTION

7-1 Authorize agreements with AECOM Technical Services, Inc. and CDM Smith Inc., each in an amount not to exceed $800,000, for water desalination studies in Metropolitan's service area; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **21-2277**

Attachments: 06132023 EOT 7-1 B-L
06122023 EOT 7-1 Presentation

7-2 Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include three projects: (1) Jensen Administration Building column panel replacement; (2) Skinner chemical storage tanks replacement; and (3) Auld Valley and Red Mountain Control Structures upgrade; and award a $281,900 contract to MMJ Contracting Inc. to replace the existing entrance column panels at the Jensen Administration Building; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **21-2281**

Attachments: 06132023 EOT 7-2 B-L
06122023 EOT 7-2 Presentation

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

5. OTHER BOARD ITEMS - ACTION

8-1 Authorize on-call agreements with Kennedy Jenks Consultants Inc., Lee & Ro Inc., and Stantec Consulting Services Inc., in amounts not to exceed $10 million each, for a maximum of five years for engineering services; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **21-2279**

Attachments: 06132023 EOT 8-1 B-L
06122023 EOT 8-1 Presentation

8-2 Award a $16,490,000 contract to J. F. Shea Construction, Inc. to replace equipment storage buildings at three Colorado River Aqueduct pumping plants; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **21-2280**

Attachments: 06132023 EOT 8-2 B-L
06122023 EOT 8-2 Presentation

6. BOARD INFORMATION ITEMS

NONE

7. COMMITTEE ITEMS

a. Metropolitan's Dam Safety Program **21-2318**

Attachments: 06122023 EOT 7a Presentation

b. Capital Investment Plan Quarterly Report for Period Ending March 2023 **21-2303**

Attachments: 06132023 EOT 7b Report
06122023 EOT 7b Presentation

8. MANAGEMENT REPORTS

a. Water System Operations Manager's Report **21-2172**

Attachments: 06122023 EOT 8a Presentation

b. Engineering Services Manager's Report **21-2173**

Attachments: 06122023 EOT 8b Presentation

c. Information Technology Manager's Report **21-2174**

9. FOLLOW-UP ITEMS

NONE

10. FUTURE AGENDA ITEMS

11. ADJOURNMENT

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

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

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

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

MINUTES

ENGINEERING, OPERATIONS & TECHNOLOGY COMMITTEE

May 8, 2023

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

Members present: Directors Alvarez, Camacho (entered after roll call), Dennstedt (entered after roll call), Erdman, Faessel, Lefevre, Miller, Morris, Peterson, Seckel.

Members absent: Directors Fong-Sakai, Chacon, McMillan, Petersen, Quinn and Smith.

Other Board Members present: Directors Ackerman, Armstrong, Cordero, Dick, Garza, Goldberg, Gray, Kurtz, Ortega, and Repenning.

Committee staff present: Bednarski, Chapman, Chaudhuri, Eckstrom, Parsons, Upadhyay, and Carter.

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))

Trudi DesRoches – Vice President of Yorba Linda Water District – In support of item 7-4
Brett Barbre – President of Yorba Linda Water District – In support of item 7-4

Chair Erdman announced that due to a lack of quorum, items 7a and 7b would be heard first.

7. COMMITTEE ITEMS

a. Subject: Eastern Municipal Water District's Lake Skinner Water Transmission System and EM-11 Connection Project

Presented by: John Shamma, Section Manager, Engineering Services

Mr. Shamma reported on the following:

- History of planned regional water supply in Riverside area
- EMWD's water transmission project repurposing Metropolitan's out-of-service infrastructure
- Project benefits and upcoming actions

Chair Ortega entered the meeting.

The following Directors provided comments or asked questions

1. Peterson
2. Lefevre
3. Faessel

Staff responded to the Directors questions and comments.

b. Subject: Update on Constituents of Emerging Concern (CECs)

Presented by: Carrie Guo, Team Manager of Emerging Chemicals Team

Ms. Guo reported on the following:

- Introduction to CECs
- Drinking water regulatory process
- Per-and polyfluoroalkyl substances (PFAS)
- Microplastics
- Metropolitan's applied research

Director Dennstedt entered the meeting.

The following Directors provided comments or asked questions

1. Peterson
2. Lefevre
3. Faessel
4. Ortega
5. Morris

Staff responded to the Directors questions and comments.

2. SUBCOMMITTEE REPORTS

None

CONSENT CALENDAR ITEMS -- ACTION

3. CONSENT CALENDAR OTHER ITEMS ACTION

A. Approval of the Minutes of the Engineering, Operations, and Technology Committee for April 10, 2023

4. CONSENT CALENDAR ITEMS - ACTION

7-1 Subject: Award a $637,520 contract to Acro Constructors to upgrade the video production room at Metropolitan's Headquarters Building.

Motion: Award a $637,520 contract to Acro Constructors for upgrades to the video room at Metropolitan's Headquarters Building.

7-2 Subject: Authorize an agreement with Arcadis U.S. Inc. for a not-to-exceed amount of $550,000 to design, develop, and deploy Metropolitan's Capital Investment Plan Budget System Improvements.

Motion: Authorize an agreement with Arcadis U.S. Inc. for a not-to-exceed total of $550,000 to design, develop, and deploy the CIP Budget System Improvements.

7-3 Subject: Authorize an increase of $1.5 million to an existing agreement with Stantec Consulting Services Inc. for a new not-to-exceed total amount of $1.69 million for preliminary design of a mechanical dewatering facility at the Joseph Jensen Water Treatment Plant; and an amendment to an agreement with Los Angeles Department of Water and Power to forego construction of two new lagoons on LADWP's property and to extend Metropolitan's use of two solids lagoons at the Aqueduct Filtration Plant.

Motion: a. Authorize an increase of $1.5 million to an existing agreement with Stantec Consulting Services Inc. for a new not-to-exceed total amount of $1.69 million for preliminary design of a mechanical dewatering facility at the Jensen plant. b. Authorize an amendment to an agreement with Los Angeles Department of Water and Power to forego construction of two new lagoons on LADWP's property and to extend Metropolitan's use of two solids lagoons at the Aqueduct Filtration Plant.

7-4 Subject: Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include the Diemer Helicopter Hydrant Facility project.

Motion: Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include the Diemer Helicopter Hydrant Facility project.

7-5 Subject: Award a $1,466,665 procurement contract to B&K Valves & Equipment, Inc. for 72 combination air release/vacuum valves to be installed on San Diego Pipeline Nos. 3 and 5.

Motion: Award a $1,466,665 contract to B&K Valves & Equipment Inc. for procurement of 72 replacement air release and vacuum valves for San Diego Pipeline Nos. 3 and 5.

No presentations were given, Director Morris made a motion, seconded by Director Lefevre, to approve the consent calendar consisting of items 3A, 7-1, 7-2, 7-3, 7-4, and 7-5

The vote was:

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

The motion for Items 3A, 7-1, 7-2, 7-3, 7-4, and 7-5 passed by a vote of 9 ayes, 0 noes, 0 abstentions, and 7 absent.

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

5. OTHER BOARD ITEMS ACTION

8-1 Subject: Award a $2,601,437 procurement contract to Sojitz Machinery Corporation of America for two large-diameter butterfly valves to be installed at the Foothill Pump Station Intertie as part of water supply reliability improvements in the Rialto Pipeline service area; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA (This action is part of a series of projects that are being undertaken to improve the supply reliability for State Water Project dependent areas)

Presented by: Eugenia Lin, Engineer, Engineering Services Group

Motion: Award a $2,601,437 procurement contract to Sojitz Machinery Corporation of America to furnish two large diameter butterfly valves for the Inland Feeder/SBVMWD Foothill Pump Station Intertie project as part of water supply reliability improvements in the Rialto Pipeline service area.

The following Directors provided comments or asked questions

1. Dennstedt
2. Faessel
3. Lefevre
4. Seckel

Staff responded to Directors questions and comments.

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

The vote was:

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

The motion for Item 8-1 passed by a vote of 10 ayes, 0 noes, 0 abstentions, and 6 absent.

8-2 Subject: Award a $5,266,000 contract to Leed Electric Inc. to install 12 flow monitoring stations along the Colorado River Aqueduct conveyance system.

Presented by: Prudencio Alonso, Engineer, Engineering Services Group

Motion: Award a $5,266,000 contract to Leed Electric Inc. to install 12 flow monitoring stations along the CRA conveyance system.

The following Directors provided comments or asked questions

1. Faessel
2. Peterson

Staff responded to Directors questions and comments.

After completion of the presentation, Director Morris made a motion, seconded by Director Faessel, to approve item 8-2

The vote was:

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

The motion for Item 8-2 passed by a vote of 10 ayes, 0 noes, 0 abstentions, and 6 absent

6. BOARD INFORMATION ITEMS

NONE

8. MANAGEMENT REPORTS

a. Subject: Water System Operations Manager's Report

Presented by: Mickey Chaudhuri, Water System Operations, Interim Group Manager

Mr. Chaudhuri reported on the following:

- Current operations under surplus conditions
- Maximizing SWP supply and storage deliveries
- Shutdowns to ensure continued system reliability
- Response to leak on DWR's Santa Ana Valley Pipeline

b. Subject: Engineering Services Manager's Report

Presented by: John Bednarski, Engineering Services, Chief Engineer and Group Manager

Mr. Bednarski reported on the following:

- Construction and Procurement Contracts
- Project Labor Agreement – Update – Recent Contracts with PLA
- Sepulveda Feeder Pump Station Project – Update
- Garvey Reservoir Site Drainage and Erosion Control Projects
- Weymouth Water Treatment Plant Battery Energy Storage System
- 2023 Member Agency Engineering Manager Forum

c. Subject: Information Technology Manager's Report

Presented by: Charles Eckstrom, Information Technology Group Manager

Mr. Eckstrom reported on the following:

- Cybersecurity Internship

9. FOLLOW-UP ITEMS

None

10. FUTURE AGENDA ITEMS

Chair Ortega suggested staff consider creating agency working groups to coordinate on water quality issues, and more frequent communications with the board on water quality matters. Director Morris requested staff consider working with an outside facilitator to convene a regional working group on water quality topics that could support regulatory development.

The next meeting will be held on June 12, 2023.

Meeting adjourned at 10:43 am.

Dennis Erdman
Chair

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

6/13/2023 Board Meeting

7-1

Subject

Authorize agreements with AECOM Technical Services Inc. and CDM Smith Inc., each in an amount not to exceed $800,000, for water desalination studies in Metropolitan's service area; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

The recurring severe regional droughts, and their impacts on Metropolitan's water supplies from both the Colorado River and Northern California, have prompted an imminent, compelling need for Metropolitan to develop strategies to potentially develop alternative sources of water supplies for Metropolitan's member agencies. Staff has initiated efforts to assess the options for both seawater and brackish water desalination as potential new sources that can be made available to mitigate uncertainties in future supplies, thereby maintaining Metropolitan's ability to ensure water supply reliability in Southern California. Water desalination studies support the Board's policy of providing equitable water supply reliability to member agencies through an interconnected and robust system of supplies, storage, and programs. This is one of several efforts to help inform Metropolitan's Climate Adaptation Master Planning process. This action authorizes two agreements to provide engineering services for water desalination studies in Metropolitan's service area.

Details

Background

Metropolitan delivers water from the Colorado River and the State Water Project (SWP) to its service area, meeting approximately 50 percent of regional water needs. In recent years, the western region of the United States has experienced recurrent droughts that have led to large drawdowns in the major reservoirs on the Colorado River and the SWP. Drastic changes in precipitation and large reservoir drawdowns may impact the reliability of Metropolitan's water deliveries to its member agencies in the future. To address this concern, staff has initiated efforts to assess options that could help mitigate uncertainties in future supplies and maintain Metropolitan's water supply reliability with the potential development of brackish and/or seawater desalination projects.

Request for Proposals (RFP) No. 1327 solicited proposals for engineering services to support water desalination studies in Metropolitan's service area. Staff recommends authorizing two professional service agreements based on the results of this RFP to expand Metropolitan's knowledge base on brackish and seawater desalination opportunities within Southern California and determine potential project delivery methods for the existing technology and project opportunity. The results of these studies will contribute to Metropolitan's current overall assessment of projected water supply needs for the region.

Budget Impact

In accordance with provisions of the Governmental Accounting Standards Board, Metropolitan's work on feasibility studies not associated with a specific asset must be conducted with O&M funds instead of a capital appropriation. Funds for these planning activities for regional reliability are included in the O&M budget for fiscal years 2022/23 and 2023/24.

These studies anticipate the expenditure of $1.9 million in budgeted O&M funds. All expenditures will be incurred in the current biennium and have been previously authorized.

Water Desalination Opportunities & Technology Assessment

The planned studies for brackish and seawater desalination studies will be conducted by consultants with oversight by Metropolitan staff. AECOM Technical Services Inc. (AECOM) will collect appropriate data, develop computer models, conduct analyses, and provide recommendations for brackish water desalination; CDM Smith Inc. (CDM) will conduct similar work efforts for seawater desalination. The planned scope of work for each consultant is described below. Metropolitan staff will compile record drawings and reports, perform overall project management, and conduct technical reviews.

A total of $1,900,000 will be allocated in O&M funds in fiscal years 2022/23 and 2023/24 for studies associated with brackish and seawater desalination. This amount includes $1,600,000 for the consultant's activities described below; $160,000 for Metropolitan staff activities and technical oversight and review of consultant's work; and $140,000 for project management, and project controls.

Engineering Services (AECOM Technical Services Inc. and CDM Smith Inc.) – New Agreements

AECOM and CDM are recommended to provide engineering services for water desalination studies in Metropolitan's service area. Both AECOM and CDM were selected through a competitive process via RFP No. 1327. Staff received proposals from seven firms and evaluated each firm based on qualifications and experience, expertise of each firm's staff, technical approach and proposed methodology, and capability to deliver the planned work.

The planned scope of work for AECOM includes: (1) preparing an inventory of potential brackish water resources plant sites in Metropolitan's service area; (2) developing an evaluation methodology for the suitability of this water supply, including consistency with Metropolitan's commitment to carbon neutrality by 2045; (3) identifying applicable water quality and regulatory requirements; (4) developing conceptual cost estimates and schedules for water produced from desalination facilities; (5) developing project implementation options that would best suit these types of facilities; (6) determining the approximate proportion and area of Metropolitan's service area that would potentially receive water from the plant; and (7) assessing the near-term potential for advances in brackish water desalination technologies.

The planned scope of work for CDM includes: (1) preparing an inventory of potential seawater desalination plant sites in Metropolitan's service area; (2) assessment of permitting and regulatory frameworks that would potentially impact the potential siting of a seawater desalination plant, (3) developing an evaluation methodology for the suitability of this water supply, including consistency with Metropolitan's commitment to carbon neutrality by 2045; (4) identifying applicable water quality and regulatory requirements; (5) developing conceptual cost estimates and schedules for water produced from desalination facilities; (6) developing project implementation options that would best suit these types of facilities; (7) determining the approximate proportion and area of Metropolitan's service area that would potentially receive water from the plant; and (8) assessing the near-term potential for advances in seawater desalination technologies.

This action authorizes two professional services agreements with AECOM and CDM, each in an amount not to exceed $800,000, to provide engineering services for water desalination studies in Metropolitan's service area. For this agreement, Metropolitan established a Small Business Enterprise participation level of 25 percent. Both AECOM and CDM have agreed to meet this level of participation. The planned sub-consultants for these agreements are listed in **Attachment 1**.

Alternatives Considered

Staff considered utilizing in-house Metropolitan staff to perform the assessment of desalination technology opportunities. 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 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.

After assessing the current workload for in-house staff, and the required expertise, it has been determined that there is insufficient engineering staff with expertise in desalination technology to ensure the completion of the

work in a timely manner. Staff, therefore, recommends utilizing a consultant for this work. The consultants will perform the studies, and staff will perform project review and oversight. This approach will allow for the completion of the studies in the most efficient manner possible.

Summary

This action authorizes professional services agreements with AECOM and CDM to provide engineering services for water desalination studies in Metropolitan's service area. See **Attachment 1** for the List of Subconsultants.

Project Milestone

March 2024 – Completion of studies

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 52946, dated August 16, 2022, the Board adopted a resolution affirming a call to action and committing to regional reliability for all member agencies.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is statutorily exempt from CEQA (State CEQA Guidelines Section 15262) because it involves only feasibility or planning studies for possible future actions which the board has not approved, adopted, or funded. The overall activity also involves carrying out studies that consist of basic data collection, which do not result in a serious or major disturbance to an environmental resource. This 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 6 (Section 15306) of the State CEQA Guidelines.

CEQA determination for Option #2:

None required

Board Options

Option #1

Authorize professional services agreements with AECOM Technical Services Inc. and CDM Smith Inc., each in an amount not to exceed $800,000, to provide engineering services for water desalination studies in Metropolitan's service area.

Fiscal Impact: Expenditure of $1.9 million in O&M funds. All expenditures will be incurred in the current biennium and have been previously authorized.

Business Analysis: This option will enhance Metropolitan's knowledge of potential brackish and seawater supply options in its service area.

Option #2

Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: This option may forego or delay the opportunity to enhance Metropolitan's knowledge of brackish and seawater supply options in its service area.

Staff Recommendation

Option #1

5/19/2023

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

5/23/2023

Adel Hagekhalil *Date*
General Manager

Attachment 1 – List of Subconsultants

Ref# es12687872

The Metropolitan Water District of Southern California

Subconsultants for Water Desalination Studies Agreements

Consultant: AECOM Technical Services Inc.	
Subconsultant and Location	**Service Category; Specialty**
Awad Engineering Inc. Mission Viejo, CA	Brackish Water Desalination
Geoscience Support Services Inc. San Dimas, CA	Groundwater Modeling
John Robinson Consulting Inc. Pasadena, CA	General Water System Design
Kimley-Horn & Associates Inc. Riverside, CA	Civil Design
Leland Saylor Associates Inc. Los Angeles, CA	Cost Analysis
Water Globe Consultants LLC Winter Springs, FL	Technical Advisor

Consultant: CDM Smith Inc.	
Subconsultant and Location	**Service Category; Specialty**
EOA Inc. Oakland, CA	Permitting Evaluations, Ocean Plan Requirements, Brine Disposal
Geoscience Support Services Inc. San Dimas, CA	Slant Wells, Hydrogeology, Brackish Groundwater Desalination Opportunities
Means Consulting LLC Newport Beach, CA	Partnerships
Water Quality & Treatment Solutions Inc. Canoga Park, CA	Water Quality and Compatibility

Engineering, Operations, & Technology Committee

Desalination Studies

Item 7-1

June 12, 2023

Desalination Studies
Water Portfolio

Current Action

- Authorize agreements with AECOM Technical Services Inc. and CDM Smith Inc. each in an amount not to exceed $800,000 for water desalination studies in Metropolitan's service area

Background

- Metropolitan relies on water from the Colorado River & State Water Project
- Drastic changes in precipitation & large reservoir drawdowns may impact reliability of Metropolitan's water supplies
- Staff has initiated efforts to assess options for future supplies & maintain Metropolitan's water supply reliability

Historical Background

- 1960s:
  - Investigated linking a seawater desalination plant to a nuclear power plant
- 1990s:
  - Operated pilot facility to research new desalination technologies
  - Funded conceptual designs of new desalination technologies
  - Conducted siting studies for desalination facilities
- Present:
  - Conduct conceptual studies of desalination technologies & potential sites
  - Investigate brackish & seawater facilities
  - Integrate findings in upcoming CAMP 4 Water analyses

Claude “Bud” Lewis
Carlsbad Desalination Plant

Desalination Studies

Water Portfolio

Alternatives Considered

- Staff considered utilizing in-house Metropolitan staff to perform the assessment
  - Insufficient engineering staff with current desalination technology expertise
- Selected Alternative – Use professional services agreements
  - Consultants will perform the studies
  - Staff will perform project review & oversight

AECOM Technical Services Inc.

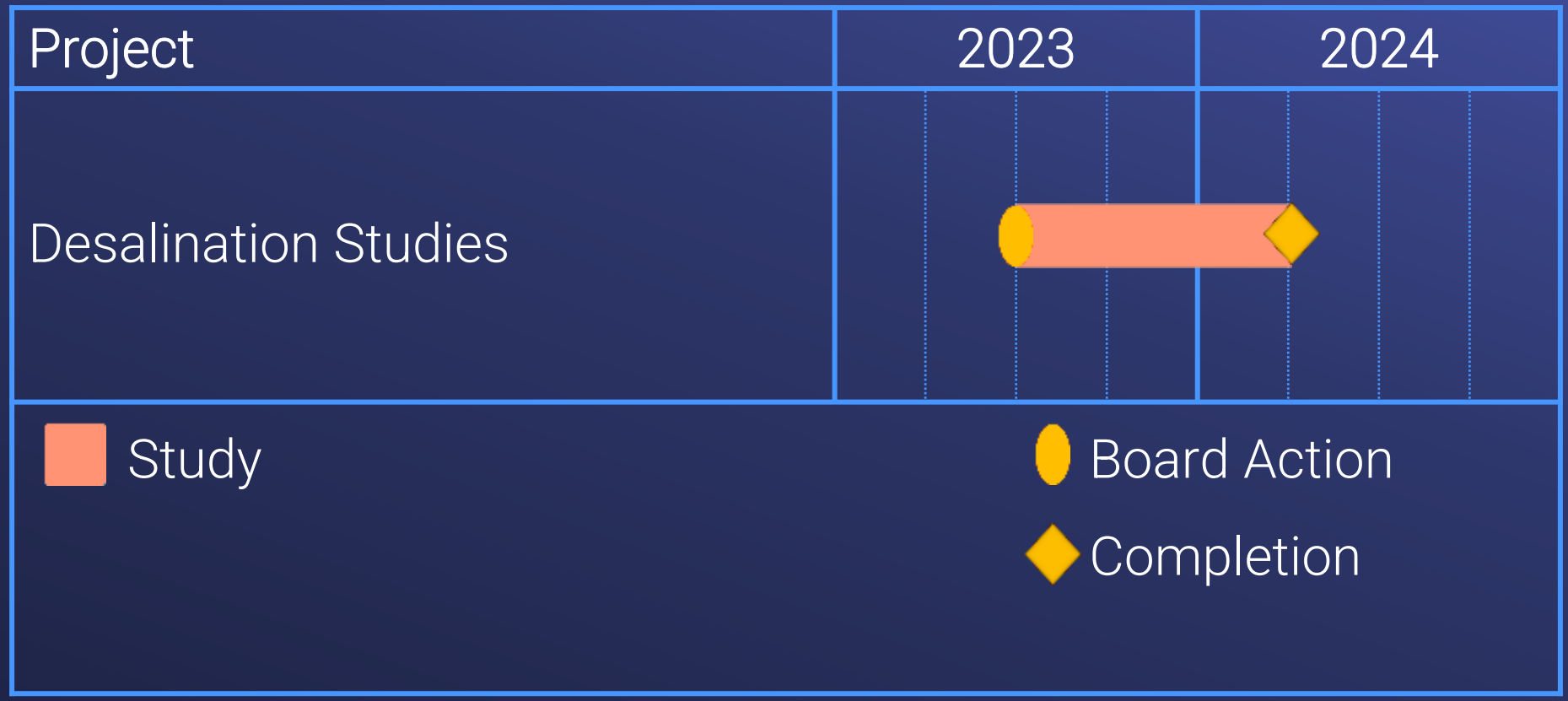
New Agreement

- Competitively selected under RFP 1327
- Scope of work
  - Brackish water resources inventory
  - Water supply suitability evaluation methodology
  - Assessing potential for advances in brackish water desalination technologies
  - Identifying water quality & regulatory requirements
  - Conceptual cost estimates & schedules
  - Developing project implementation options
- SBE participation level – 25%
- NTE amount – $800,000

CDM Smith Inc.
New Agreement

- Competitively selected under RFP 1327
- Scope of work
  - Seawater desalination plant sites inventory
  - Water supply suitability evaluation methodology
  - Assessing potential for advances in seawater desalination technologies
  - Identifying water quality & regulatory requirements
  - Conceptual cost estimates & schedules
  - Developing project implementation options
- SBE participation level – 25%
- NTE amount – $800,000

Project Schedule



Board Options

- Option #1

  Authorize professional services agreements with AECOM Technical Services Inc. and CDM Smith Inc., each in an amount not to exceed $800,000, to provide engineering services for water desalination studies in Metropolitan's service area.

- Option #2

  Do not proceed with the project at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

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

6/13/2023 Board Meeting

7-2

Subject

Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include three projects: (1) Jensen Administration Building column panel replacement; (2) Skinner chemical storage tanks replacement; and (3) Auld Valley and Red Mountain Control Structures upgrade; and award a $281,900 contract to MMJ Contracting Inc. to replace the existing entrance column panels at the Jensen Administration Building; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

This action amends the Capital Investment Plan (CIP) to include three rehabilitation projects: (1) replacement of the column panels at the main entrance of the Administration Building at the Joseph Jensen Water Treatment Plant (Jensen plant); (2) replacement of the existing sodium hypochlorite storage tanks, which are prone to leaks, at the Robert A. Skinner Water Treatment Plant (Skinner plant); and (3) upgrade of the Auld Valley and Red Mountain Control Structures. This action also awards a contract to replace the existing deteriorating entrance column panels at the Jensen plant's Administration Building.

Details

Background

In April 2022, the Board appropriated funds and authorized the General Manager to initiate or proceed with work on all capital projects identified in the CIP, subject to any limits on the General Manager's authority and CEQA requirements. During the course of the two-year CIP budget cycle, staff may identify the need to commence work on new projects that were not originally included in the Board-authorized CIP. Additionally, in some cases, smaller projects that were initially intended to be completed as a minor capital project with a budget of less than $400,000 under the General Manager's authority are determined to have planned capital expenditures that will exceed this authority. In both of these cases, staff will recommend that the Board amend the current CIP to add these projects.

This action amends the CIP to include three new projects: (1) a project to replace the entrance columns panels at the Jensen plant's Administration Building; (2) a project to replace the existing sodium hypochlorite storage tanks at the Skinner plant; and (3) a project to upgrade the Auld Valley and Red Mountain Control Structures. Project No. 1 was originally initiated as a minor capital project; Projects Nos. 2 and 3 were recently identified as new projects that should proceed immediately. Staff also recommends award of a construction contract to replace the column panels at the Jensen plant's administration building at this time.

Budget Impact

It is not anticipated that the addition of these projects to the CIP will increase CIP expenditures in the current biennium beyond those which have been previously approved by the Board. Anticipated expenditures for these projects are approximately $1.68 million of capital funds. Approximately $1.40 million will be incurred in the current biennium. The remaining capital funds will be funded from future CIP budgets, following board approval of these budgets. These projects have been reviewed in accordance with Metropolitan's CIP prioritization criteria and were approved by Metropolitan's CIP Evaluation Team to be included in the Treatment Plant Reliability Program (Projects No. 1 and 2) and the Distribution System Reliability Program (Project No. 3).

Project No. 1 – Jensen Administration Building Column Panel Replacement – Design and Construction

Located in the community of Granada Hills, the Jensen plant was placed into service in 1972, has a current treatment capacity of 750 million gallons per day (MGD), and treats water from the West Branch of the State Water Project (SWP).

The Jensen Administration Building is a three-story reinforced concrete building built in 1970 as part of the original plant construction. The administration facility houses the plant's control room, incident command center, water quality laboratory, and administrative offices. The structure was strengthened in 2010 to withstand a major seismic event. During the seismic strengthening project, the eight columns which support a clerestory roof at the entrance of the building were reinforced and covered with glass fiber-reinforced concrete (GFRC) panels. These panels are made of a cement-based composite material, reinforced with alkali-resistant glass fibers.

The GFRC panels have cracked due to weathering, expansion, and contraction caused by temperature fluctuations, and due to movement caused by seismic vibrations. While these cracks do not impact the structural integrity of the building, the GFRC panels require replacement to protect the steel columns from corrosion and maintain the appearance of the building entrance. Final design for replacement of these panels was completed under a minor capital project. However, the project costs are now projected to exceed the project cost limits of a minor capital project. Staff proposes to complete the work under a new major capital project authorized through this action and will cancel the minor capital project.

The scope of construction consists of removing the existing GFRC panels that cover the entrance columns of the Jensen plant's Administration Building and replacing them with new panels. The new panels have an upgraded material specification that reduces the likelihood of future cracking, an increased strength requirement, and new panel connection details. Metropolitan force activities will include coating the entrance columns.

A total of $530,000 is allocated for this work. In addition to the contract amount, allocated funds include $100,000 for final design, field investigations, material testing, and other technical support; and $27,000 for Metropolitan force activities described above. Other funds to be allocated include $45,000 for construction management and inspection; $14,000 for contract administration, environmental monitoring support, and project management; $21,000 for submittals reviews and preparation of record drawings; and $41,100 for remaining budget.

Attachment 1 provides the allocation of the required funds. The total estimated cost to complete the GFRC panel replacement, including the amount allocated to date, and funds allocated for the work described in this action, is $530,000.

Award of Construction Contract (MMJ Contracting Inc.)

Specifications No. M-3061 for the construction of the Jensen GFRC panel replacement was advertised on January 25, 2023. As shown in **Attachment 2**, two bids were received and opened on March 2, 2023. The low bid from MMJ Contracting Inc. in the amount of $281,900 complies with the requirements of the specifications. The higher bid was $294,400. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 25 percent of the bid amount. MMJ Contracting Inc. is an SBE firm, and thus achieves 100 percent participation.

As described above, Metropolitan staff will perform construction management and inspection. The total cost of construction for this project is $308,900, which includes the amount of the contract ($281,900) and Metropolitan force activities (27,000). Engineering Services' performance metric target range for inspection of projects with construction less than $3 million is 12 to 15 percent. For this project, the performance metric for inspection is 14.6 percent of the total construction cost.

Project No. 2 – Skinner Chemical Storage Tank Replacement – Design and Procurement

Located within the city of Winchester, the Skinner plant was placed into service in 1976, has a treatment capacity of 350 MGD, and normally treats a blend of water from the Colorado River and SWP.

The Skinner plant relies on two cross-linked high-density polyethylene (HDPE) tanks for the storage of sodium hypochlorite, which serves as initial backup disinfection to ozone treatment and ensures that primary disinfection requirements are continuously met during unexpected events such as power outages. The tanks are 10 feet in

diameter and 12 feet tall, with a storage capacity of 6,250 gallons each. These tanks have a recommended service life of 15 years and have been in service since 2007. Recent inspections, conducted after the current CIP was authorized by the Board, discovered leakage from a propagating crack in one of the two tanks. The tank's leak has been repaired on a temporary basis; however, staff recommends that both tanks be replaced at the earliest possible time to enhance plant reliability. Consequently, staff is recommending that this project be added to the current CIP at this time instead of waiting to conduct this project once the new biennium CIP takes effect in July 2024.

This project will replace the two existing sodium hypochlorite tanks with tanks of the same size constructed of extrusion-molded linear HDPE, which provides improved structural properties. Planned design and procurement phase activities include the preparation of drawings and specifications for procurement and installation of two sodium hypochlorite storage tanks and manufacture and inspection of tanks and other required tank farm infrastructure. The tank procurement contract is planned to be awarded under the General Manager's authority. All other construction work, including the installation of the tanks, will be performed by Metropolitan staff.

A total of $600,000 is required for this action. Allocated funds include $57,000 for field investigations; $98,000 for design activities as described above; $230,000 for tank and instrumentation procurement; $60,000 for fabrication inspection; $90,000 for environmental support and project management; and $65,000 for remaining budget. **Attachment 1** provides the Allocation of Funds. The total estimated cost to complete this project, including the funds allocated for the work described in this action, and future construction costs, is anticipated to range from $1.35 million to $1.5 million. The total estimated construction cost for this project is anticipated to range from $700,000 to $800,000, which includes procurement of the tanks. The final design cost as a percentage of the total estimated construction cost is approximately 14.0 percent. Engineering Services' goal for design of projects with construction cost less than $3 million is 9 to 15 percent.

Project No. 3 - Auld Valley and Red Mountain Control Structures Upgrades – Design and Construction

Flows to the San Diego Pipeline No. 3 and San Diego Pipeline No. 5 are regulated at the Auld Valley Control Structure and the Red Mountain Control Structure, respectively. The configurations of these control structures are similar. Each control structure includes two 66-inch-diameter pipes, which are each fitted with two 42-inch diameter throttling sleeve valves. These valves are used to regulate flows within the pipelines. The Auld Valley Control Structure was built in 1975, while the Red Mountain Control Structure was constructed in 1981.

Recent inspections of the control structures, which were conducted after the current CIP was authorized by the Board, have found that the sleeve valves have extensive wear and tear and require rehabilitation. One of the valves on the Red Mountain Control Structure was discovered to be structurally compromised. Staff attempted to repair the valve, but the deterioration was beyond repair. Isolation bulkheads were utilized in the interim to resume operation of the Red Mountain Control Structure at reduced flows. The other sleeve valve at the Red Mountain Control Structure was refurbished under the Minor Capital Program in 2022. Staff recommends replacing the severely deteriorated valve with a new valve at the Red Mountain Control Structure and refurbishment of the two sleeve valves at the Auld Valley Control Structure.

The original design of the control structures did not include isolation valves, and, as a result, the San Diego Pipelines Nos. 3 and 5 cannot be operated without the sleeve valves in service. A complete shutdown of these pipelines is required whenever one of the sleeve valves needs to be removed for maintenance. Staff recommends installation of eight new butterfly valves upstream and downstream of the sleeve valves at the Auld Valley and Red Mountain Control Structures to allow for isolation to enable the pipelines to remain in service during maintenance of the sleeve valves. Staff recommends that work to rehabilitate the remaining three sleeve valves begin at the earliest possible time to enhance facility reliability. Consequently, staff is recommending that this project be added to the current CIP at this time instead of waiting to conduct this project once the new biennium CIP takes effect in July 2024.

Planned work will include replacement of a sleeve valve at the Red Mountain Control Structure; refurbishment or replacement of two sleeve valves on the Auld Valley Control Structure; and installation of eight 42-inch diameter isolation butterfly valves, four at each of the control structures.

Planned design activities include: (1) preparation of procurement documents for one sleeve valve for the Red Mountain Control Structure, which was found to be beyond repair; (2) performing alternative evaluations for

refurbishment or replacement of sleeve valves for the Auld Valley Control Structure; and (3) conducting field investigations, performing topographic survey and mapping, geotechnical analysis, and site layouts for installation of the isolation valves at both control structures.

A total of $550,000 is required for this action. Allocated funds include $420,000 for the design activities described above; $80,000 for project management and project controls; and $50,000 for remaining budget. **Attachment 1** provides the Allocation of Funds. The total estimated cost to complete the project, including funds allocated for the work described in this action, and future procurement and construction costs, is anticipated to range from $13 million to $15 million. Staff will return to the Board at a later date to award the construction contract.

Alternatives Considered

Staff considered replacing the GFRC panels with concrete instead of replacing them in kind. This alternative would increase the design load of the columns**,** requiring design revisions and potential modifications to the columns. This alternative would also result in increased cost and complexity to the project. The selected alternative allows the panels to be replaced in a short time without modifications to the existing building structure.

Staff considered incorporating the Skinner chemical storage tank replacement project into the next biennial CIP budget. However, this would extend the project completion date beyond the current service life of the equipment and would not address the existing damage in one of the tanks. Utilizing a single tank reduces operational flexibility and increases chemical delivery costs. Additionally, the remaining sodium hypochlorite tank was installed at the same time as the repaired tank, so staff recommends replacing both tanks at this time.

Staff considered not including new isolation valves in the project scope for the upgrades to the Auld Valley and Red Mountain Control Structures. The current practice for isolation of an individual sleeve valve on these control structures requires that the main pipeline be removed from service. If the sleeve valve requires significant repairs, a steel bulkhead must be installed to return the main pipeline to service at reduced flows. Significant cutting and welding activities are required to install a steel bulkhead in the 66-inch diameter pressure control line. To return the main pipeline to full capacity, the pipeline must be shut down and the steel bulkhead removed. The existing process is difficult and time-consuming and requires lengthy flow reductions on the main pipelines. The selected alternative to install isolation valves under this project will eliminate the cutting and welding process required to isolate a sleeve valve. Staff also considered incorporating the rehabilitation of the Auld Valley and Red Mountain Control Structures into the next biennial CIP budget. However, this would delay the procurement of the isolation valves which require 18 months to fabricate and deliver to the Skinner plant. Including the rehabilitation of the Auld Valley and Red Mountain Control Structures in the CIP will now allow for completion of the project in early 2025 and proactively improves water delivery reliability to member agencies receiving water from San Diego Pipeline Nos. 3 and 5.

Summary

This action amends the current CIP to include three new rehabilitation projects, and awards a $281,900 contract to MMJ Contracting Inc. to replace the GFRC panels in the entrance columns of the Jensen Administration Building. These projects have been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal years 2022/23 and 2023/24 capital expenditure plan. See **Attachment 1** for the Allocation of Funds, **Attachment 2 for** the Abstract of Bids, **Attachment 3** for the List of Subcontractors, and **Attachment 4** for the Location Map.

Project Milestones

March 2024 – Complete construction of Jensen GFRC panel replacement

May 2024 – Complete field investigations and sleeve valve alternative analysis of Red Mountain and Auld Valley Control Structures

November 2024 – Complete procurement of Skinner sodium hypochlorite tanks

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Section 8140: Competitive Procurement

By Minute Item 52778, dated April 12, 2022, the Board appropriated a total of $600 million for projects identified in the Capital Investment Plan for Fiscal Years 2022/2023 and 2023/2024.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action to amend the Capital Investment Plan is not defined as a project under CEQA (State CEQA Guidelines Section (Sections 15378(b)(2) and 15378(b)(4) of the State CEQA Guidelines)) because it involves the creation of a general funding mechanism and general policy and procedure making with no commitment to proceed with any specific project at this time. The design and construction associated with the Jensen Administration Column Panel Replacement, and design, procurement, and construction of the Auld Valley and Red Mountain Control Structures Upgrades and the Skinner Chemical Storage Tanks is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall activities involve the funding, design, minor alterations, and replacement of existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical. Accordingly, the proposed action qualifies under Class 1, Class 2, and Class 6 (Sections 15301, 15302, and 15306) of the State CEQA Guidelines.

CEQA determination for Option #2:

None required

Board Options

Option #1

a. Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include the Jensen Administration Building Column Panel Replacement, Skinner Chemical Storage Tank Replacement, and the upgrades to the Auld Valley and Red Mountain Control Structures; and
b. Award a $281,900 contract to MMJ Contracting Inc. to replace the GFRC panels in the entrance columns of the Jensen Administration Building.

Fiscal Impact: Expenditure of $1.68 million in capital funds. Approximately $1.40 million will be incurred in the current biennium. The remaining capital funds will be funded from future CIP budgets, following board approval of these budgets. It is not anticipated that the addition of the projects listed above to the CIP will increase CIP expenditures in the current biennium beyond those which have been previously approved by the Board.

Business Analysis: This option will enhance safety and operational resiliency at the Skinner plant, address required replacement of the column panels at the Jensen plant's administration building, and maintain the operational reliability of water deliveries to member agencies with connections to San Diego Pipeline Nos. 3 and 5.

Option #2

Do not proceed with the projects at this time.

Fiscal Impact: None

Business Analysis: This option will forego an opportunity to address required replacement of the column panels at the Jensen plant administration building, enhance safety and operational resiliency at the Skinner plant, and maintain the reliability of service to those member agencies with connections to San Diego Pipeline Nos. 3 and 5 and decrease the risk of costly urgent repairs to the pipelines.

Staff Recommendation

Option #1

5/18/2023

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

5/22/2023

Adel Hagekhalil *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Ref# es12686941

Allocation of Funds for Jensen Administration Building Column Panel Replacement

	Current Board Action (Jun. 2023)
Labor	
Investigations & Conceptual Design	$ -
Final Design	100,000
Owner Costs (Program mgmt., envir. monitoring)	14,000
Submittals Review & Record Drwgs.	21,000
Construction Inspection & Support	45,000
Metropolitan Force Construction	27,000
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
MMJ Contracting Inc.	281,900
Remaining Budget	41,100
Total	**$ 530,000**

The total amount expended to date replace the glass fiber reinforced concrete panels at Jensen administration building entrance columns is approximately $100,000. The total estimated cost to complete this project, including the amount initially charged to the minor capital project, and funds allocated for the work described in this action is $530,000.

Allocation of Funds for Skinner Chemical Storage Tanks Replacement

	Current Board Action (Jun. 2023)
Labor	
Investigations & Conceptual Design	57,000
Final Design	98,000
Owner Costs (Program mgmt., envir. monitoring)	90,000
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	60,000
Metropolitan Force Construction	-
Materials & Supplies	230,000
Incidental Expenses	-
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
Remaining Budget	65,000
Total	**$ 600,000**

This is the initial action for the Skinner Chemical Storage Tanks Replacement project. The total estimated cost to complete this project, including the funds allocated for the work described in this action, and future construction costs, is anticipated to range from $1.35 million to $1.5 million.

Allocation of Funds for the Auld Valley and Red Mountain Control Structures Upgrades

	Current Board Action (Jun. 2023)
Labor	
Investigations & Conceptual Design	$ 420,000
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	80,000
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
Remaining Budget	50,000
Total	**$ 550,000**

This is the initial action for the Auld Valley and Red Mountain Control Structures Upgrades project. The total estimated cost to complete this project, including the funds allocated for the work described in this action, and future procurement and construction costs, is anticipated to range from $13 million to $15 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on March 2, 2023, at 2:00 P.M.

Specifications No. M-3061
Jensen Administration Building Entrance
Glass Fiber Reinforced Concrete Panel Replacement

The work includes steel reinforcement and replacement of deteriorated Glass Fiber Reinforced Concrete Panels.

Engineer's estimate: N/A[2]

Bidder and Location	Total	SBE $	SBE %	Met SBE[1]
MMJ Contracting Inc. Hacienda Heights, CA	**$281,900**	**$281,900**	**100%**	**Yes**
JT Construction Group Inc. Glendale, CA	$294,400	-	-	-

1 Small Business Enterprise (SBE) participation level established at 25% for this contract.
2 An engineer's estimate is not prepared for minor capital projects.

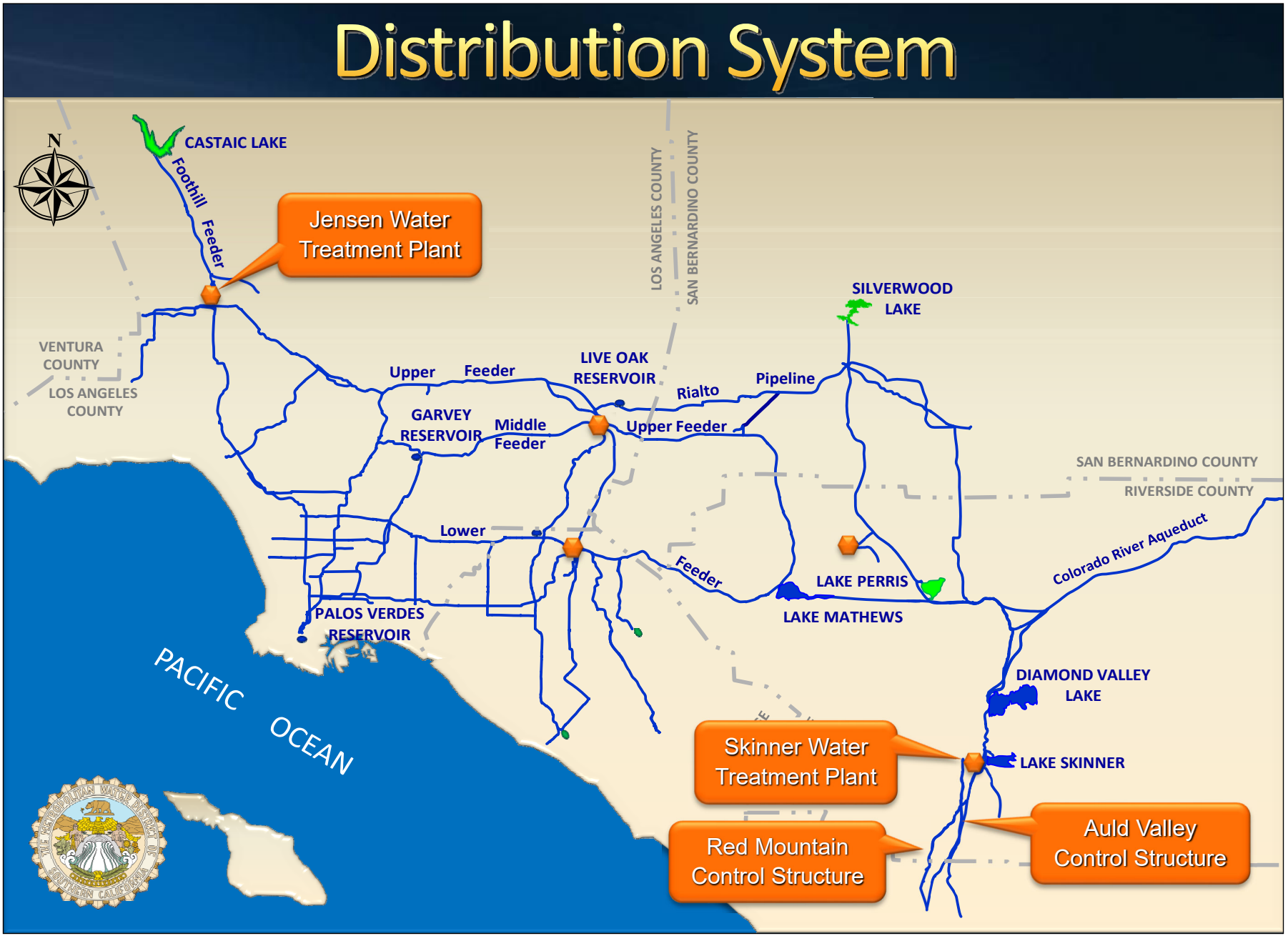
The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

Specifications No. M-3061
Jensen Administration Building Entrance
Glass Fiber Reinforced Concrete Panel Replacement

Low bidder: MMJ Contracting Inc.

Subcontractor	Service Category; Specialty
Asbestos Instant Response Inc. dba Air Demolition & Environ. Solutions Los Angeles, CA	Demolition and Abatement
Meridian Precast Inc. Los Angeles, CA	GFRC Precast Panel Manufacturer and Installer


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

Engineering, Operations, & Technology Committee

Amend FY 2022-24 CIP to Include Three New Projects

Item 7-2

June 12, 2023

Add 3 New Projects to Current CIP

Capital Investment Plan Background

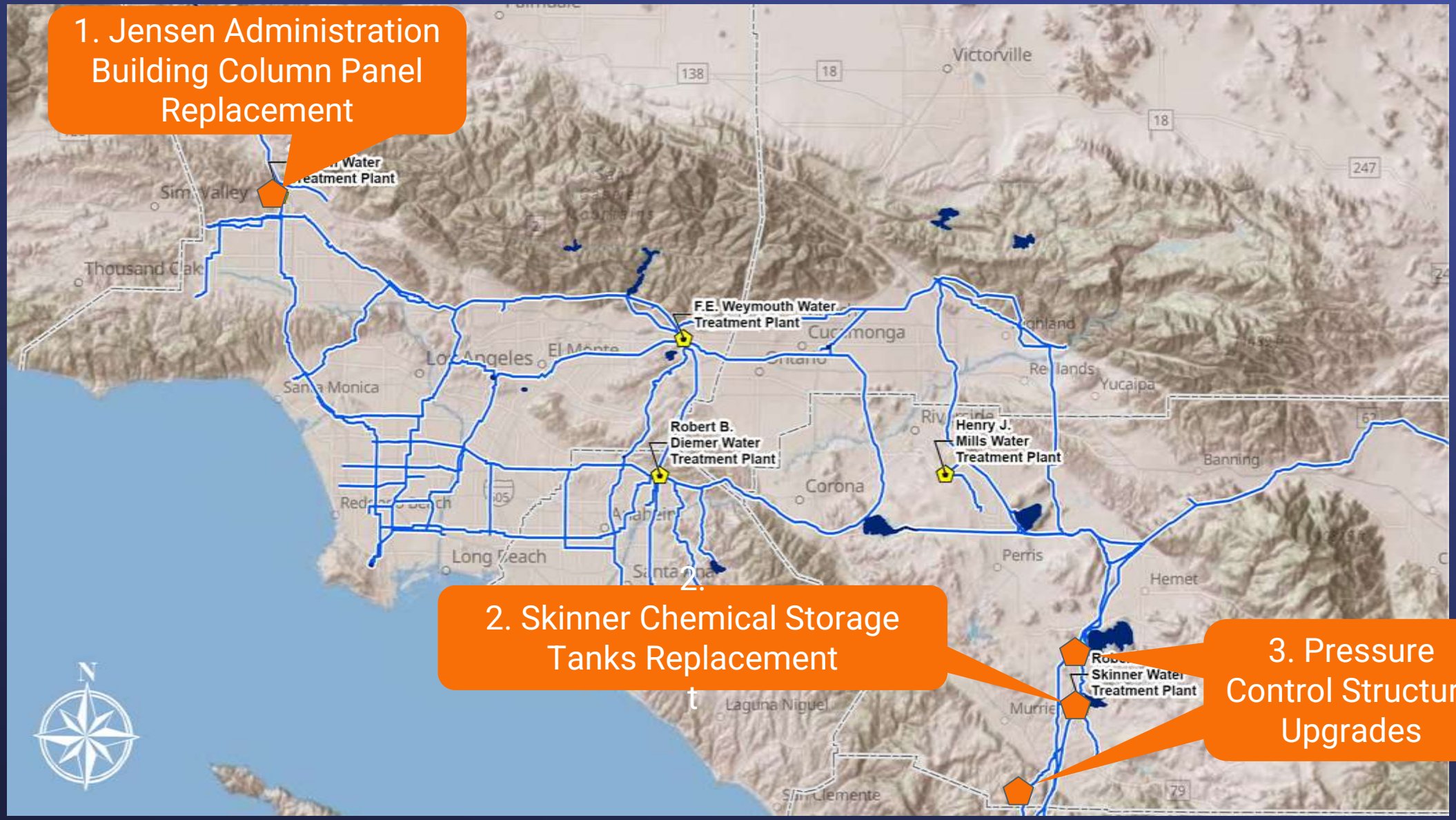
- April 2022 board action
  - Appropriated $600 M
  - Authorized the GM to proceed with all projects in the CIP
- Board action needed for:
  - New projects
  - Minor capital projects that will exceed $400k
  - Contract awards & consultant agreements over $250k

Add 3 New Projects to Current CIP

Current Action

- Amend the Capital Investment Plan for fiscal years 2022/2023 & 2023/2024 to include three projects:
  1. Jensen Administration Building Column Panel Replacement
  2. Skinner Chemical Storage Tanks Replacement
  3. Auld Valley & Red Mountain Control Structures Upgrade
- Award a $281,900 contract to MMJ Contracting Inc. to replace the existing entrance column panels at the Jensen Administration Building

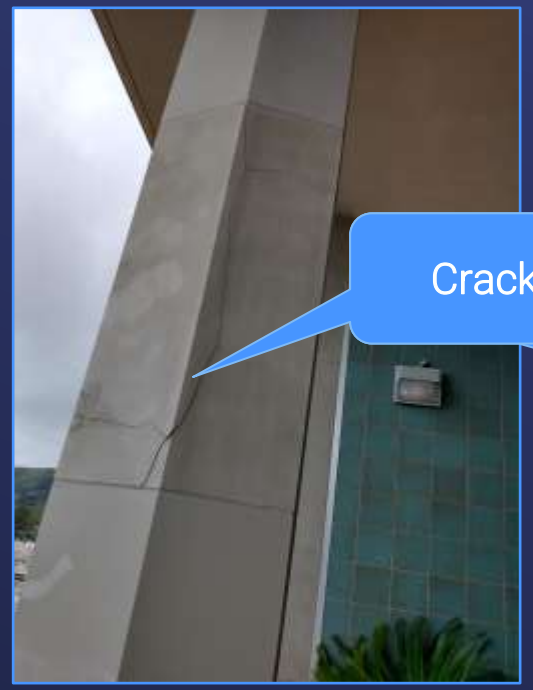
Distribution System



1. Background - Jensen Administration Building Column Panel Replacement

- Building constructed in 1970
- Glass fiber reinforced concrete (GFRC) panels installed in 2010
- Cracked due to weathering, temperature fluctuations & seismic movement

Jensen Admin Building Entrance



Entrance Column

Crack at Column

Jensen Administration Building
Column Panel Replacement

1. Alternatives Considered

- Replace GFRC panels with concrete
  - Increases design loads & potential for modification of columns
  - Increases cost & complexity
- Selected Alternative – Enhanced GFRC panels
  - Expeditiously addresses issue
  - Enhanced GFRC is expected to have a longer life

Jensen Administration Building
Column Panel Replacement

1. Scope of Work

- Contractor
  - Remove the existing panels at Jensen Administration Building
  - Furnish & install new GFRC Panels
- Metropolitan
  - Force Construction
    - Final coating of columns
  - Construction management & inspection
  - Review submittals & prepare record drawings
  - Provide project management & contract admin.

1. Bid Results

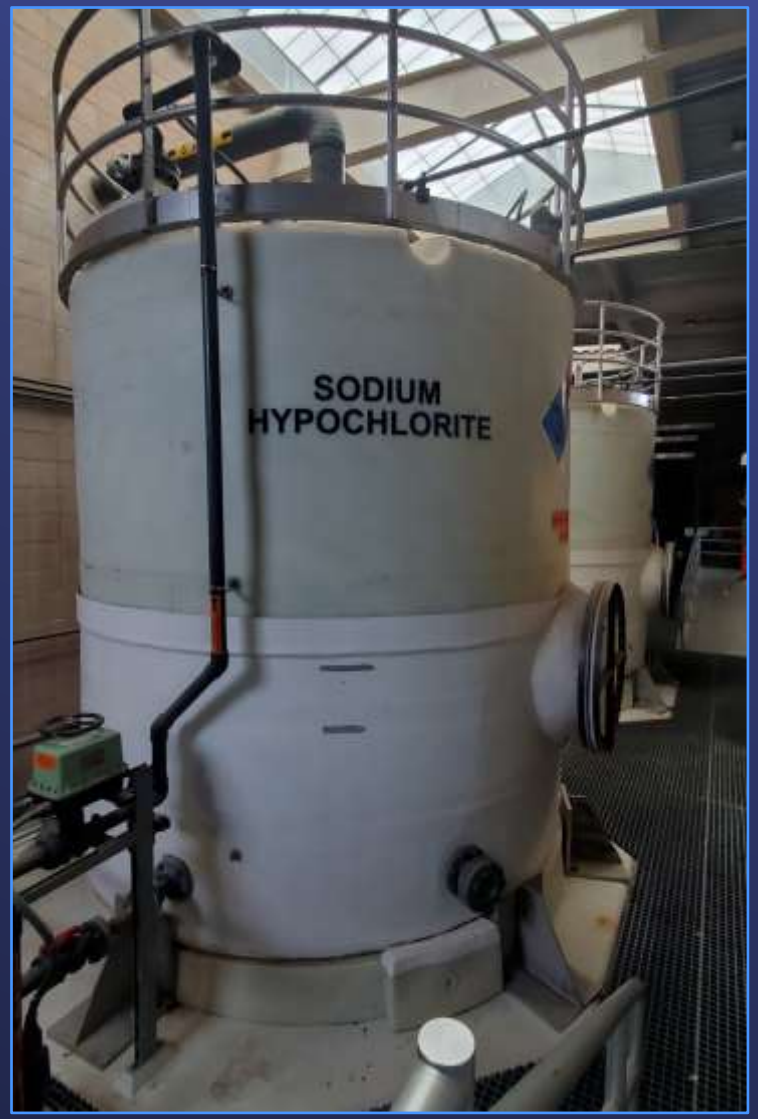
Specifications No. M-3061 Jensen Administration GFRC Panels

Bids Received	March 2, 2023
No. of Bidders	2
Lowest Responsible Bidder	MMJ Contracting Inc.
Low Bid	$281,900
Other Bid	$294,000
SBE Participation*	100%

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

2. Background - Skinner Chemical Storage Tanks Replacement

- Tanks installed in 2007
- Sodium hypochlorite provides
  - Backup disinfection
  - Algae control
- Leak developed in February 2023
- Promptly repaired on temporary basis
- Replacement of tanks & instrumentation recommended



Skinner Chemical Tank

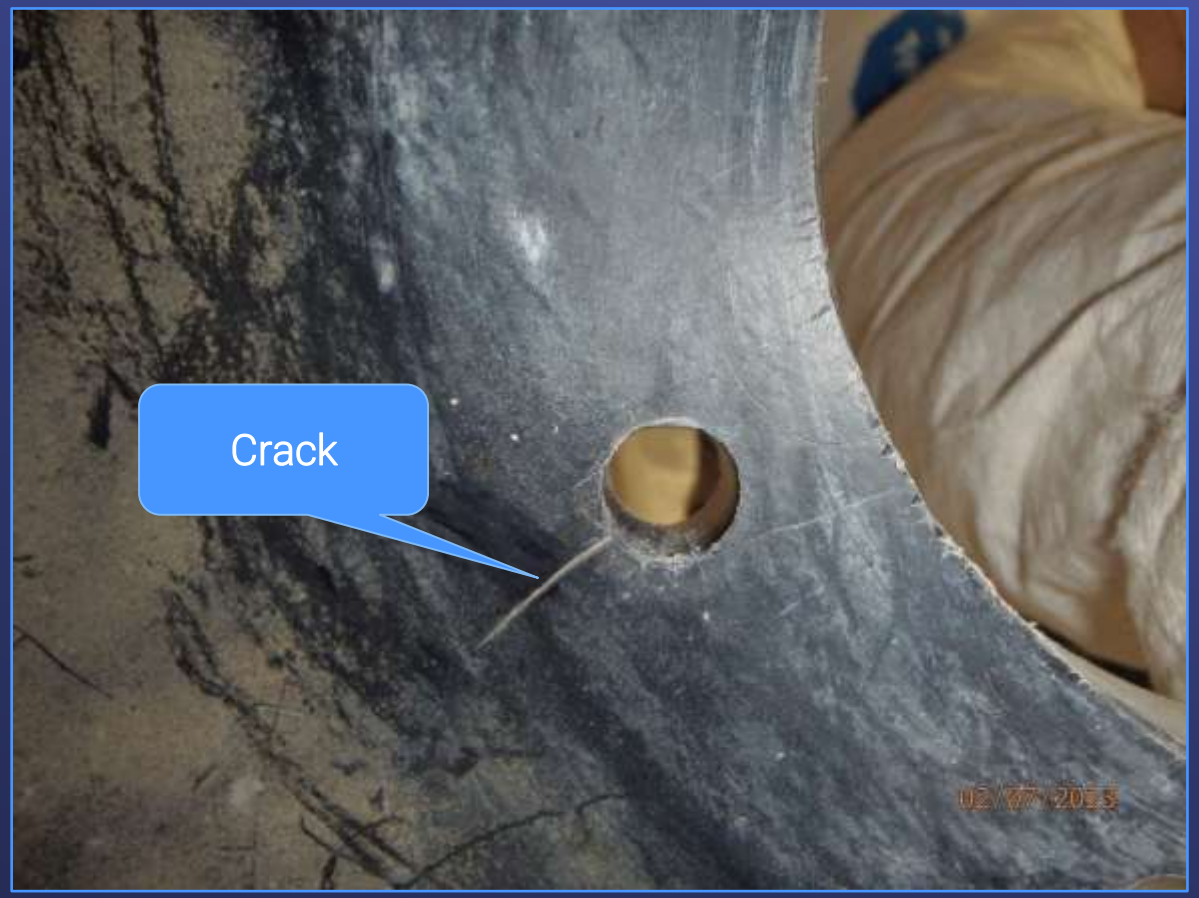

Tank Flange

2. Alternatives Considered

- Include in the next biennium's CIP
  - Delays project completion & does not address tank deterioration
- Replace only damaged tank
  - Reduces operational flexibility
- Selected Alternative – Add project to current biennium CIP & replace both chemical tanks
  - Enhances plant reliability

2. Scope of Work - Metropolitan

- Field investigations & tank procurement specifications
- Specifications & drawings for tank installation
- Fabrication inspection
- Project management, project controls & environmental documentation



Inside Tank Flange

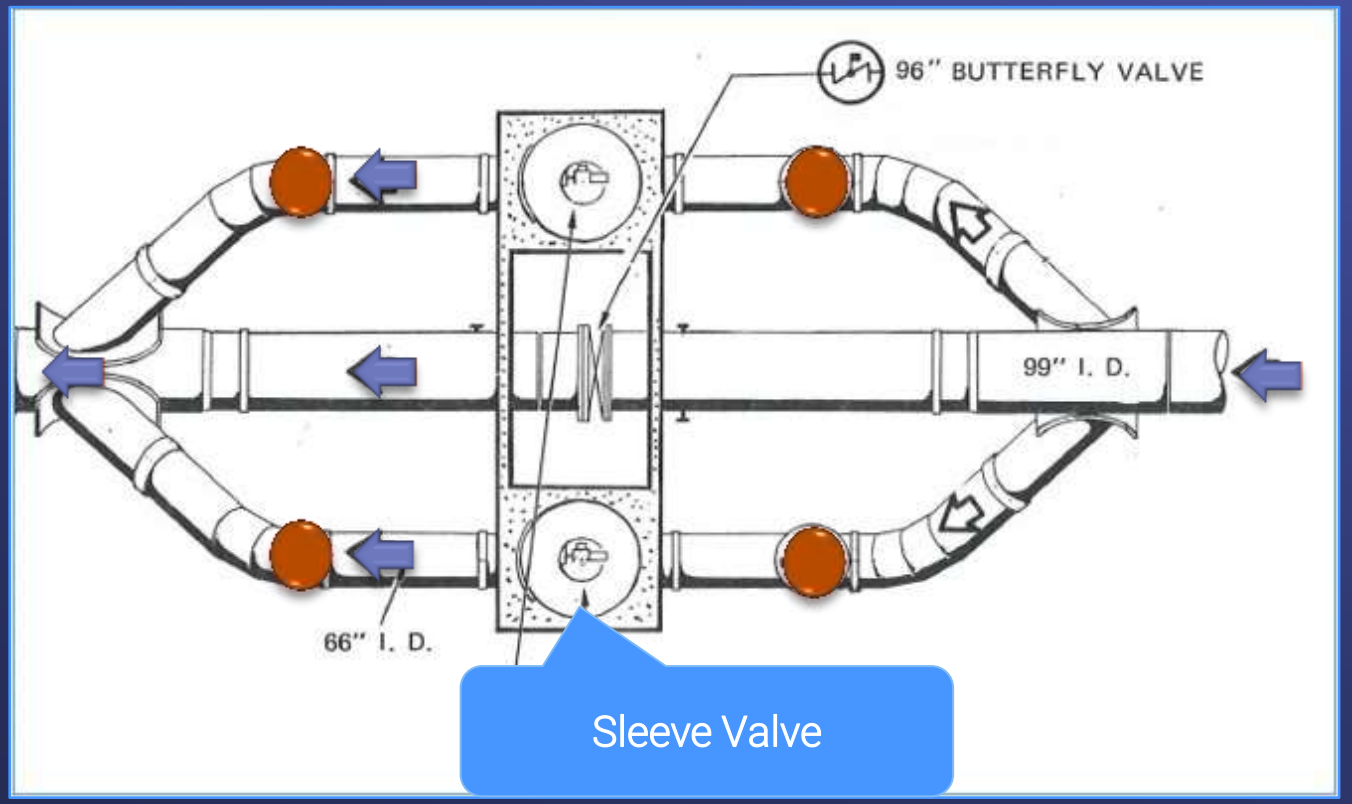
3. Background - Auld Valley & Red Mountain Control Structures Upgrades

- Control Structures
  - Regulate flows to San Diego Pipelines Nos. 3 & 5
  - Each fitted with two 42-inch diameter throttling sleeve valves
- Extensive wear & tear on sleeve valves
  - One valve on Red Mtn. PCS was refurbished under a minor capital project
  - The other Red Mtn. PCS valve was found to be beyond repair

Sleeve Valve

3. Background - Auld Valley & Red Mountain Control Structures Upgrades

- Staff recommends replacement of one valve at Red Mtn. PCS & refurbishment of two valves on Auld Valley PCS
- Staff recommends installation of 8 new butterfly valves
  - Allows pipelines to remain in service for maintenance of sleeve valves



Plan View Drawing

Proposed Isolation Valves

3. Alternative Considered

- Alternative – Do not include isolation valves in project
  - Refurbishment currently requires installation of bulkheads
  - Time consuming & requires shutdown of pipelines
- Alternative – Incorporate project into next biennium CIP
  - Delays procurement of sleeve valve for Red Mtn. PCS which requires 18 months for fabrication
- Selected Alternative – Add project into current CIP biennium
  - Enhances reliability to member agencies

3. Scope of Work - Metropolitan

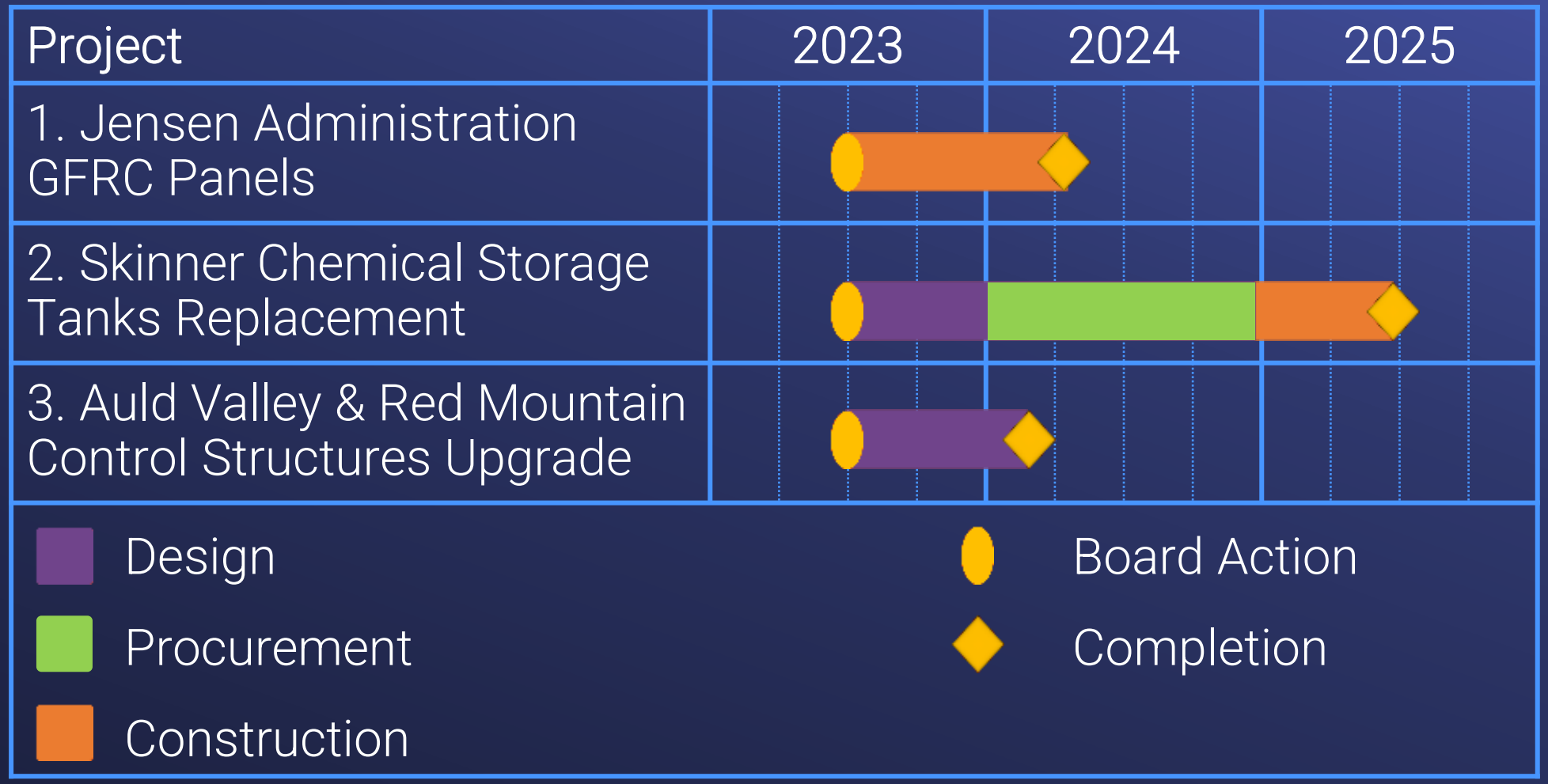
- Prepare documents for procurement of one sleeve valve
- Evaluate refurbishment options for remaining two sleeve valves
- Conduct field investigations for isolation valve siting
- Perform topographic survey & mapping, geotechnical analysis & site layouts
- Provide project management & project controls

Inside Sleeve Valve Repair

Allocation of Funds

	1. Jensen Panels	2. Skinner Tanks	3. Control Structures
Metropolitan Labor			
Investigations & Conceptual Design	$ -	$ 57,000	$420,000
Design	100,000	98,000	
Owner Costs (Proj. Mgmt., Contract Admin., Envir. Support)	14,000	90,000	80,000
Construction Inspection & Support	45,000	60,000	
Force Construction	27,000	-	-
Submittals Review, Tech. Support, Record Drwgs.	21,000	-	-
Materials & Supplies	-	230,000	-
Contracts			
MMJ Contracting Inc.	281,900	-	-
Remaining Budget	41,100	65,000	50,000
Total	$530,000	$600,000	$550,000

Project Schedule



Board Options

- Option #1
  a. Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include the Jensen Administration Building Column Panel Replacement, Skinner Chemical Storage Tank Replacement, and the upgrades to the Auld Valley and Red Mountain Control Structures; and
  b. Award a $281,900 contract to MMJ Contracting Inc. to replace the GFRC panels in the entrance columns of the Jensen Administration Building.
- Option #2

  Do not proceed with the projects at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

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

6/13/2023 Board Meeting

8-1

Subject

Authorize on-call agreements with Kennedy Jenks Consultants Inc., Lee & Ro Inc., and Stantec Consulting Services Inc., in amounts not to exceed $10 million each, for a maximum of five years for engineering services; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

Staff's strategy for the management of capital and O & M work is to rely on in-house engineering staff to accomplish the base load of projects, while professional services agreements are selectively utilized to handle projects above this base load or where specialized services are required. This action authorizes three new professional services agreements to provide engineering support for capital and O & M projects. The three new agreements will be the on-call type, which are typically used for shorter-term assignments, urgent projects, and projects with specialized technical needs. The recommended maximum amounts of these agreements are $10 million each for Kennedy Jenks Consultants Inc., Lee & Ro Inc., and Stantec Consulting Services Inc. The maximum duration of these engineering services agreements will be five years.

Details

Background

Metropolitan's Board adopts an operating budget biennially that includes planned expenditures for capital programs, which are aggregated within the Capital Investment Plan (CIP). The CIP contains the programs and projects necessary for ensuring the reliability of Metropolitan's infrastructure, operating systems, and other assets. Staff's approach for the design of capital projects is to use available in-house staff first, with professional consultant services used only where appropriate. This approach maintains a stable, responsive, and experienced in-house workforce, and is consistent with Metropolitan's succession planning efforts.

When resource needs exceed available in-house staffing or require specialized technical expertise, Metropolitan uses a combination of project-specific and on-call professional services agreements. Firms are competitively evaluated, resulting in a list from which both project-specific and on-call agreements are executed as capital project needs are identified. Project-specific agreements are negotiated for an amount needed to cover specific tasks on a specific project, with agreements over $250,000 approved by the Board. By contrast, on-call agreements are multi-year agreements with not-to-exceed limits. These types of agreements have been used extensively in the past 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. These on-call agreements have been successfully relied upon for over 15 years for the efficient execution of capital projects. Typically, Engineering Services has ten or more on-call agreements for design services available for use at any one time and has utilized approximately 60 percent of the agreement capacities since inception.

Over the next several fiscal years, a number of projects have been identified that will require engineering services beyond the level that can be supported by in-house staff. These projects will be located along the Colorado River Aqueduct (CRA), within the conveyance and distribution system, and at Metropolitan's treatment plants, and will address critical programs such as rehabilitation of the CRA electrical systems, hydroelectric plants, valves

structures, and infrastructure modifications needed to improve water reliability and address water supply equity. For these projects, it is anticipated that supplemental engineering support will be needed in the areas of: (1) electrical systems; (2) instrumentation and controls; (3) communications; (4) security systems; (5) mechanical equipment refurbishment; (6) pipeline and valve structure rehabilitation; (7) heating, ventilation, and air conditioning improvements; (8) site and erosion protection improvements; (9) treatment processes and chemical feed systems; (10) seismic and other structural upgrades; and (11) preparation of record drawings.

Multiple five-year on-call agreements are recommended to ensure that staff can execute the planned work in the CIP over the upcoming fiscal years. Staff recommends board authorization of three new multi-year agreements to replace agreements that have already expired or will soon expire in order to ensure the timely execution of the CIP over the next several years.

In support of Metropolitan's goal of increasing business opportunities for Small Business Enterprise (SBE) firms, staff establishes SBE participation levels for the vast majority of professional services agreements for capital projects. The only exceptions are for highly specialized areas of expertise, or for the uncommon occasions when sub-consulting opportunities are limited.

Budget Impact

Funding for the work to be assigned to the consultants under on-call agreements and performed this biennium has been previously authorized. Future costs will be accounted for and appropriated under subsequent biennial budgets. In addition, no work is guaranteed to the consultants under these agreements.

Agreements for Engineering Services – Kennedy Jenks Consultants Inc., Lee & Ro Inc., and Stantec Consulting Services Inc.

Request for Qualifications (RFQ) No. 1305 was issued in March 2022 to establish a pool of qualified firms to support projects related to Metropolitan's conveyance, distribution, storage, and treatment facilities. Planned engineering services to be provided under the resulting agreements were identified in the RFQ and include conceptual, preliminary, and final design support for new facilities and rehabilitation of existing facilities; field investigations; planning studies; specialized technical analyses and reviews; cost estimating; engineering support during bid, advertisement, and construction; and project controls. The RFQ covered services in four categories: water treatment facilities, conveyance and distribution facilities, large rotating equipment, and power distribution. The consultants submitted Statements of Qualifications (SOQs) for one or more of these four categories. Twenty-one firms submitted SOQs, which were then evaluated based on qualifications, key personnel, experience related to planned projects, past performance, environmental sensitivity, and business outreach. All of the 21 firms were prequalified to provide services under one or more of the above categories through this process and will be eligible to submit proposals on project-specific agreements within the categories of work for which they were prequalified.

Agreements are currently in place with 19 of the 21 prequalified firms, with a combined total of approximately $144 million in authorized agreements to date. Sixteen of these existing agreements are on-call agreements, and the remaining are project-specific agreements. Three of the existing on-call agreements will expire soon or have insufficient remaining contracting capacity to conduct the required activities. New on-call agreements are recommended to be awarded at this time to three prequalified firms based on staff's current assessment of technical resources needed for capital projects over the next several fiscal years. New agreements are recommended with Kennedy Jenks Consultants Inc., Lee & Ro Inc., and Stantec Consulting Services Inc. These firms were selected through the evaluation process described above.

This action authorizes on-call agreements with Kennedy Jenks Consultants Inc., Lee & Ro Inc., and Stantec Consulting Services Inc., in an amount not to exceed $10 million each per contract. The maximum duration of the agreements will be five years. Staff will return to the Board in the future to authorize additional agreements if a need for such work is identified.

For each of the agreements, Metropolitan has established an SBE participation level of 25 percent of the amount of the agreement. Kennedy Jenks Consultants Inc. and Stantec Consulting Services Inc. have committed to meet this level of participation. Lee & Ro Inc. is an SBE firm, thus achieving 100 percent participation.

Alternatives Considered

Staff considered using the on-call agreements as they have typically been structured, with yearly annual limits on the expenditures over a specified duration of time. In the past, when planned expenditures on the CIP were lower, this approach of having annual expenditure limits was acceptable as staff could successfully manage the consultant's work assignments versus expected project schedules. Since the Board approved the current CIP appropriation process in October 2018, staff has been more effective at utilizing budgeted CIP funds in the execution of projects. This enhanced efficiency, however, has not worked well with the current structure of the on-call agreements with annual expenditure limits. On several occasions over the last three years, the annual expenditure caps on these agreements have limited timely progress on projects. When the annual expenditure limit for an agreement is reached, work on several projects has been suspended until such time as the annual on-call agreement rolls over to the next agreement year, and the annual agreement expenditure limit is reset.

With the recommended approach to structuring the agreements, the three recommended on-call agreements will be modified from previous practice. Instead of utilizing annual expenditure limits on the agreements, agreements will be set with a specific time limit of five years and a maximum expenditure for that five-year period of time. Under the recommended approach, there would no longer be an annual expenditure limit on each agreement. Staff will manage the expenditures for each consultant on a task order basis such that those specific deliverables and other measurable products are delivered by the consultant during the life of the contract. This approach will enable staff to ensure the timely completion of specific engineering work on projects.

Summary

This action authorizes a total of three on-call agreements for engineering services with Kennedy Jenks Consultants Inc., Lee & Ro Inc., and Stantec Consulting Services, in an amount not to exceed $10 million each per contract for a maximum duration of five years.

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 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 actions are not defined as a project under CEQA because they involve continuing administrative activities that will not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed actions are not defined as a project under CEQA because they involve other government fiscal activities, which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State of CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Authorize on-call agreements with Kennedy Jenks Consultants Inc., Lee & Ro Inc., and Stantec Consulting Services Inc., in amounts not to exceed $10 million each, for a maximum period of five years for engineering services.

Fiscal Impact: None; funding for the work to be assigned to the consultants under on-call agreements and performed this biennium has been previously authorized. Future costs will be accounted for and appropriated under subsequent biennial budgets. In addition, no work is guaranteed to the consultants under these agreements.

Business Analysis: Contracting with multiple firms provides flexibility and an efficient means for Metropolitan to obtain needed technical services and to complete capital projects in accordance with board-adopted schedules.

Option #2

Do not authorize the consulting agreements at this time.

Fiscal Impact: None

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

Staff Recommendation

Option # 1

5/17/2023

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

5/23/2023

Adel Hagekhalil *Date*
General Manager

Ref# es12694926

Engineering, Operations, & Technology Committee

Professional Services Agreements for Engineering Services

Item 8-1

June 12, 2023

Professional Services Agreements for Engineering Services

Current Action

- Authorize on-call agreements in amounts not to exceed $10 million each, for a maximum of five years for engineering services
  - Kennedy Jenks Consultants Inc.
  - Lee & Ro Inc.
  - Stantec Consulting Services Inc.

Professional Services Agreements for Engineering Services

Staffing Strategy for Capital Programs

- Rely on in-house labor to fullest extent possible
- Use consultants:
  - When capital resource needs exceed available staffing
  - For specialized technical expertise/skills
  - For independent/3rd party review
- Planned CIP expenditures for current biennium– $600M
- Funding available within Metropolitan capital expenditure plan

Professional Services Agreements for Engineering Services

Professional Services Agreements

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

Professional Services Agreements for Engineering Services

Example Projects

- Treatment plant facilities
  - Diemer filter valve replacement
- Conveyance & Distribution facilities
  - Hydroelectric plants upgrades

Diemer filter valve replacement

Hydroelectric plant upgrades

Professional Services Agreements for Engineering Services

Example Projects

- Security Upgrades
  - Camera replacements
  - Perimeter fencing improvements

Etiwanda Reservoir - Security Improvements - Perris Control Facility

Professional Services Agreements for Engineering Services

Request for Qualifications (RFQ) 1305

- Issued March 2022 to establish pool of qualified firms
  - 21 firms responded
  - All firms were determined to be “qualified” in one specialized category or multiple categories
  - Oct. 2022 – Board awarded five on-call agreements
- Agreements currently in place for 19 of 21 qualified firms
  - 63 agreements
    - 16 on-call agreements
    - 47 project specific
  - Combination of Board & General Manager awarded agreements
- Agreements in process for two remaining prequalified firms without agreements

Professional Services Agreements for Engineering Services

Request for Qualifications (RFQ) 1305

- Three firms recommended for agreements at this time
- Covered services in four categories:
  - Water treatment facilities
  - Conveyance & distribution facilities
  - Large rotating equipment
  - Power distribution
- Services to be provided include:
  - Conceptual, preliminary & final designs
  - Specialized technical analyses
  - Support during bid, advertisement & construction
  - SBE participation level – 25% of agreement amount

Professional Services Agreements for Engineering Services

Alternatives Considered

- Utilize on-call agreements
  - Yearly annual limit
  - May require pausing consultant support if annual expenditure limit reached
- Selected Alternative – On-call agreements with a maximum expenditure for the term
  - Allows timely completion of work
  - Lowers administrative costs

Board Options

- Option #1

  Authorize on-call agreements with Kennedy Jenks Consultants Inc., Lee & Ro Inc., and Stantec Consulting Services Inc., in amounts not to exceed $10 million each, for a maximum period of five years for engineering services.
- Option #2

  Do not authorize the consulting agreements at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA

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

6/13/2023 Board Meeting

8-2

Subject

Award a $16,490,000 contract to J. F. Shea Construction Inc. to replace equipment storage buildings at three Colorado River Aqueduct pumping plants; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

Storage buildings at the Colorado River Aqueduct (CRA) pumping plants are used to protect and secure supplies and equipment from the extreme desert environment. The original 70-year-old storage buildings at three pumping plants (Hinds, Eagle Mountain, and Iron Mountain) have deteriorated due to corrosion and structural deficiencies and are no longer usable. Replacement of these original buildings is needed to protect equipment, parts, and other mechanical/electrical supplies which are stored at each site from premature deterioration due to weather damage. This action awards a construction contract to furnish and install a total of six new pre-engineered metal buildings, two each at three pumping plants.

Details

Background

The CRA is a 242-mile-long conveyance system that transports water from the Colorado River to Lake Mathews in Riverside County. The CRA was placed into service in 1941. It consists of five pumping plants, 124 miles of tunnels, 63 miles of canals, and 55 miles of conduits, siphons, and reservoirs.

Between 1950 and 1955, several metal storage buildings with timber frames and a storage capacity of less than 2,000 square feet each were built at the Gene, Hinds, Eagle Mountain, and Iron Mountain pumping plants to store, protect, and secure CRA-related material and maintenance equipment from the extreme desert environment. Items stored at these buildings include portable equipment; large mechanical and electrical parts such as circuit breakers, disconnect switches, and pumps; spooled wire and cable; lifting fixtures used for maintenance of motors and valves; and general tools and supplies for various maintenance specialties such as plumbing, electrical, carpentry, paint, welding, construction, and vehicle/equipment maintenance.

The storage buildings have deteriorated after 70 years of service. The wooden frames have decayed due to fungal dry rot, and the metal walls and roof panels are significantly rusted. The storage buildings no longer seal properly to prevent rain and dust from entering the interiors and are not insulated. These buildings are not equipped with lights, fans, or electrical service. Following a comprehensive assessment of CRA storage needs, it was determined that refurbishment of the existing buildings is impractical, and staff recommends the replacement of these original storage buildings with new prefabricated, code-compliant buildings.

In October 2014, Metropolitan's Board authorized the replacement of two of these existing storage buildings at Gene Pumping Plant, which at the time were the most deteriorated structures, and construction was completed in 2015. The current project will replace the remaining deteriorated storage buildings with two new storage buildings at each of the three CRA pumping plants: Hinds, Eagle Mountain, and Iron Mountain. The new prefabricated buildings will be constructed of steel and installed on concrete slab foundations. Each new building will have approximately 4,000 square feet of interior storage space. The improved storage space will support ongoing maintenance activities along the CRA and upcoming capital rehabilitation work at the pumping plants.

Design of the new storage buildings is complete, and staff recommends award of a construction contract at this time.

Budget Impact

In accordance with the April 2022 action on the biennial budget for fiscal years 2022/23 and 2023/24, the General Manager authorized staff to proceed with installation of the storage buildings, pending board award of the construction contract 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 CIP Appropriation for Fiscal Years 2022/23 and 2023/24 (Appropriation No. 15525). This project anticipates an expenditure of $20.8 million in capital funds. Approximately $4.0 million will be incurred in the current biennium and has been previously authorized. The remaining funds from this action will be accounted for in the next biennial budget. This project has been reviewed in accordance with Metropolitan's CIP prioritization criteria and was approved by Metropolitan's CIP evaluation team to be included in the CRA Reliability Program.

Hinds, Eagle Mountain, and Iron Mountain Pumping Plants Storage Buildings – Construction

The scope of the contract includes: (1) site work, including grading of the sites to provide access and improve drainage, asphalt paving around the new buildings, replacement of security fencing near the building sites, and new concrete foundation pads; (2) installation of a firewater line and fire hydrant at each building for fire protection; (3) demolition of existing storage buildings at the Hinds and Eagle Mountain pumping plants to provide space for the new buildings; and (4) procurement and installation of six pre-engineered metal storage buildings, two at each pumping plant. Metropolitan forces will perform site clearing in advance of the contract; integrate the fire alarm system into the Supervisory Control and Data Acquisition system; and procure and install ventilation exhaust fans in each building to accommodate the desert environment.

A total of $20.8 million is required to perform this work. In addition to the amount of the contract described below, other funds to be allocated include $159,000 for Metropolitan force activities as described above; $1,830,000 for construction management and inspection; $617,000 for submittal review, technical support during construction, responding to requests for information, and preparation of record drawings; $680,000 for environmental monitoring, contract administration, Project Labor Agreement (PLA) administration, and project management; and $1,024,000 for remaining budget.

Attachment 1 provides the allocation of the required funds. The total estimated cost to complete the storage buildings installation, including the amount allocated to date and funds allocated for the work described in this action, is approximately $22.8 million.

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

Specifications No. 2000A for the furnishing and installation of storage buildings at Hinds, Eagle Mountain, and Iron Mountain was advertised for bids on March 10, 2023. As shown in **Attachment 2**, two bids were received and opened on April 20, 2023. The low bid from J. F. Shea Construction Inc. in the amount of $16,490,000 complies with the requirements of the specifications. The other bid was approximately $19.7 million, while the engineer's estimate for this project was $17,500,000. For this contract, Metropolitan established a Small Business Enterprise participation level of at least 25 percent of the bid amount. J. F. Shea Construction Inc. has committed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**. This contract will be conducted under the terms of Metropolitan's PLA.

As described above, Metropolitan staff will perform construction management and inspection. Engineering Services' performance metric target range for construction management and inspection of projects with construction greater than $3 million is 9 to 12 percent. For this project, the performance metric goal for construction management and inspection is 11.0 percent of the total construction cost. The total cost of construction for this project is $16,649,000, which includes the amount of the contract ($16.49 million), and Metropolitan force activities and supplies ($159,000).

Alternatives Considered

Staff considered providing one large building instead of two smaller buildings at each pumping plant. The advantages of one large building include possibly reduced construction costs and reduced building erection durations. However, due to existing infrastructure at each site, a single large building is difficult to construct near

the center of the pumping plants and would need to be located on the outskirts of the facility. This approach increases the time needed to retrieve stored parts and leads to inefficient work practices. As a result, staff recommends to proceed with two centrally located buildings at each pump plant.

Staff also considered various building types, including tilt-up concrete, masonry, and steel buildings to use in the building construction. Staff recommends proceeding with pre-engineered metal buildings because they are a cost-effective alternative, can be quickly installed, and have insulated wall and roof panels to reduce the temperature inside of the buildings.

Summary

This action awards a $16,490,000 contract to J. F. Shea Construction Inc. for furnishing and installation of pre-engineered metal storage buildings at the Hinds, Eagle Mountain, and Iron Mountain pump plants.
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

November 2025 – Completion of construction

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 52778, dated April 12, 2022, the Board appropriated a total of $600 million for projects identified in the Capital Investment Plan for Fiscal Years 2022/2023 and 2023/2024.

California Environmental Quality Act (CEQA)

Option #1:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. 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 and as the structure replaced and will have the same purpose and capacity as the structure replaced. Further, the proposed action includes construction of limited numbers of new, small facilities or structures. Finally, the proposed action includes minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes. Accordingly, the proposed action qualifies under Class 1, Class 2, Class 3, and Class 4 (Sections 15301, 15302, 15303, and 15304 of the State CEQA Guidelines).

Option #2:

None required

Board Options

Option #1

Award a $16,490,000 contract to J. F. Shea Construction Inc. for furnishing and installation of pre-engineered storage buildings at the Hinds, Eagle Mountain, and Iron Mountain pumping plants.

Fiscal Impact: Expenditure of $20.8 million in capital funds. Approximately $4.0 million will be incurred in the current biennium and has been previously authorized. The remaining funds from this action will be accounted for in the next biennial budget.

Business Analysis: This option will protect important CRA maintenance equipment and supplies from premature deterioration. Recent supply chain issues have demonstrated the importance of stocking critical maintenance material and equipment spares near the operating facility.

Option #2

Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: This option would forgo an opportunity to protect Metropolitan's assets and may result in premature deterioration of equipment and increased replacement costs.

Staff Recommendation

Option #1

5/18/2023

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

5/23/2023

Adel Hagekhalil *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Listing of Subcontractors

Attachment 4 – Location Map

Ref# es12694785

Allocation of Funds for Hinds, Eagle Mountain, and Iron Mountain Pumping Plants Storage Buildings

	Current Board Action (Jun. 2023)
Labor	
Studies & Investigations	$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	680,000
Submittals Review & Record Drwgs.	617,000
Construction Inspection & Support	1,830,000
Metropolitan Force Construction	128,000
Materials & Supplies	20,000
Incidental Expenses	11,000
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
J. F. Shea Construction, Inc.	16,490,000
Remaining Budget	1,024,000
Total	**$ 20,800,000**

The total amount expended to date for the Hinds, Eagle Mountain, and Iron Mountain Pumping Plants Storage Buildings Project is approximately $2.0 million. The total estimated cost to complete, including the amount appropriated to date and funds allocated for the work described in this action, is $22.8 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on April 20, 2023, at 2:00 P.M.

Specifications No. 2000A
Hinds, Eagle Mountain, and Iron Mountain Pumping Plants Storage Buildings

The work includes furnishing and constructing six prefabricated buildings, two at each pumping plant, on new slab foundations; demolition of existing storage buildings; grading; utility installation; installation of fire sprinkler systems; asphalt paving; and replacement of security fencing.

Engineer's estimate: $17,460,000

Bidder and Location	Total	SBE $	SBE %	Met SBE[1]
J. F. Shea Construction Inc. Walnut, CA	**$16,490,000**	**$5,462,384**	**33%**	**Yes**
Cattrac Construction, Inc Fontana, CA	$19,668,656	-	-	-

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

The Metropolitan Water District of Southern California

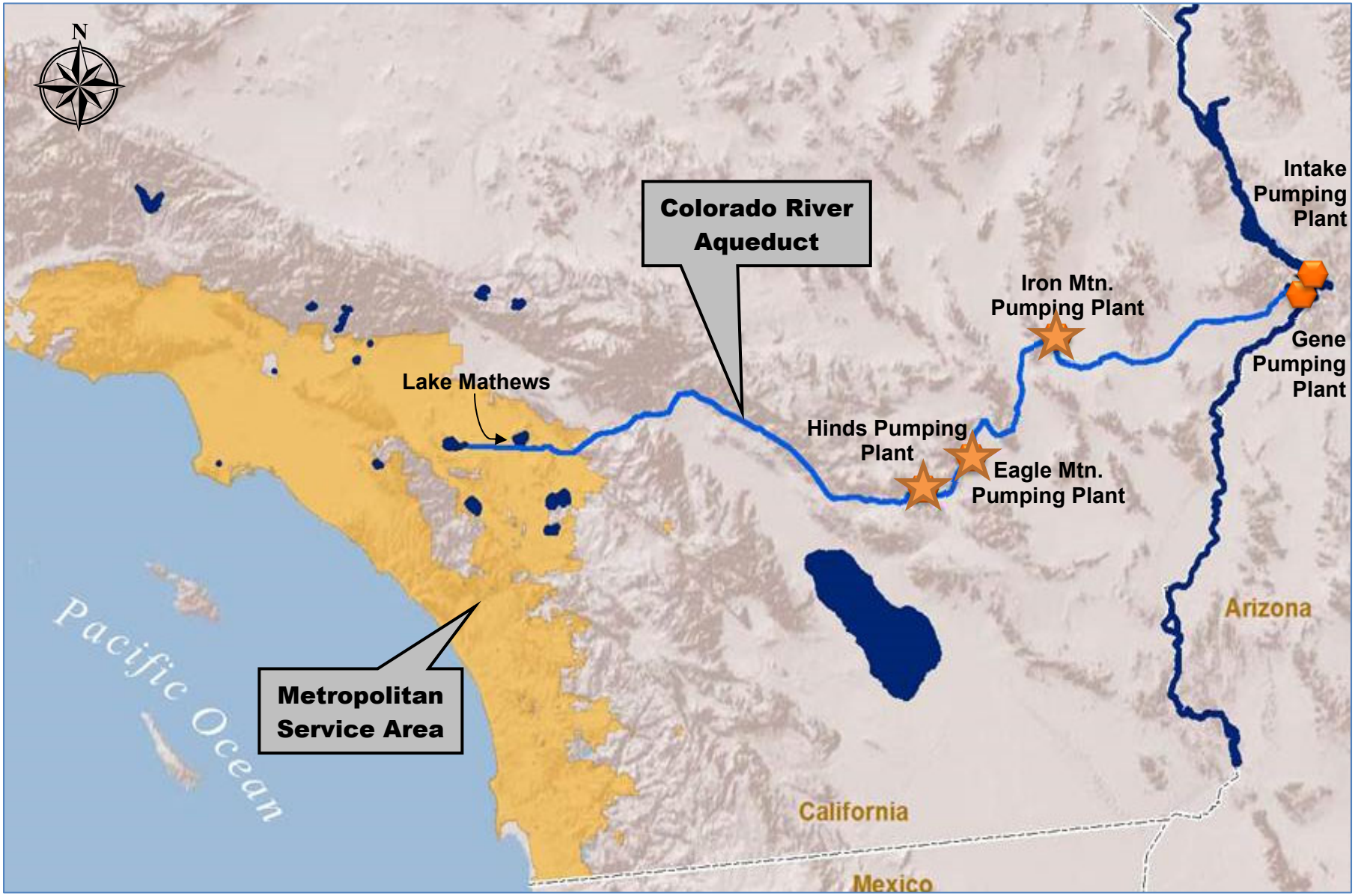
Subcontractors for Low Bidder

Specifications No. 2000A
Hinds, Eagle Mountain, and Iron Mountain Pumping Plants Storage Buildings

Low bidder: J. F. Shea Construction Inc.

Subcontractor	Service Category; Specialty
Hardy & Harper Inc. Lake Forest, CA	Paving
Environmental Construction Group Inc. Signal Hill, CA	Demo & Abatement
MDB General Engineering Inc Irvine, CA	Earthwork
Crown Fence Santa Fe Springs, CA	Fencing
EBS General Engineering Inc. Corona, CA	Sitework Concrete
Southwest V-Ditch Inc. Riverside, CA	Gunite
Qualco Fire Protection Inc. Santa Fe Springs, CA	Fire Protection
K&S Excavating Inc. Anaheim, CA	Trenching & Backfill
South Valley Construction and Develop. Inc. Murrieta, CA	Pre-Engineered Metal Building
Overhead Door Company of Inland Empire Colton, CA	Overhead Doors
Techno Coatings Anaheim, CA	Paint
LA Steel Services Corona, CA	Rebar
Leed Electric Inc. Santa Fe Springs, CA	Electrical

Location Map



Engineering, Operations, & Technology Committee

Colorado River Aqueduct Pumping Plants Storage Buildings

Item 8-2

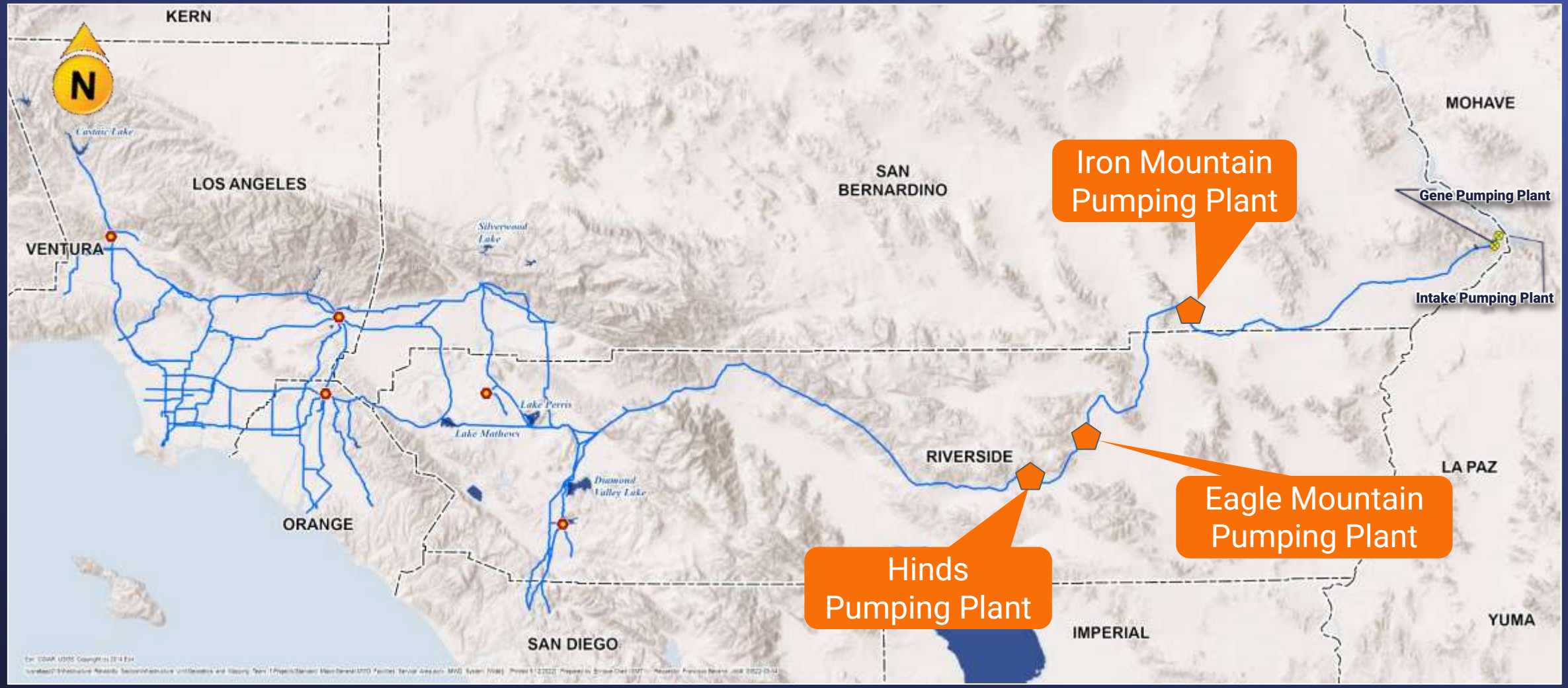
June 12, 2023

Colorado River Aqueduct Equipment Storage Buildings

Current Action

- Award a $16,490,000 contract to J. F. Shea Construction Inc. to replace storage buildings at Hinds, Eagle Mountain, & Iron Mountain pumping plants

Project Location



Background

- Metal storage buildings built in 1950s
  - Decayed wooden frames
  - Metal walls & roof panels deteriorated
  - Limited storage capacity
- Gene Pumping Plant storage buildings were replaced in 2015
- Final design complete for replacement of storage buildings at Hinds, Eagle & Iron Mtn. pumping plants
  - Value engineering conducted to identify & implement cost saving measures for project

Iron Mtn. Storage Building (Existing)

Gene Storage Building (New)

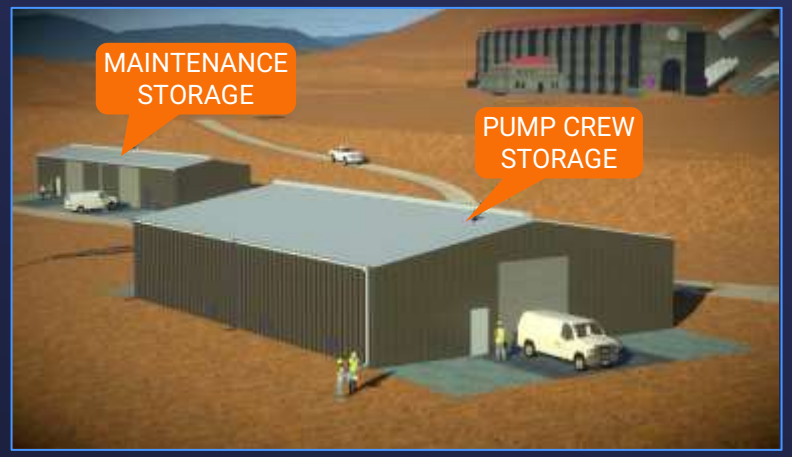
Colorado River Aqueduct
Equipment Storage Buildings

Alternatives Considered

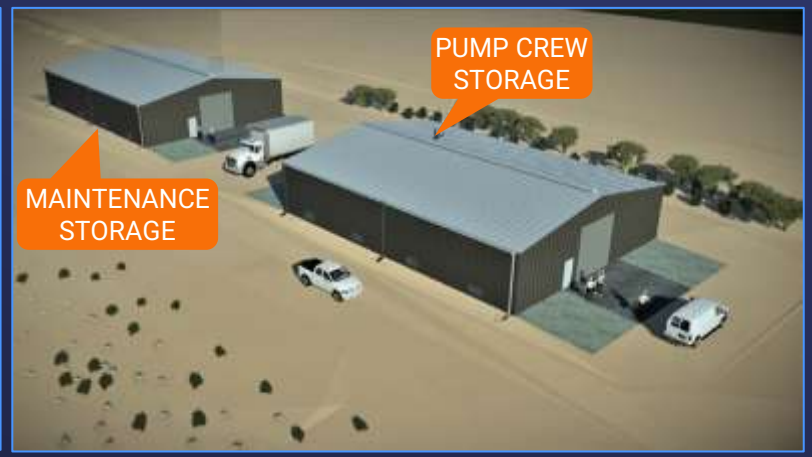
- Provide one large building instead of two
  - Limited space near pumping plants
  - Would increase retrieval time for parts
- Building types (tilt-up, masonry & steel)
  - Longer construction period
  - Costly materials
- Selected Alternative – Replace single building with two pre-engineered buildings
  - Easier to site
  - Faster installation

Contractor – Scope of Work

- Demolish existing storage buildings
- Procure & install six pre-engineered metal storage buildings
- Grading for access & drainage improvements
- Construct concrete foundation pads, asphalt paving & fencing
- Install fire protection system – new firewater lines & hydrants



Hinds Storage Buildings



Eagle Mtn. Storage Buildings

Iron Mtn. Storage Buildings

Bid Results
Specifications No. 2000A*

Bids Received	April 20, 2023
No. of Bidders	2
Lowest Responsible Bidder	J. F. Shea Construction Inc.
Low Bid	$16,490,000
Other Bid	$19,668,656
Engineer's Estimate	$17,460,000
SBE Participation**	33%

* This contract will be conducted under the terms of Metropolitan's project labor agreement
** SBE (Small Business Enterprise) participation level set at 25%

Comparison of Recent Storage Building Projects

Cost Analysis Findings - CRA Storage Buildings

- 6 buildings across 3 separate facilities
- Extensive site work required for CRA buildings
  - Extensive site grading & erosion control
  - Electrical & water source farther from new buildings
  - Fire protection systems & hydrants needed for 3 separate buildings
  - Environmental fencing
- Demolition of existing buildings
- Remote Desert locations

Contract Cost Comparison	CRA Storage Buildings (2023)	Lake Mathews Storage Building (2021)
Contract cost	$16,490,000	$4,759,000
Sitework & demo. cost	$8,436,000	$2,075,000
Building cost	$8,054,000	$2,684,000
Total building area, sq. ft.	27,660	18,200
$ per sq. ft.	$291	$147

Colorado River Aqueduct Equipment Storage Buildings

Metropolitan - Scope of Work

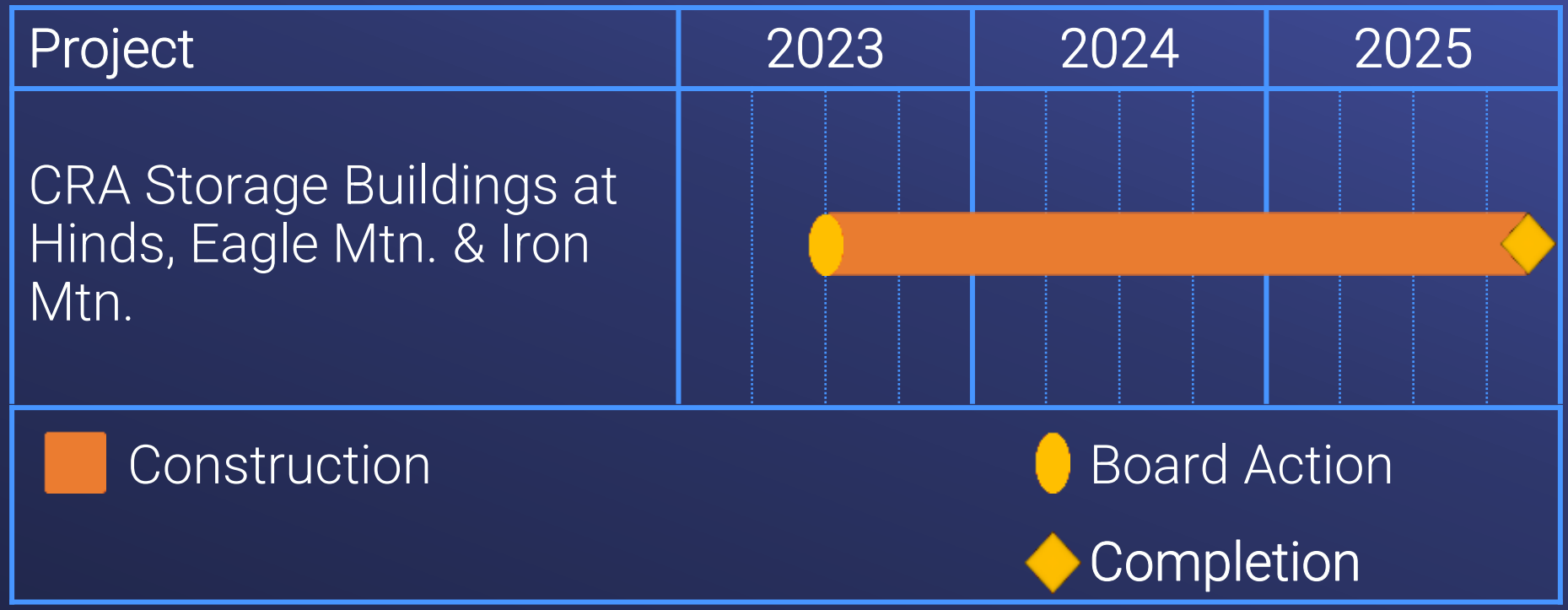
- Integration of fire alarm system with SCADA
- Installation of ventilation exhaust fans
- Construction management & inspection
- Submittals review & preparation of record drawings
- Environmental monitoring
- Project management, project labor agreement administration & project controls

Allocation of Funds

CRA Storage Buildings at Hinds, Eagle Mtn. & Iron Mtn.

Metropolitan Labor		
Owners Costs (Proj. Mgmt., Contract Admin., Envir. Support)	$	680,000
Construction Inspection & Support		1,830,000
Force Construction		128,000
Submittals Review, Tech. Support, Record Dwgs.		617,000
Materials & Incidentals		31,000
Contracts		
J. F. Shea Construction Inc.		16,490,000
Remaining Budget		1,024,000
Total	$	20,800,000

Project Schedule



Board Options

- Option #1

  Award a $16,490,000 contract to J. F. Shea Construction Inc. for furnishing and installation of pre-engineered storage buildings at the Hinds, Eagle Mountain, and Iron Mountain pumping plants.

- Option #2

  Do not proceed with the project at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

Engineering, Operations, & Technology Committee

Metropolitan's Dam Safety Initiatives Program

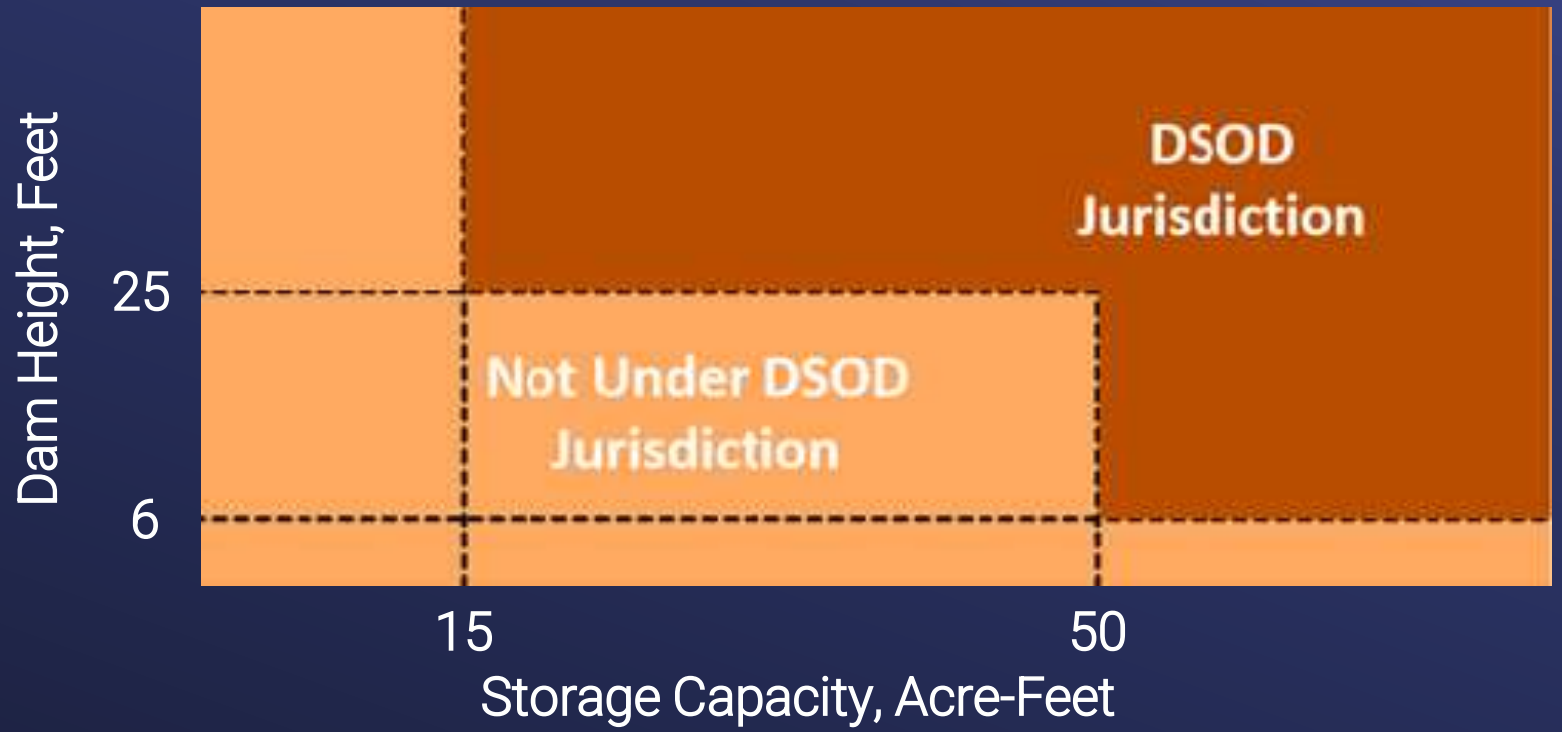
Item 7a

June 12, 2023

Metropolitan's Dams & Reservoirs

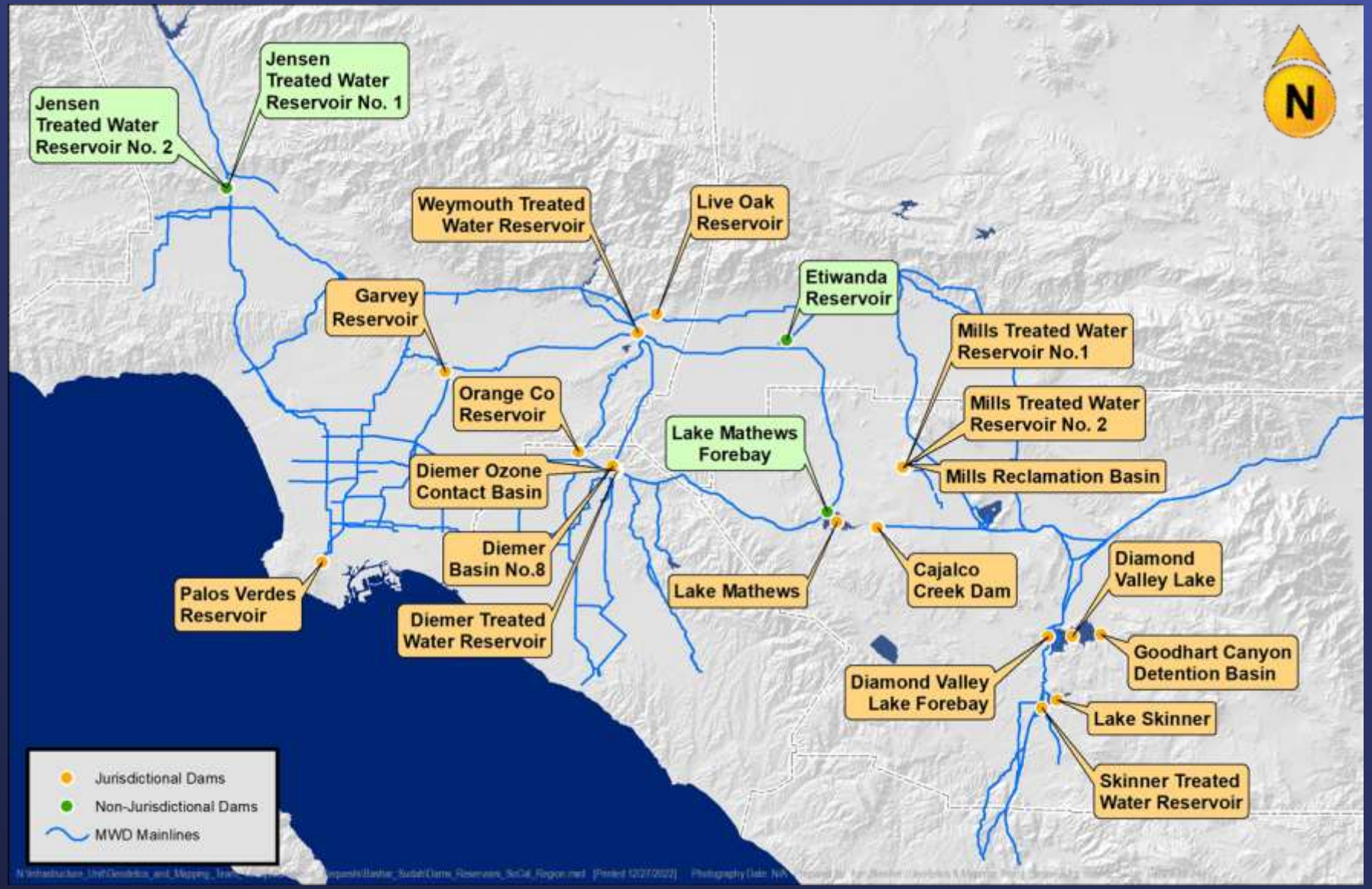
Overview

- 26 Reservoirs
- 20 Reservoirs & 24 dams under DSOD jurisdiction
  - Two reservoirs with multiple dams
  - Includes finished water reservoirs



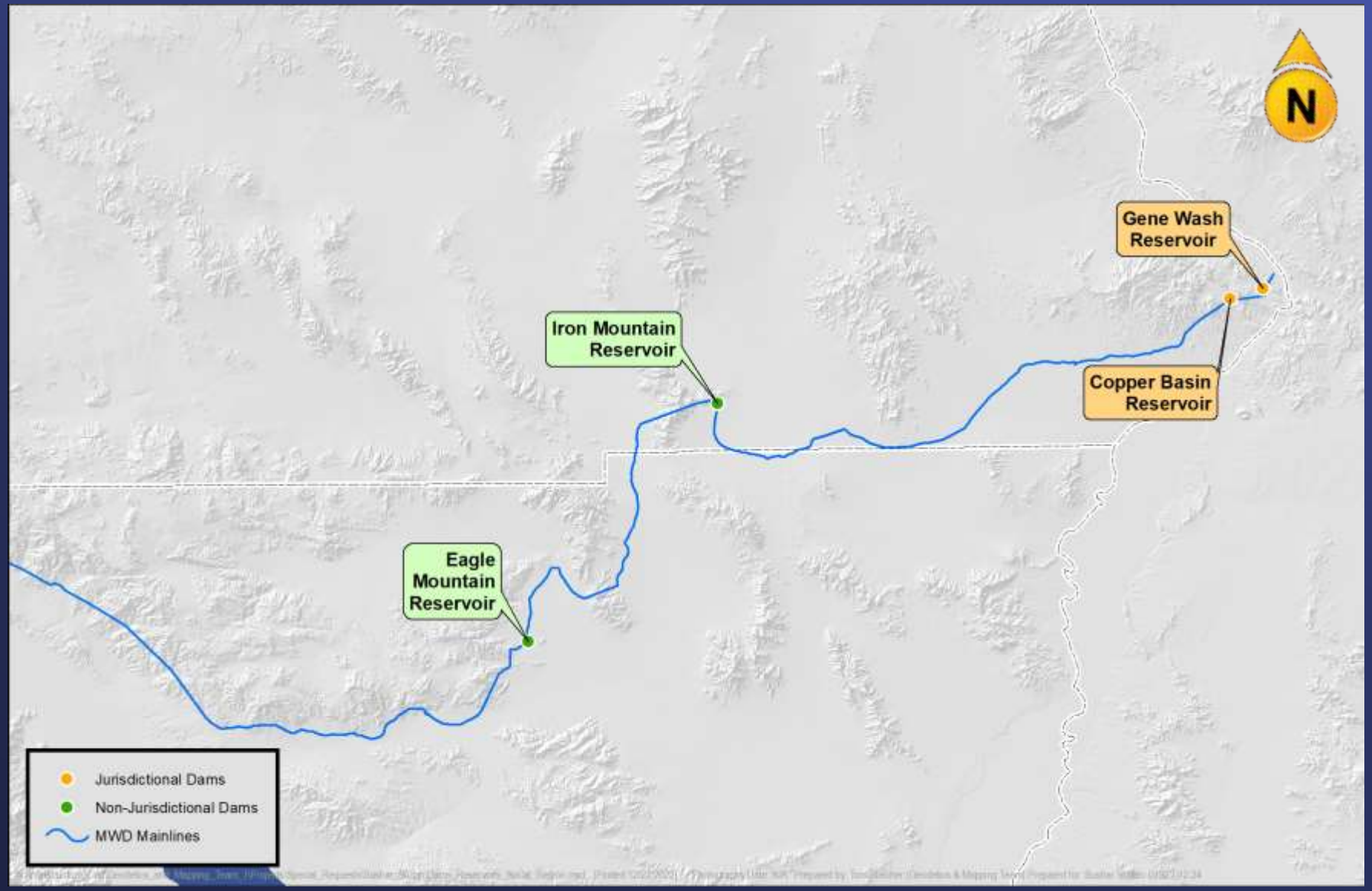
Reservoir Locations

Metropolitan's Dams & Reservoirs



Reservoir Locations

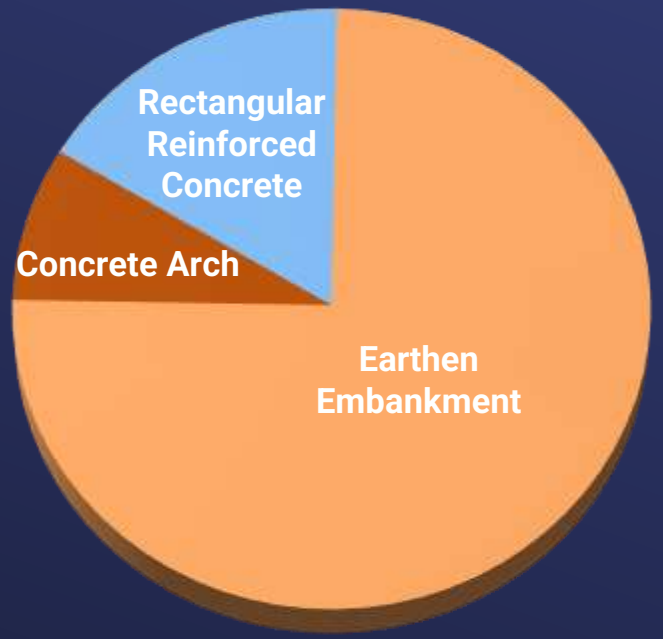
Metropolitan's Dams & Reservoirs

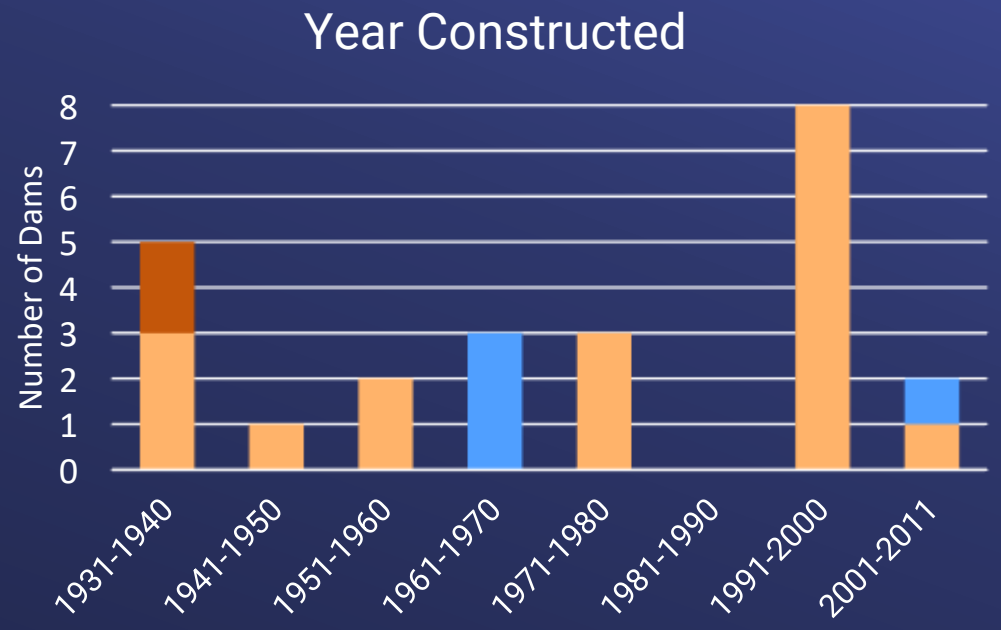


Metropolitan's Dams & Reservoirs

Jurisdictional Dam Portfolio

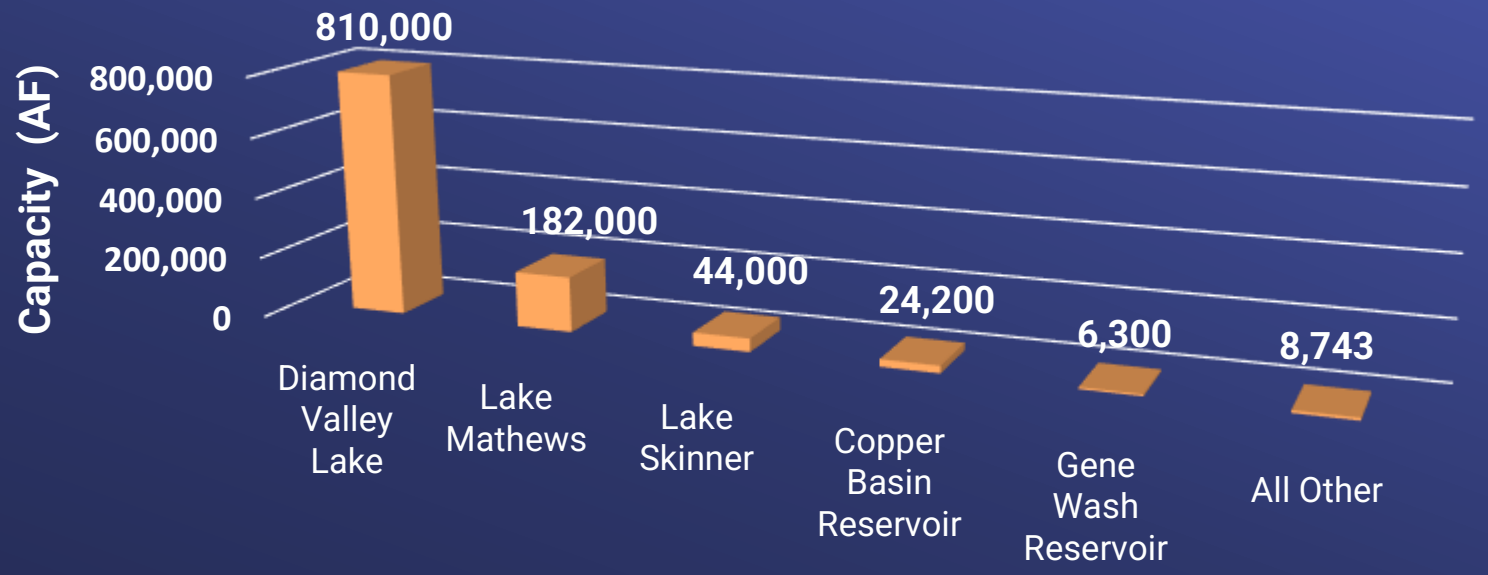
- Dam heights range from 15 to 284 feet
- Dam lengths range from 265 to 10,900 feet





Metropolitan's Dams & Reservoirs

Reservoir Capacities



Diamond Valley Lake

Diemer Basin No. 8

Metropolitan's Dams & Reservoirs

Dam Safety Regulations Updates

- California Senate Bill 92 in June 2017
  - Inundation Maps
  - Emergency Action Plans
- Spillway comprehensive assessments
  - Lake Mathews & Lake Skinner

Lake Skinner Spillway

Lake Skinner Spillway GPR Testing

Inundation Maps – Lake Mathews Example

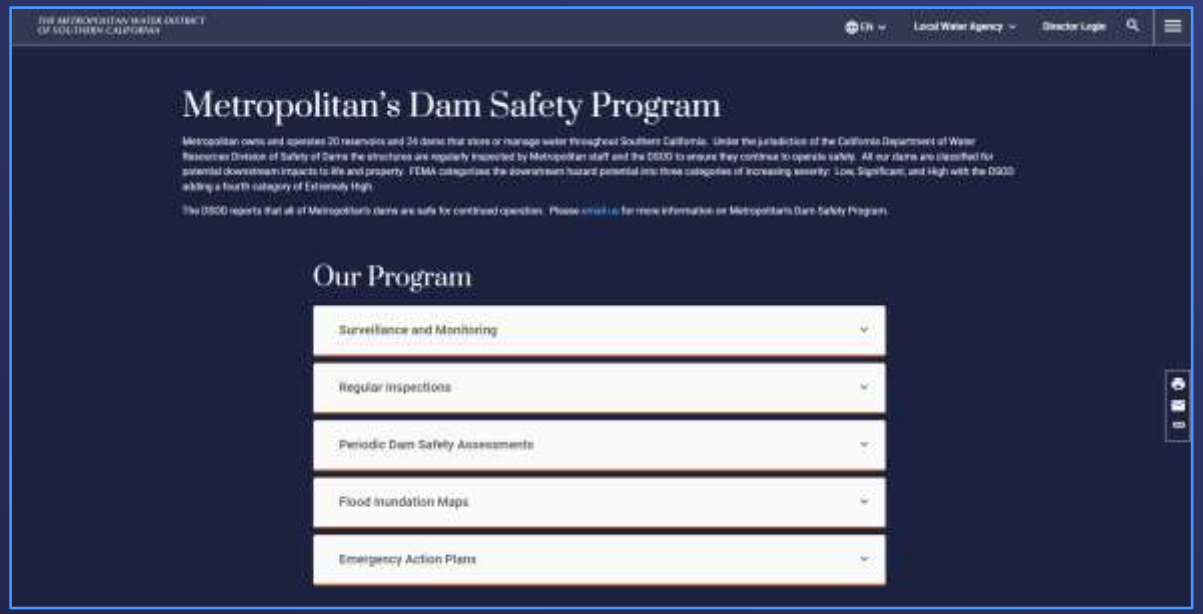
Metropolitan's Dams & Reservoirs

DSOD Inundation Map Web Application – Lake Mathews Main Dam

Metropolitan's Dams & Reservoirs

Emergency Action Plans (EAPs)

- Update EAPs per Cal OES requirements
- Outreach to local emergency agencies
- EAP updates & exercises
- 4 EAPs approved & 2 under Cal OES review
- Complete all EAP updates by 2024

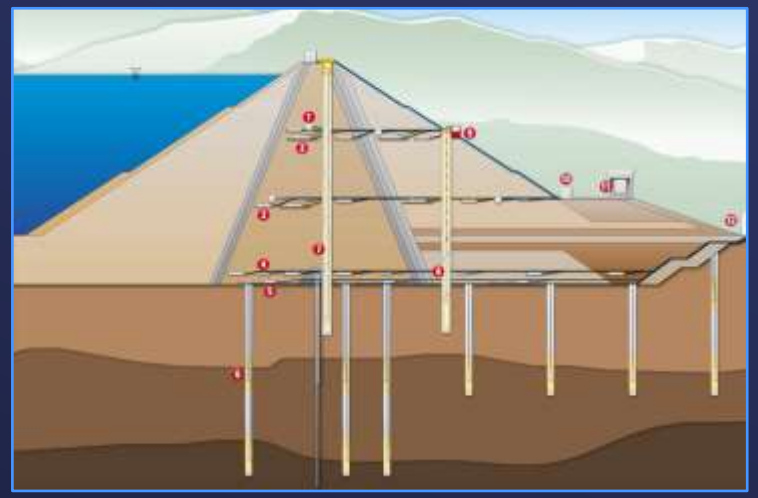


https://www.mwdh2o.com/how-we-plan/

Metropolitan's Dams & Reservoirs

Inspection & Monitoring Program

- Visual Inspections
  - Three Levels of Inspection:
    1 – by MWD staff in the presence of DSOD inspectors
    2 – by MWD staff monthly, quarterly or semi-annually
    3 – by MWD staff routinely
- Monitoring Instrumentation



Typical Dam Instrumentation Section

DVL Seepage Monitoring Station

Metropolitan's Dams & Reservoirs

Dam Safety Assessments

- Evaluate performance of dams & appurtenances
- Mandated by DSOD or initiated by staff
- Completed in-house or by consultants
- Identify necessary improvements

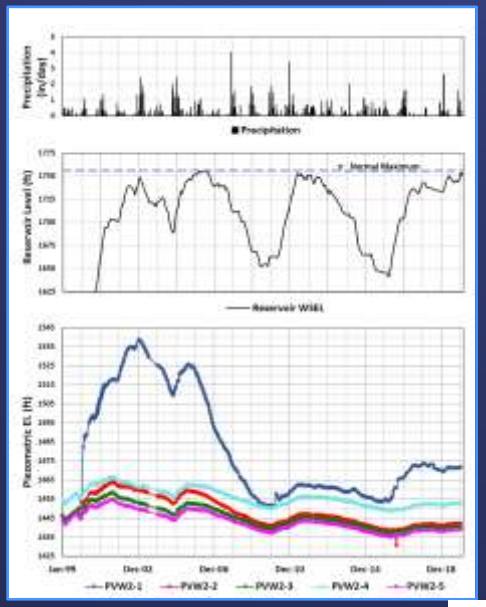
Copper Basin Dam

Metropolitan's Dams & Reservoirs

Dam Safety Initiatives

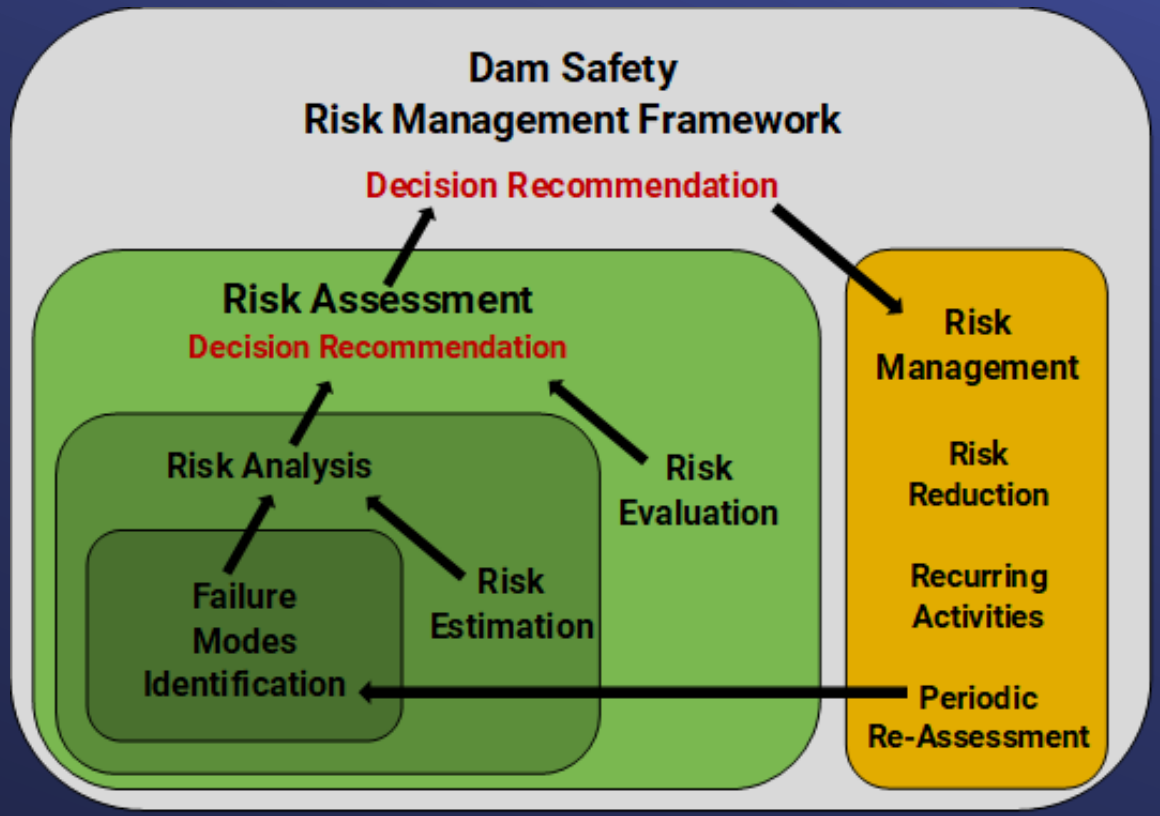
- Dam monitoring system upgrades
  - Initial installations at DVL & Garvey Reservoir
  - Board action - April 2023
    - Instrumentation & data acquisition
    - Data management & dashboarding

DVL Remote Monitoring Unit



Dam Safety Initiatives

- Industry standards and best practices
- DSOD anticipated protocols
- Dam Risk Assessments
  - Identify potential failure modes
  - Estimate risk
  - Risk reduction measures



Metropolitan's Dams & Reservoirs

Summary

- Complete dam monitoring systems upgrades at DVL & Garvey Reservoir by 2024
- Begin Dam Risk Assessments in 2023
- Planned Board Action for Copper Basin Discharge Valve Replacement contract award
- Continue work on EAPs, with completion by 2024
- Continue routine dam monitoring & reporting


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

- **Capital Investment Plan Quarterly Report for Period Ending March 2023**

Summary

The attached report provides a summary of actions and accomplishments on the Capital Investment Plan (CIP) during the third quarter of fiscal year 2022/23. 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 2023, the third quarter of fiscal year 2022/23, and the third quarter of the fiscal years 2022/23 and 2023/24 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 2023

Date of Report: 6/13/2023

The Metropolitan Water District of Southern California

Capital Investment Plan
Quarterly Report

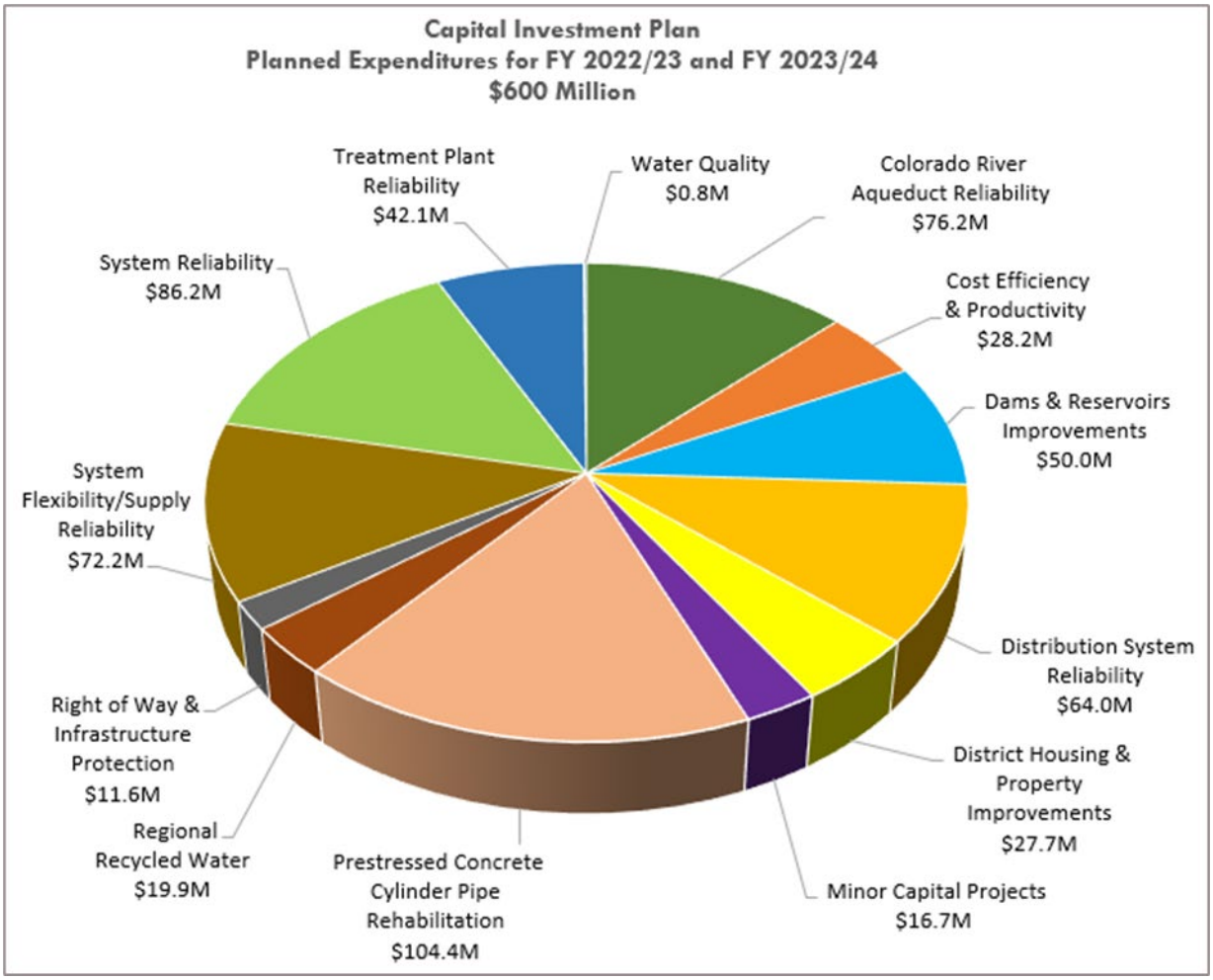
January - March 2023

Table of Contents

Capital Investment Plan for Fiscal Years 2022/23 & 2023/24

Metropolitan's total planned capital expenditures for Fiscal Years (FYs) 2022/23 and 2023/24 are $600 million. Figure 1 below shows the planned expenditures by program. In April 2022, the Board appropriated $600 million and 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 Capital Investment Plan (CIP) for FYs 2022/23 and 2023/24.

Figure 1: CIP for FY 2022/23 and FY 2023/24 by Program



[Cover photos: (left to right; top to bottom): *Second Lower Feeder PCCP Rehabilitation - Reach 3A* – laborers rig up a section of steel liner during rainy weather conditions; *La Verne Shops Building Completion - Stage 5* – machine shop electrical system installation; *Electromagnetic Inspections of PCCP Lines* – pipe diver removal at Sepulveda Feeder]

Executive Summary

This report provides a summary of the Capital Investment Plan (CIP) activities and accomplishments during the 3rd Quarter of Fiscal Year (FY) 2022/23, which ended in March 2023. CIP expenditures through the 3rd Quarter totaled $164.0 million and the expenditures are projected to stay near but under the planned expenditures through the end of the biennium. The CIP funds allocated during the quarter totaled $574.1 million, leaving approximately $25.9 million available to be allocated during the remainder of the current biennium.

During the quarter, eleven project-specific board actions were heard in open sessions. Four construction contracts and one procurement contract were awarded by the Board during the reporting period with a total contract amount of approximately $144.0 million. During the same time, two construction contracts were completed with a total of approximately $45.5 million in contract payments authorized, reflecting construction progress on projects such as Colorado River Aqueduct Pumping Plants Overhead Crane Replacement, Colorado River Aqueduct Replacement of Casa Loma Siphon Barrel No. 1, Etiwanda Pipeline North Relining – Stage 3, MWD HQ Building Fire Alarm & Smoke Control Improvements, Orange County Feeder Relining – Reach 3, San Diego Pipeline No. 1 Rainbow Tunnel Concrete Liner Rehabilitation, Second Lower Feeder PCCP Rehabilitation – Reach 3A, Weymouth Basins 5-8 & Filter Building No. 2 Rehabilitation, and Weymouth Battery Energy Storage System.

Board Action Summary

During the 3rd Quarter, board actions heard in open session included eleven project-specific actions summarized in Table 1 below. These actions awarded five contracts totaling approximately $144.0 million, authorized one new procurement agreement in an amount not-to-exceed approximately $1.5 million, authorized five new professional/technical services agreements for a total amount not-to-exceed approximately $8.1 million, authorized an access and permitting agreement in an amount not-to-exceed approximately $0.3 million, authorized an increase in change order authority for one existing construction contract totaling $0.5 million, and adopted a Mitigated Negative Declaration for a CIP project. 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

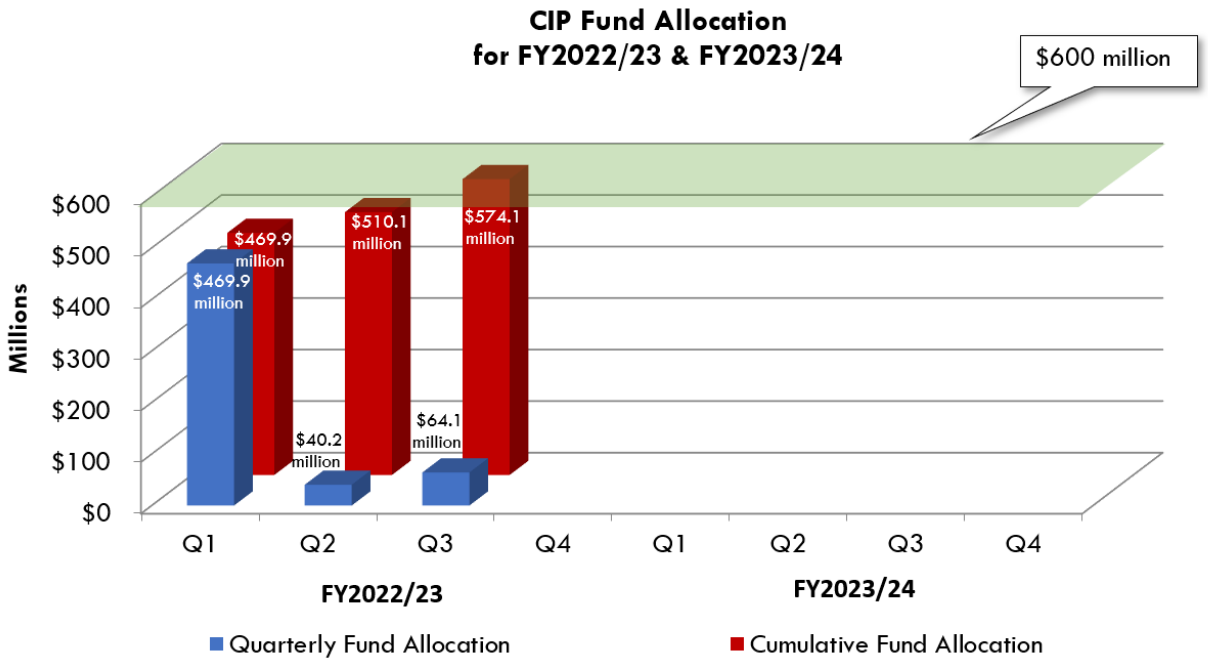
Month	Board Letter Item No.	Project	Action taken
January	7-1	Wadsworth Pumping Plant Bypass Pipeline	Awarded $14,820,500 construction contract
January	7-2	Second Lower Feeder PCCP Rehabilitation - Reach 3B	Awarded $68,847,000 construction contract and authorized an access and permitting agreement not to exceed $310,000
January	7-3	Perris Valley Pipeline Interstate 215 Tunnel Crossing	Awarded 59,489,720 construction contract, and authorized three agreements not-to-exceed $1,000,000, $3,500,000, and $250,000
January	7-4	Mills and Jensen Finished Water Reservoirs Rehabilitation	Authorized an agreement not-to-exceed $2,000,000
January	7-6	Foothill Feeder Valve Replacement	Authorized an unplanned project

Month	Board Letter Item No.	Project	Action taken
January	7-7	Payroll-Timekeeping Reimplementation	Authorized an agreement not-to-exceed $1,300,000
January	7-8	Headquarters Network Switch Replacement	Authorized a procurement agreement not-to-exceed $1,469,000
February	7-1	Rialto Pipeline Rehabilitation: Service Connection CB-11 20-inch Ball Valve Procurement	Awarded $407,800.33 procurement contract
March	7-4	CRA Pumping Plant Overhead Cranes Replacement	Authorized an increase of $500,000 in change order authority
March	7-6	Skinner Ozone Contactor Structure Rehabilitation	Awarded $394,534 construction contract
March	7-7	Copper Basin Discharge Valve Replacement and Access Road Improvements	Adopted Mitigated Negative Declaration and Mitigated Monitoring & Reporting Program

The previously referenced April 2022 board action appropriated $600 million to perform work on planned CIP 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. During the 3rd Quarter, the Board amended the CIP to include a new capital project to replace fourteen valves at seven blowoff locations along the Foothill Feeder to maintain water delivery reliability.

Figure 2 shows the allocation of the funds from Appropriation No. 15525 for this quarter and total for the current biennium through the quarter, which is approximately $574.1 million, leaving approximately $25.9 million available to be allocated during the remainder of the current biennium. This amount includes allocation of $10 million to the Minor Capital Projects Program, approximately $143.1 million for work authorized during the 3rd Quarter, and approximately $79.0 million reallocated back to the CIP Appropriation 15525. Details of the allocations for work authorized during the reporting quarter and from the prior biennium can be found in the **Project Actions** section.

Figure 2: CIP Fund Allocation from Appropriation No. 15525 – FY 2022/23 and FY 2023/24



*Numbers may not sum due to rounding

Information on construction and procurement contracts activities for the 3rd Quarter of FY 2022/23 is presented in the **Construction and Procurement Contracts** section of this report. Progress payments for these contracts in the 3rd Quarter totaled approximately $45.5 million and primarily reflect construction progress on Colorado River Aqueduct Pumping Plants Overhead Crane Replacement, Colorado River Aqueduct Replacement of Casa Loma Siphon Barrel No. 1, Etiwanda Pipeline North Relining – Stage 3, MWD HQ Building Fire Alarm & Smoke Control Improvements, Orange County Feeder Relining – Reach 3, San Diego Pipeline No. 1, Rainbow Tunnel Concrete Liner Rehabilitation, Second Lower Feeder PCCP Rehabilitation – Reach 3A, Weymouth Basins 5-8 & Filter Building No. 2 Rehabilitation, and Weymouth Plant Battery Energy Storage System.

Planned Expenditure and Budget

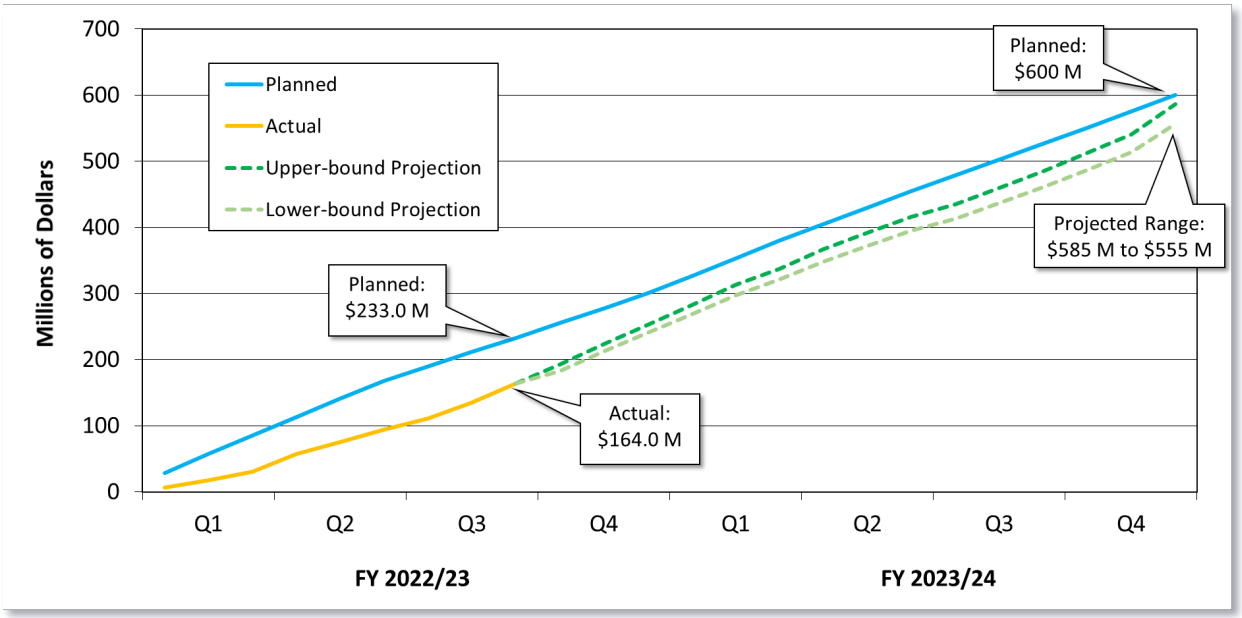
Table 2 and Figure 3 below show planned and actual expenditures for the biennium through the end of the 3rd Quarter of FY 2022/23, and the forecast of expenditures through the end of the current biennium, against planned expenditures for the same time interval. Actual expenditures through the 3rd Quarter of FY 2022/23 were approximately 70% of planned expenditures.

Table 2: Planned & Actual Expenditures for FYs 2022/23 & 2023/24

Quarter	Planned Expenditures (millions)	Actual Expenditures (millions)
FY 2022/23, Q1	$85.3	$30.4
FY 2022/23, Q2	$82.8	$63.4
FY 2022/23, Q3	$69.4	$70.2
Totals	**$233.0**	**$164.0**

* Numbers may not sum due to rounding.

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



As shown in Figure 3, the total planned expenditures in the current biennium are $600 million. The projected expenditures for the biennium are currently projected to be between $555 million and $585 million with the actual expenditures tracking close to the planned expenditures during the 3rd Quarter of FY 2022/23. This negative variance below the planned expenditures for the first three quarters is mainly due to a concerted effort during the last quarter to accelerate the work that was planned for the 1st Quarter of FY 2022/23, including the work on the drought projects; staff redeployment to work on non-CIP projects such as Pure Water Southern California; and shift in the timing of the contract awards and delays in completing some construction and procurement contracts due to difficulties in obtaining permits within the planned timeline, equipment/materials delivery delays due to manufacturing and supply chain issues, and other factors that add time to awarding and completing contracts.

Grant Funding of Capital Projects

This section provides information on select grants and other outside sources of funds that Metropolitan receives to support capital projects. The expenditures related to these outside funding sources will be reported in subsequent quarters as the funds are received and expenditures are recorded.

Pure Water Southern California

In December 2022, Metropolitan's Board authorized the General Manager to use $80 million in project funding from the State Water Resources Control Board (SWRCB) to commence activities related to the initiation of the Pure Water Southern California program. Per AB 179, the $80 million will be allocated directly to Metropolitan in one lump sum payment no later than January 1, 2024, to support the design activities for the program. Funds are available for expenditure until June 30, 2026. During the reporting quarter, a funding agreement between Metropolitan and SWRCB was drafted, and the agreement is anticipated to be executed next quarter. A lump sum disbursement of the funds is anticipated to be made to Metropolitan in the next quarter. Staff anticipates that the State funds will be used to support the environmental planning and implementation phases of the program.

Drought Mitigation Projects

In December 2022, Metropolitan's Board adopted a resolution to accept $50 million in state funding from the California Department of Water Resources to support Metropolitan's drought mitigation projects. The Board also designated the Group Manager of Engineering Services to be the signatory to execute actions related to the funds. The California Department of Water Resources (DWR) will administer the funds and release the reimbursement after Metropolitan invoices expenses. Per AB 211, the $50 million fund will be available for encumbrance or expenditure until June 30, 2024, and five percent of this amount may be used for administrative costs by DWR. From the state-allocated amount, it allocated to Metropolitan $47.5 million to improve and expand its infrastructure to make its entire jurisdiction resilient to fluctuating water supplies from each of its imported water sources and to allow conveyance of water throughout all its jurisdiction. Unlike the funds received for Pure Water discussed above, under this grant, staff will be required to submit invoices to DWR in order to receive reimbursement of expenditures that comply with the grant requirements. During the reporting quarter, a funding agreement between Metropolitan and DWR was drafted, and the agreement is anticipated to be executed next quarter. The funds are planned to be used for capital activities only.

Major Capital Programs Overview

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

- Program
- Project Group/Appropriation
- Project

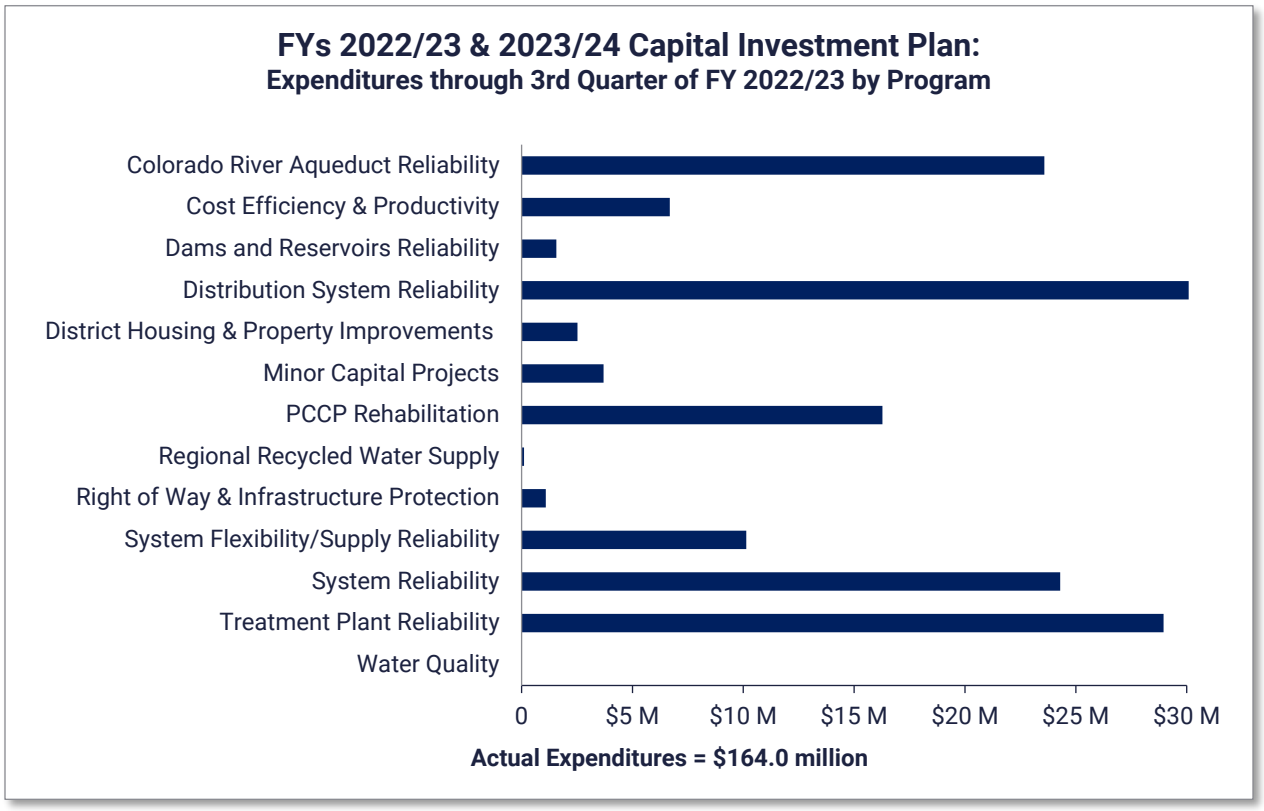
Metropolitan's CIP is comprised of 13 programs, which capture all projects within the CIP. The 13 capital programs are listed below in alphabetical order. Programs are comprised of one or more project groups/appropriations, and project group/appropriations are comprised of one or more projects. The status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

For the current biennium, the CIP includes over 37 project groups, 60 planned appropriations, and 447 planned projects (excluding Minor Capital Projects). 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 17 at the end of this report.

Figure 4 below shows actual expenditures for the 13 capital programs for 3rd Quarter of FY 2022/23.

Figure 4: Biennium-to-date Actual Expenditures through 3rd Quarter FY 2022/23



Major Capital Project Programs – Highlights

This section provides 3rd Quarter highlights for the 12 Major Capital Projects Programs; the Minor Capital Projects Program is highlighted in its own section of this report. Status is provided for selected projects within each Major Capital Projects Program. The selected projects typically achieved major milestones during the 3rd Quarter of FY 2022/23 or are scheduled to achieve major milestones in the next quarter.

Table 3: Major Capital Projects Programs

Program	Project
Colorado River Aqueduct (CRA) Reliability	CRA Conduit Structural Protection
Cost Efficiency & Productivity	mwdh2o.com Redesign
Dams and Reservoirs Improvements	Garvey Reservoir Rehabilitation
Distribution System Reliability	Etiwanda Pipeline Lining Replacement - Stage 3
District Housing & Property Improvements	Program highlights only
Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation	Second Lower Feeder PCCP Rehabilitation - Reach 3A
Regional Recycled Water Supply	Program highlights only
Right-of-Way & Infrastructure Protection	Program highlights only
System Flexibility/Supply Reliability	Badlands Tunnel Surge Tank Facility
System Reliability	Datacenter Modernization Upgrade – Phase 2
Treatment Plant Reliability	Weymouth Basins Nos. 5-8 & Filter Building No. 2 Rehabilitation
Water Quality	Program highlights only

Colorado River Aqueduct (CRA) Reliability Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $23.58 million

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.

Program Highlights (3rd Quarter)

Accomplishments

- Continued construction activities for the following contracts
  - CRA Domestic Water Treatment System Upgrades at all five pumping plants
    - i) Initiated installation of electrical conduits and pull boxes at Gene Pumping Plant
    - ii) Continued installation of electrical conduits and pull boxes at Iron Mountain Pumping Plant
    - iii) Continued submittals for the water treatment equipment procurement with expected deliveries in two shipments, in late 2022 and early 2024, to coincide with the construction schedule
  - CRA Mile 12 Flow Meter Upgrades
    - i) Completed installation of above ground electrical conduits and junction boxes
    - ii) Continued installation of security system, solar panel array equipment, and control panels
    - iii) Initiated start-up and testing of equipment
  - CRA Pumping Plants Overhead Cranes Replacement
    - i) Initiated modifications to the new crane at Eagle Mountain Pumping Plant to accommodate differing site conditions
    - ii) Continued fabrication of the crane assembly for Iron Mountain Pumping Plant
  - CRA Pumping Plant Sump System Rehabilitation
    - i) Under Metropolitan's response to COVID-19, suspended on-site construction and continued submittals and fabrication activities
    - ii) Continued fabrication of remaining pumps, piping, and other materials to be furnished for Hinds Pumping Plant
- Continued final design of the following projects
  - Copper Basin Reservoir Discharge Valve Structure Rehabilitation
  - CRA Pumping Plant Sump System Equipment Installation
  - CRA Pumping Plant Village Utility Replacement
  - Eagle Mountain Pumping Plant Village Paving Replacement
  - Gene Communication Reliability Upgrades
- Continued preliminary design of the following projects
  - Black Metal Mountain 2.4 kV Electrical Power Upgrades
  - CRA Desert Region Security Improvements
  - CRA Main Transformer Replacement
  - Hinds Pumping Plant Discharge Valve Platform Replacement
- CRA 6.9 kV Power Cable Replacement
  - Continued to evaluate and establish the course of action and construction repackaging options of the remaining outstanding contract work items
  - A construction contract was awarded under General Manager's authority to complete remaining terminations work including four pump units at Hinds Pumping Plant.
- CRA Conduits Structural Protection upgrades
  - Completed final design
  - Advertised a construction bid package and opened bids

- CRA Conveyance System Flow Level Sensor Installation
  - Completed final design
  - Advertised a construction bid package and opened bids
- CRA Main Pump Motor Rehabilitation
  - Continued the study to install variable frequency drive pumps at Gene and Intake Pumping Plants
  - Continued design of recirculation line up to the connection point at Eagle Mountain Pumping Plant
  - Continued preparation of procurement package for the pilot exciter system installation at Gene Pumping Plant
- CRA Main Transformer Replacement
  - Continued preliminary design and preparation of procurement package
- CRA Storage Building Replacement at Hinds, Eagle Mountain, and Iron Mountain
  - Completed final design and advertised a construction bid package
- Hinds Pumping Plant Village Paving Replacement
  - Opened bids for a construction bid package

Upcoming Activities

Upcoming work for the next quarter will include:

- Award the following construction contracts
  - CRA Conduit Structural Protection Upgrades
  - CRA Conveyance System Flow Level Sensor Installation
  - CRA Storage Building Replacement at Hinds, Eagle Mountain, and Iron Mountain
  - Hinds Pumping Plant Village Paving Replacement
- Continue construction activities planned for the following contracts
  - CRA Domestic Water Treatment System Upgrades at all five CRA pumping plants
  - CRA Mile 12 Flow Meter Upgrades
  - CRA Pumping Plants Overhead Crane Replacement
- Continue final design of the following projects
  - Copper Basin Reservoir Discharge Valve Structure Rehabilitation
  - CRA Pumping Plant Sump System Equipment Installation
  - Gene Communication Reliability Upgrades
- Continue preliminary design of following projects
  - Black Metal Mountain 2.4 kV Electrical Power Upgrades
  - CRA Desert Region Security Improvements
  - CRA Main Transformer Replacement
  - Hinds Pumping Plant Discharge Valve Platform Replacement
- CRA Main Pump Motor Rehabilitation
  - Continue the 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
  - Complete preparation of a procurement package for the pilot exciter system installation at Gene Pumping Plant
- CRA Main Transformer Replacement
  - Continue preliminary design and preparation of a procurement package
- CRA Pumping Plants 2.3 kV Switchrack Rehabilitation
  - Continue study for four CRA pumping plants
  - Continue preliminary design of a pilot project at Iron Mountain Pumping Plant
- CRA Pumping Plant Sump System Rehabilitation
  - Continue fabrication activities and receive final equipment deliveries for Hinds Pumping Plant

- Eagle Mountain Pumping Plant Village Paving Replacement
  - Advertise a construction bid package

CRA Reliability Program:
CRA Conduit Structural Protection

Total Project Estimate:
$2.6 million

Total Project Cost to Date:
$15.2 million

This project will install new reinforced concrete slab protection crossings over portions of the CRA conveyance system as well as other conduit protective measures and other upgrades such as structural pads to support heavy equipment operations and access road realignments to support maintenance activities.

Phase	Final Design
% Complete for Current Phase	100%
Current Phase Authorized	February 2020
Estimated Construction Contract Award Date	April 2023

The construction bid package was advertised and bids opened. In the upcoming quarter, the construction contract will be awarded and submittal review will begin.

CRA Conduit Structural Protection project sites

Cost Efficiency and Productivity Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $6.69 million

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.

Program Highlights (3rd Quarter)

Accomplishments

- CIP Budget System Improvements
  - RFP published and vendor selection completed
- DVL to Lake Skinner Trail
  - Completed 90% design
- Enterprise Content Management Phase II
  - RFP published
- Oracle Database Upgrade
  - Initiated execution of the migration plan
- Payroll-Timekeeping Reimplementation
  - Board authorized an agreement for the reimplementation
- WIFI Implementation project
  - Received and evaluated proposals for the request for bids

Upcoming Activities

Upcoming work for the next quarter will include:

- Battery Energy Storage Systems at Jensen, Weymouth, and Skinner Plants
  - Continue construction
- CIP Budget System Improvements
  - Authorize agreement with a consultant to design, develop, and deploy
- DVL to Lake Skinner Trail
  - Complete final design and advertise a construction bid package
- Enterprise Content Management Phase II
  - Complete vendor selection
- Oracle Database Upgrade
  - Continue database migration
- Payroll-Timekeeping Reimplementation
  - Begin design after agreement authorization
- Real Property Group Business System Replacement
  - Continue system replacement
- WINS Water Billing System Upgrade
  - Continue system upgrade

Cost Efficiency & Productivity Program: mwdh2o.com Redesign

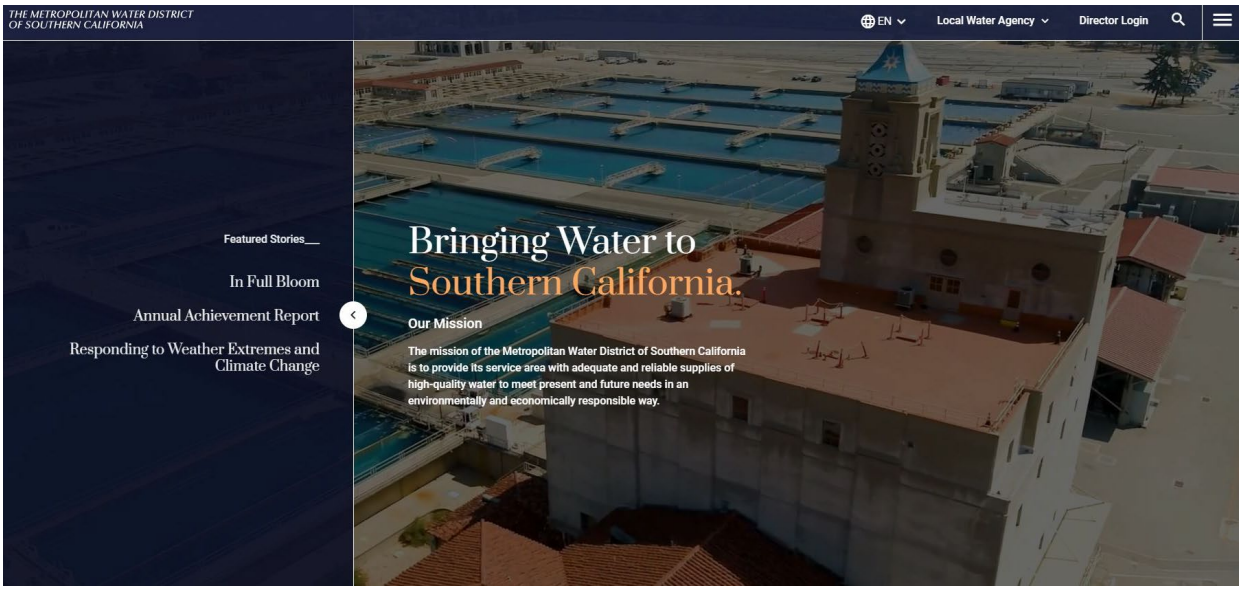
Total Project Estimate:
$1.86 million

Total Project Cost to Date:
$0.96 million

This project will redesign and incorporate the implementation of a content management system for the current mwdh2o.com website. This project will migrate this website and four other MWD external facing websites (SocalWaterDialogue, MWDInnovates, BeWaterWise, and educational website) to be hosted on the cloud for increased security.

Phase	Deployment
% Complete for Current Phase	85%
Current Phase Authorized	May 2019
Estimated Deployment Completion Date	September 2023

The mwdh2o.com and SocalWaterDialogue websites have been migrated and are currently operating 100% on the cloud. In the upcoming quarter, migration will begin for BeWaterWise, MWDInnovates, and educational websites.



Redesigned mwdh2o.com website

Dams and Reservoirs Improvements Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $1.57 million

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.

Program Highlights (3rd Quarter)

Accomplishments

- Diamond Valley Lake Dam Monitoring System Upgrades
  - Completed evaluation of the consultant's proposed technical approach and methodology for design and implementation of the dam monitoring system upgrades
- Garvey Reservoir Dam Monitoring System Upgrades
  - Completed evaluation of the consultant's proposed technical approach and methodology for design and implementation of the dam monitoring system upgrades
- Garvey Reservoir Rehabilitation
  - Completed preliminary design
- Lake Skinner Outlet Tower Seismic Upgrade
  - Finalized the scope of work required for the structural analysis of the outlet tower

Upcoming Activities

Upcoming work for the next quarter will include:

- Diamond Valley Lake Dam Monitoring System Upgrades
  - Authorize a professional services agreement for design, procurement, and integration of the dam monitoring system
- Garvey Reservoir Dam Monitoring System Upgrades
  - Authorize a professional services agreement for design, procurement, and integration of the dam monitoring system
- Garvey Reservoir Rehabilitation
  - Authorize a professional services agreement for final design
- Lake Mathews and Lake Skinner Dam Monitoring System Upgrades
  - Initiate task orders with consultants to begin preliminary design
- Lake Skinner Outlet Tower Seismic Upgrade
  - Authorize a professional services agreement to perform the detailed structural analysis of the outlet tower

Dams and Reservoirs Improvements Program: Garvey Reservoir Rehabilitation

Total Project Estimate:
$98.5 million

Total Project Cost to Date:
$3.0 million

This project will refurbish aging facilities at the Garvey Reservoir site and restore them to reliable operating condition.

Phase	Preliminary Design
% Complete for Current Phase	95%
Current Phase Authorized	March 2021
Estimated Final Design Start Date	April 2023

The preliminary design was completed. In the upcoming quarter, a board action is planned to amend an existing consulting services agreement to begin final design.

Exterior view of the Garvey Reservoir junction structure

Distribution System Reliability Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $45.10 million

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.

Program Highlights (3rd Quarter)

Accomplishments

- Rainbow Tunnel Concrete Liner Rehabilitation
  - Completed construction
- Rialto Pipeline Rehabilitation at STA 2986+30
  - Awarded a procurement contract for a triple offset ball valve to rehabilitate Service Connection CB-11
- San Jacinto Diversion Structure Slide Gates V-01, V-02, V-03, and V-04 Rehabilitation
  - Awarded procurement contract for three slide gates

Upcoming Activities

Upcoming work for the next quarter will include:

- Continue construction activities for:
  - Etiwanda Pipeline North Relining – Stage 3
  - La Verne Shops Building Completion – Stage 5
  - Lake Mathews Wastewater System Replacement
  - Orange County Feeder Relining – Stage 3
  - Sepulveda, West Valley, and East Valley Feeders Interconnection Electrical Upgrades
- Casa Loma Siphon Barrel No. 1 Seismic Upgrade
  - Complete construction
- Rialto Pipeline Rehabilitation at STA 2986+30
  - Continue design and valve procurement

Distribution System Reliability Program:
Etiwanda Pipeline Lining Replacement - Stage 3

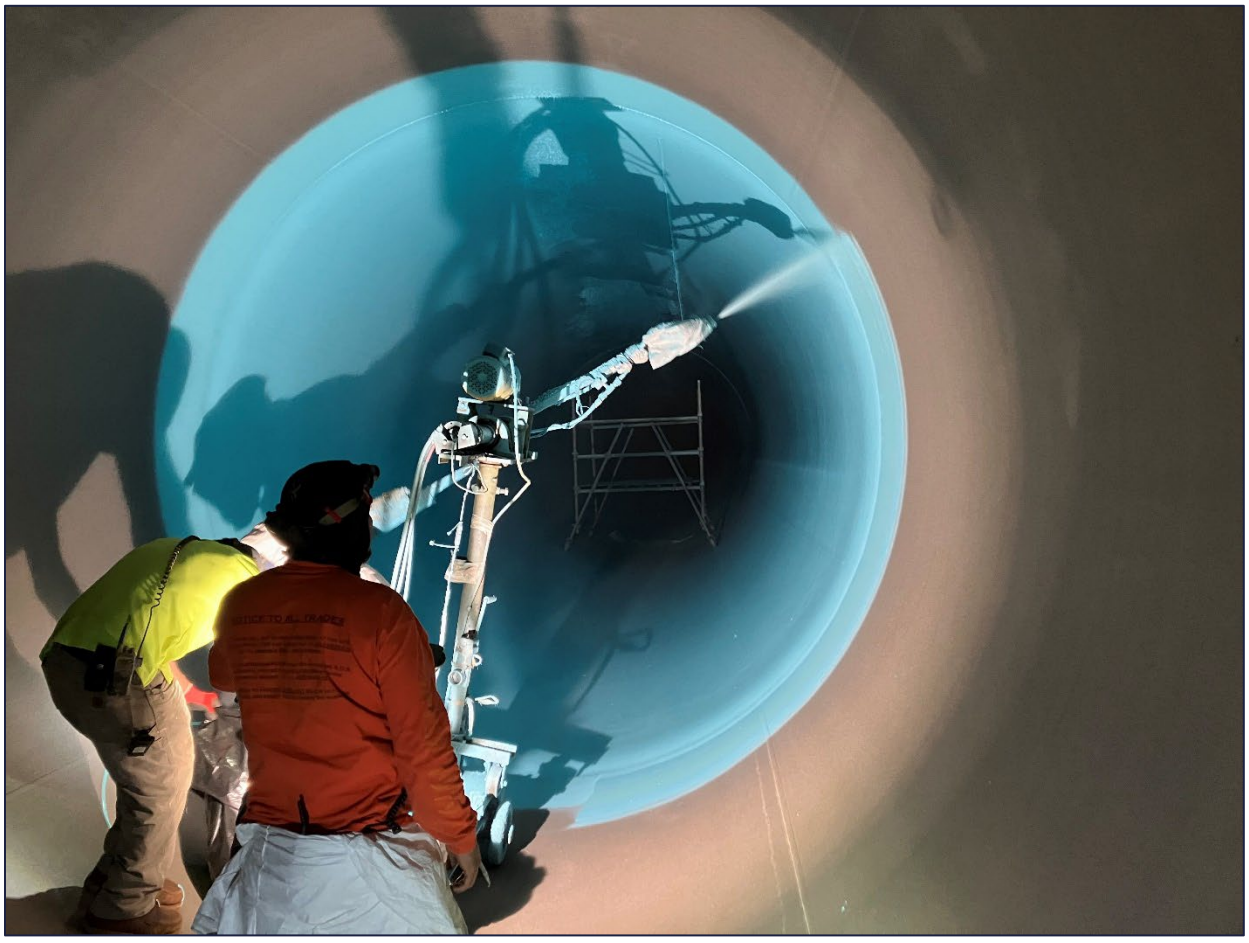
Total Project Estimate:
$37.5 million

Total Project Cost to Date:
$26.8 million

This project will replace approximately 2.5 miles of the deteriorated internal mortar lining with a flexible polyurethane lining that could better withstand the significant changes in pressures experienced by the pipeline when operating the Etiwanda Hydroelectric Plant. This project will also reline approximately 1,300 feet of pipe with steel liner.

Phase	Construction
% Complete for Construction	68%
Contract Awarded	July 2022
Estimated Construction Completion Date	August 2023
Contract Number	1891

The contractor completed removal of all mortar lining and began installing steel liner. Half mile portion of the pipeline with epoxy lining was replaced with polyurethane liner. In the upcoming quarter, the contractor will continue to install steel liner and apply polyurethane lining to the remaining two miles.



Contractor applying polyurethane liner to interior of pipe

District Housing & Property Improvements Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $2.52 million

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.

Program Highlights (3rd Quarter)

Accomplishments

- Completed an amendment to an existing professional services agreement to perform final design of the housing, village enhancements, and the kitchen and lodging improvements at four CRA pumping plants – Hinds, Eagle Mountain, Iron Mountain and Gene Pumping Plants

Upcoming Activities

Upcoming work for the next quarter will include:

- Initiate evaluation of supplementary housing alternatives in support of the housing and property improvements program

Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $16.28 million

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.

Program Highlights (3rd Quarter)

Accomplishments

- Allen-McColloch Pipeline:
  - Completed preliminary design for rehabilitation of 8.9 miles of PCCP pipeline, including identification of proposed pipe access excavation pits
  - Continued evaluating a member agency cost-sharing proposal that may facilitate rehabilitation work
- Calabasas Feeder:
  - Continued validating assumptions on pipeline hydraulic capacity necessary to reline the entire approximately nine-mile-long Calabasas Feeder PCCP pipeline
- PCCP Rehabilitation Valve and Equipment Storage Building:
  - Completed removal of the concrete pad formwork for the new valve storage building
  - Continued erecting primary structural framing and installation of utilities
- Second Lower Feeder:
  - Reach 3A – Completed installation of new steel liner sections, continued grouting, and began mortar lining: This project will reline approximately 1.2 miles of Second Lower Feeder PCCP pipeline from Oak Street Pressure Control Structure south through City of Rolling Hills Estates to the Palos Verdes Reservoir.
  - Reach 3B – Awarded a construction contract and began reviewing contractor submittals. This project will reline approximately 3.6 miles of Second Lower Feeder PCCP pipeline from the intertie with Sepulveda Feeder south to Oak Street PCS, through the cities of Torrance, Los Angeles, and Lomita, and replace three 48-inch diameter sectionalizing valves at the intertie with Sepulveda Feeder.
  - Isolation Valve Procurement – Received the third and fourth of ten 54-inch-diameter conical plug valves. Continued fabrication of the remaining 54-inch valves. To date, Metropolitan has received seven of thirteen large-diameter conical plug valves and actuators, including three 48-inch and the four aforementioned 54-inch valves.
- Sepulveda Feeder:
  - Reach 1 – Completed constructability review and continued final design to rehabilitate approximately three miles of Sepulveda Feeder PCCP pipeline, 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.
  - Reach 2 – Completed constructability review and continued final design to rehabilitate approximately 3.8 miles of Sepulveda Feeder PCCP pipeline, from the Dominguez Gap Channel south to the intertie with Second Lower Feeder, through the cities of Torrance and Los Angeles.
  - North Reach – Continued preliminary design of the northern 20-mile portion of the Sepulveda Feeder, including both steel and PCCP portions of the pipeline and appurtenances.
- Electromagnetic PCCP Inspections
  - Completed PipeWalker inspection of portions of Yorba Linda Feeder
  - Completed PipeDiver inspection of portions of Sepulveda Feeder.
  - Identified three locations in the North Reach of Sepulveda Feeder that require urgent relining

Upcoming Activities

Upcoming work for the next quarter will include:

- Allen-McColloch Pipeline:
  - Continue evaluating member agency's cost-sharing proposal
  - Initiate final design on a selected portion of the pipeline
- Calabasas Feeder:
  - Complete validation of pipeline hydraulic capacity assumptions and initiate preliminary design.
- PCCP Rehabilitation Valve and Equipment Storage Building:
  - Erect the pre-engineered metal building at the Lake Mathews site including all framing, roofing, and wall panels. Begin installation of fire sprinkler systems.
- Second Lower Feeder:
  - Reach 3A – Complete construction
  - Reach 3B:
    i) Continue reviewing contractor submittals
    ii) Initiate procurement and fabrication of materials
  - Isolation Valve Procurement:
    i) Continue fabrication of remaining valves
- Sepulveda Feeder:
  - Reach 1:
    i) Continue final design
    ii) Initiate permitting process for long-lead permits from Caltrans, City of Los Angeles, and City of Torrance
  - Reach 2:
    i) Continue the permitting process
    ii) Continue final design
  - North Reach:
    i) Continue preliminary design
    ii) Initiate design of urgent relining at three locations

PCCP Rehabilitation Program:
Second Lower Feeder PCCP Rehabilitation - Reach 3A

Total Project Estimate:
$23.0 million

Total Project Cost to Date:
$14.4 million

This project will rehabilitate approximately 1.2 miles of PCCP segments of the Second Lower Feeder within the City of Rolling Hills Estates with steel liner. The project will also develop a pipe access site into a maintenance hole for improved egress and relocate one air release and vacuum valve.

Phase	Construction
% Complete for Construction	82%
Current Phase Authorized	May 2022
Estimated Construction Completion Date	June 2023
Contract Number	1903

The contractor completed pipe installation, welding, and grouting; and commenced the cement mortar lining. In the upcoming quarter, the contractor will complete the construction, which will include cement mortar lining, install the closure pieces, relocate the air release and vacuum valve assemblies, rehabilitate the maintenance holes, construct a new maintenance hole, backfill, and restore the construction site to previous condition.

Inspection of new steel liner circumferential welds

Regional Recycled Water Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $0.11 million

Program Information: The Regional Recycled Water 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.

Program Highlights (3rd Quarter)

Accomplishments

- Advanced Water Treatment Demonstration Facility
  - Continued baseline testing and monitoring of the secondary membrane bioreactor (MBR)
  - Continued with site and equipment improvements to support the secondary MBR testing
  - Conducted a two-day workshop with Independent Scientific Advisory Panel (ISAP) to provide an update on the secondary MBR testing results and the ongoing nitrogen management studies led by the Los Angeles County Sanitation Districts, and to present the proposed plan for optimization of the tertiary MBR operations
  - Prepared the draft tertiary MBR testing report for ISAP review
  - Submitted the draft tertiary MBR testing report to the State Water Resource Control Board to fulfill grant funding requirements for final reimbursement
- Direct Potable Reuse (DPR) Demonstration Facility
  - Completed literature review of potential DPR technologies
  - Presented potential options for DPR treatment processes and pilot testing strategy to ISAP for feedback
  - Initiated the development of a bench testing plan for potential DPR processes

Upcoming Activities

Upcoming work for the next quarter will include:

- Advanced Water Treatment Demonstration Facility
  - Complete baseline testing and monitoring of the secondary MBR system
  - Submit the draft tertiary MBR testing report to ISAP for review
  - Develop a tertiary MBR optimization strategy to close the data gap and facilitate full-scale program implementation
  - Update record drawings to incorporate recent site improvements
- Direct Potable Reuse (DPR) Demonstration Facility
  - Evaluate options to procure membrane filtration (MF) and reverse osmosis (RO) skids to perform additional pilot testing to evaluate early delivery treatment train options
  - Initiate and continue development of bench scale and pilot testing plans for DPR implementation
  - Incorporate ISAP comments on bench/pilot testing and initiate procurement process for equipment to modify the AWT Demonstration Facility to allow for testing of potential future DPR processes

Right-Of-Way and Infrastructure Protection Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $1.09 million

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.

Program Highlights (3rd Quarter)

Accomplishments

- Western San Bernardino County Region – Stage 2
  - Continue final design

Upcoming Activities

Upcoming work for the next quarter will include:

- Riverside and San Diego County Region – Stage 1
  - Final design for urgent rehabilitation of one site along San Diego Pipeline No. 4 – address review comments
- Western San Bernardino County Region – Stage 2
  - Complete final design

System Flexibility/Supply Reliability Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $10.13 million

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. Projects under this program address climate change affecting water supply, regional drought, and alternative water sources for areas dependent on State Project Water.

Program Highlights (3rd Quarter)

Accomplishments

- Awarded the following construction contracts
  - Perris Valley Pipeline Interstate 215 Tunnel Crossing
  - Wadsworth Pumping Plant Bypass Pipeline
- Sepulveda Feeder Pump Stations
  - Developed progressive design-build contract documents
  - Prepared a conceptual design report
  - Issued Request for Qualifications No. 1340 to solicit proposals for Stage 1 progressive design-build services
- West Area Supply and Delivery Alternatives
  - Initiated a series of workshops with member agencies to further develop and evaluate alternatives for a potential east-west conveyance

Upcoming Activities

Upcoming work for the next quarter will include:

- Continue progress on four individual projects to allow the delivery of water from Diamond Valley Lake to the Rialto Pipeline
  - Badlands Tunnel Surge Tank Facility: Complete final design and advertise for bid
  - Inland Feeder/Rialto Pipeline Intertie: Complete final design and advertise for bid
  - Inland Feeder/San Bernardino Valley Municipal Water District (SBVMWD) Foothill Pump Station Intertie
    - i) Continue final design
    - ii) Award a valve procurement contract
  - Wadsworth Pumping Plant Bypass Pipeline: Continue construction
- Sepulveda Feeder Pump Stations
  - Receive and evaluate statements of qualifications from prospective design-build entities

System Flexibility/Supply Reliability Program: Badlands Tunnel Surge Tank Facility

Total Project Estimate:
$16.6 million

Total Project Cost to Date:
$1.7 million

This project will construct an above grade surge tank to protect the Badlands Tunnel on the Inland Feeder from excessive negative pressures, which could occur when the pumps at the Wadsworth Pumping Plant trip offline during Diamond Valley Lake to Inland Feeder pumping operation. This project is part of the Rialto Pipeline Water Supply Reliability Improvements, a series of drought resiliency projects.

Phase	Final Design
% Complete for Current Phase	95%
Current Phase Authorized	December 2021
Estimated construction contract award date	September 2023

The 90% final design package was reviewed, and the review comments were incorporated. In the upcoming quarter, the final design package will be completed and advertised for bid.

Badlands Tunnel south portal vault location on Inland Feeder

System Reliability Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $24.29 million

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.

Program Highlights (3rd Quarter)

Accomplishments

- Control System Upgrade – Phase 3
  - Conducted field investigation for pilot project at Mills Water Treatment Plant
- Headquarters Fire Alarm & Smoke Control Upgrades
  - Continued construction of the smoke control portion of the project
- Headquarters Network Switch Replacement
  - Advertised a request for bids
- Headquarters Security Upgrade Stage 3
  - Issued notice to proceed and began construction of security upgrades

Upcoming Activities

Upcoming work for the next quarter will include:

- AMR System RTU and Radio Modem Upgrade
  - Receive radio modem equipment
- Applications-Servers Upgrade
  - Continue to migrate and upgrade applications in batches
- Datacenter Backup Infrastructure Upgrade
  - Complete vendor selection
- Desert Microwave Site Tower Upgrades
  - Conduct customer witnessed test
- Headquarters Fire Alarm & Smoke Control Upgrades
  - Continue work on the smoke control portion of the project
- Headquarters Security Upgrade Stage 3
  - Continue construction of exterior building security upgrade
- Maximo Mobile Upgrade
  - Continue deployment of devices to field staff
- MWD HQ Network Switch Replacement
  - Receive equipment delivery, followed by installation and configuration.
- Security Operations Center MWD Cyber Security Upgrade – Stage 1
  - 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
  - Complete Security Operations Center cyber security upgrades

System Reliability Program:
Datacenter Modernization Upgrade – Phase 2

Total Project Estimate:
$10.6 million

Total Project Cost to Date:
$10.5 million

This project will improve Metropolitan's datacenter system resiliency and reliability by relocating the Metropolitan's datacenters to in-region and out-of-region facilities.

Phase	Deployment
% Complete for Current Phase	100%
Current Phase Authorized	May 2022
Deployment Completion Date	January 2023

Both primary and secondary datacenters have been successfully migrated and are fully operational. The final consulting services invoice payment has been processed and the agreement closeout executed as part of the project closeout process. In the upcoming quarter, the remaining administrative project closure process will be completed.

Metropolitan datacenter at undisclosed location

Treatment Plant Reliability Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $28.96 million

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.

Program Highlights (3rd Quarter)

Accomplishments

- Continued preliminary design of:
  - Diemer Filter Rehabilitation
  - Jensen Reservoir Bypass Gate Replacement
  - Water Quality Laboratory Upgrades
- Continued construction of:
  - Jensen Ozone PSU Replacement – Stage 1
  - Mills Electrical Upgrades – Stage 2
  - Mills Module Nos. 3 and 4 Flash Mix Chemical Containment Upgrades
  - Weymouth Basins Nos. 5-8 & Filter Building No. 2 Rehabilitation
- Diemer Power and Distribution Panel Upgrade
  - Continued equipment procurement
- Diemer Washwater Reclamation Plant Improvements
  - Began preliminary design
- Mills Ozone PLC Control and Communication Equipment Upgrade
  - Began testing and startup
- Weymouth Administration Building Upgrades
  - Continued final design

Upcoming Activities

Upcoming work for the next quarter will include:

- Continue preliminary design of:
  - Diemer Filter Rehabilitation
  - Jensen Reservoir Bypass Gate Replacement
  - Mills Perimeter Security & Erosion Control Improvements
  - Water Quality Laboratory Upgrades
  - Diemer Washwater Reclamation Plant Improvements
- Continue construction of:
  - Jensen Ozone PSU Replacement – Stage 1
  - Mills Electrical Upgrades – Stage 2
  - Mills Module Nos. 3 and 4 Flash Mix Chemical Containment Upgrades
  - Weymouth Basins Nos. 5-8 & Filter Building No. 2 Rehabilitation
- Diemer Power and Distribution Panel Upgrade
  - Continue equipment procurement
- Diemer Washwater Reclamation Plant Improvements
  - Begin preliminary design to stabilize the slope next to the existing washwater reclamation plant
- Mills Ozone PLC Control and Communication Equipment Upgrade
  - Complete startup

- Weymouth Building Administration Upgrades
  - Continue final design and field investigation

Treatment Plant Reliability Program: Weymouth Basins Nos. 5-8 & Filter Building No. 2 Rehabilitation

Total Project Estimate:
$117.0 million

Total Project Cost to Date:
$28.4 million

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

Phase	Construction & Closeout
% Complete for Construction	15%
Construction Contract Awarded	May 2022
Construction Completion Date	May 2025
Contract Number	1982

The contractor completed all activities planned for the first half plant shutdown including replacement of six header valves in Filter Building No. 2 and installation of temporary remote terminal units (RTUs) for Basins 5 & 6. The contractor began the first quarter plant shutdown activities including installation of two temporary cranes and demolition of mechanical equipment within Basin Nos. 7 & 8 and Filter Building No. 2. In the upcoming quarter, the contractor plans to continue activities during the first quarter plant shutdown including mechanical equipment demolition from the flocculation and sedimentation basins, filter building, hazardous material abatement, and seismic improvements for the basin and inlet channel walls

Weymouth Basin No. 8 launder trough demolition during the first quarter-plant shutdown

Water Quality Program

Actual Biennium Expenditures (Jul. 2022 through Mar. 2023) $0.00 million

Program Information: The Water Quality Program 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.

Program Highlights (3rd Quarter)

Accomplishments

- Mills Enhanced Bromate Control Facilities
  - Continued final design

Upcoming Activities

Upcoming work for the next quarter will include:

- Mills Enhanced Bromate Control Facilities
  - Continue final design

Minor Capital Projects 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 and the last bienniums, 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 three bienniums, the two-year budgets for the Minor Cap Program have been $10 million, $15.5 million, and $20 million respectively. In April 2022, the Board appropriated funds for the projects identified in the CIP appendix for the current biennium, FYs 2022/23–2023/24, including the Minor Cap Program. $10 million has been allocated for the current biennium to date.

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 fiscal years 2022/23–2023/24.

Table 4: Minor Capital Projects Program

	Fiscal Year				Totals*
	2016/17–2017/18	2018/19–2019/20	2020/21–2021/22	2022/23–2023/24	
Amount Appropriated	$10M	$15.5M	$20M	$10M	$55.5M
Expenditures (through March 2023)	$7.2M	$12.3M	$8.3M	$1.3M	$29.1M
Number of Projects Approved	41	48	54	29	172
Number of Projects Completed (through March 2023)	40	37	5	0	82
Number of Projects with Durations of Over 3 Years	1	7	0	0	8

* Numbers may not sum due to rounding.

Through March 2023, 82 of the 172 projects have been completed, and eight active projects have exceeded three years in duration, as described below.

- Central Basin CNB-48 Service Connection Access Improvement was impacted by ongoing supply chain delays. Procurement of the valves is underway. The project is scheduled to be completed by September 2023.
- East Valley Feeder Vaults Upgrades has been experiencing delays due to additional time for permits by external agency. The project is scheduled to be completed by March 2024.
- 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, and delivery of the new tank was delayed. The tank has been installed and is now in service. Metropolitan force construction is currently fabricating brackets for the installation of tank canopy roof. The project is scheduled to be completed by May 2023.
- Gene Inlet Surge Chamber Access Improvement has experienced delays due to re-scheduling of the installation of a recently fabricated hatch cover, which can only occur when Gene Wash Reservoir water level is lowered. Metropolitan force construction plans to complete the project by June 2023.
- Gene Pool Refurbishment has experienced delays due to a shortage of local contractors for this type of work due to increased construction activity in the region. Metropolitan force construction will complete the work and the project is scheduled to be completed by September 2023.
- Lower Feeder Blow-Off Drain Line Replacement experienced delays in obtaining a Caltrans permit for Highway 90. Construction has started and the project is scheduled to be completed by April 2023.
- OC-88 Fire Protection System Upgrades started construction in late 2021, however, the contract was terminated as a result of the contractor's debarment by the State of California's Department of Industrial Relations. A new contract has been awarded and construction is underway. The project is scheduled to be completed by April 2023.
- Orange County Region RTU Air Conditioning Unit Replacement was impacted by ongoing supply chain delays. The AC units were delivered in March 2023 and are currently being installed. The project is scheduled to be completed by July 2023.

Actual biennium expenditures to date (July 2022 through March 2023) for the Minor Capital Projects Program were $3.69 million.

Minor Cap Projects, 3rd Quarter

Authorized Projects

Eight projects were authorized under the Minor Cap Program during the 3rd Quarter of fiscal year 2022/23 (January through March 2023). The total amount authorized for these projects was $2,357,197.

- CRA Carport Installations at Gene Pump Plant – This project will install 17 carports, 16 at the CRA Gene Pumping Plant village housing facilities and one at the Cooper Basin Reservoir house. The project budget is $380,000.
- Jensen CFE Channel & Washwater Tank Pumping System Upgrades – This project will install new chemical injection and feed system along with a jet mix pump for the combined filter effluent (CFE) channel. A small variable frequency drive-controlled lift pump for the filter wash water tank will also be installed. These upgrades will support the Jensen plant's low-flow operation. The project budget is $294,000.
- Jensen Washwater Reclamation Plant Upgrades – This project will procure and install two variable frequency drive pumps at the Jensen plant's Washwater Reclamation Plant No. 2 to support the Jensen plant's low-flow operation. The project budget is $328,000.
- Lower Feeder Air Release Valve Replacement – This project will replace 30 air release valves along the Lower Feeder to reduce the possibility of air hammer to increase water conveyance system reliability. The project budget is $240,000.

- Mills Sodium Hypochlorite Injection Upgrade – This project will upgrade the filter backwash sodium hypochlorite injection and feed system at the Mills plant to enhance chemical mixing and improve filter efficiency. The project budget is $330,000.
- Red Mountain Pressure Control Structure UPS Replacement – This project will replace an obsolete uninterruptable power supply unit at the Red Mountain Pressure Control Structure, which has exceeded its service life. The project budget is $225,197.
- Skinner Ozone PSU Transistor Replacement – This project will replace 48 insulated-gate bipolar transistors in the ozone power supply units at the Skinner plant, which have exceeded their service life. This project will maintain the reliability of the plant's ozone generation system. The project budget is $310,000.
- Skinner Plant Turbidity Meter Replacement – This project will replace 21 obsolete turbidity meters and controllers at Skinner Plant 3 and the inlet and outlet channels of the plant's finished water reservoir. The project budget is $250,000.

Completed Projects

Five projects were completed under the Minor Cap Program during the 3rd Quarter of fiscal year 2022/23 (January through March 2023):

- E-Forms Conversion to Adobe Experience Manager
- Jensen Ozone Diffuser Replacement
- San Diego Pipeline No. 2 Access Road Relocation
- Skinner Plant 1 Filter Inlet Baffle Board Replacement
- Weymouth Natural Gas System Improvement

Cancelled Projects

- None

Project Actions

Table 5 lists capital project actions authorized by the General Manager along with funding allocation amounts during the 3rd Quarter of FY 2022/23, through the authority delegated by the Board in April 2022. The total funding amount authorized during the 3rd Quarter is $143,052,333 through forty management actions. In some case 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 and minor cap authorizations. Minor cap authorizations can be found in the Minor Capital Projects Program section of this report.

Table 5: Capital Projects Funded in 3rd Quarter

Project Authorized	Activity Authorized	Amount Authorized for Current Biennium	Total Amount Authorized
Apprentice Training Center Facility	Study and Preliminary Design	$644,500	$709,500
Automatic Meter Reading Radio System Upgrade	Procurement and Deployment of Radio Equipment	$3,340,000	$3,340,000
Badlands Tunnel Surge Tank Facility	Procurement	$1,882,468	$1,960,668
CIP Budgeting System SharePoint Enhancements[1]	Additional Design, Develop, Deploy	$200,000	$200,000
CRA Pumping Plants Lower Guide Access Improvements	Study	$40,000	$40,000
CUF Dechlorination System Upgrade	Study	$50,000	$50,000
Diamond Valley Lake Floating Wave Attenuator System Improvements – Stage 2[2]	Investigations and Additional Final Design	$350,000	$350,000
Diemer Finished Water Reservoir Slope Protection Improvements	Study	$50,000	$50,000
DVL Boat Deck Anchoring System	Investigations, Preliminary Design, and Final Design	$210,740	$210,740
DVL Floating Restroom Replacement	Study, Preliminary Design, and Final Design	$307,110	$307,110

[1] Additional funding was required for labor and for scope items related to document tracking for the enhanced SharePoint system.

[2] Additional final design funds were required to revise the design to incorporate the reuse of the existing attenuator system anchors and cables for the new attenuators to save construction cost.

Project Authorized	Activity Authorized	Amount Authorized for Current Biennium	Total Amount Authorized
East Lake Skinner Bypass and Bypass No. 2 Screening Structure Upgrade	Slide Gate Assemblies Procurement Design	$115,000	$115,000
Foothill Hydroelectric Plant Rehabilitation[3]	Construction and Additional Final Design	$8,208,000	$8,808,000
Foothill Feeder Acoustic Fiber Optic PCCP Monitoring System	Study	$95,000	$95,000
Foothill Feeder Valve Replacement	Preliminary Design, Final Design, and Procurement	$150,000	$150,000
Freda Siphon Barrel No. 1 Repairs	Final Design	$440,000	$440,000
Headquarters Building Physical Security Improvement - Stage 3	Construction	$4,200,000	$4,200,000
Headquarters Chiller Plant Upgrade	Study	$144,000	$170,000
Headquarters HVAC System Equipment Upgrades	Study	$156,000	$180,000
Inland Feeder Rialto Pipeline Intertie	Procurement	$1,882,468	$1,960,668
Jensen Finished Water Reservoir Rehabilitation[4]	Additional Preliminary Design	$1,848,000	$1,848,000
La Verne Field Engineering Building Replacement	Study	$360,000	$360,000
Lake Mathews Dam Erosion Control	Preliminary Design	$30,000	$30,000
Lake Mathews Outlet Tower No. 2 Valve Replacement	Study	$45,000	$45,000

[3] Additional final design funds were required to complete the final design that includes replacement of additional power plant control and electrical systems that were not originally planned to be replaced. The funds were also required to perform value engineering and hazardous materials testing.

[4] Additional preliminary design funds were required to perform additional computational fluid dynamic flow mixing simulations to minimize stagnant water in the reservoirs and to complete the preliminary design of the reservoir rehabilitation.

Project Authorized	Activity Authorized	Amount Authorized for Current Biennium	Total Amount Authorized
Mills Finished Water Reservoir Rehabilitation[5]	Additional Preliminary Design	$1,802,000	$1,802,000
Mills Fluoride Tank Replacement[6]	Additional Final Design and Procurement	$800,000	$800,000
New La Verne Warehouse Facilities	Preliminary Design	$1,800,000	$1,800,000
Oracle EBusiness Suite Upgrade	Design	$50,000	$50,000
Payroll and Timekeeping System Upgrade	Additional Design, Development, and Deployment[7]	$300,000	$300,000
Perris Valley Pipeline Interstate 215 Tunnel Crossing	Construction	$47,000,000	$75,000,000
Replacement of Network Switches at MWD Headquarters Building	Procurement, Implementation, and Deployment	$2,325,000	$2,325,000[8]
San Diego Canal Concrete Liner Replacement – Site No. 1055	Design and Construction	$439,675	$439,675
San Diego Canal Concrete Liner Replacement – Site No. 622	Design and Construction	$500,550	$500,550
San Jacinto Diversion Structure Slide Gates V-01, V-02, V-03, and V-04 Rehabilitation	Slide Gate Procurement	$1,030,853	$1,100,000
Second Lower Feeder PCCP Rehabilitation Reach 3B	Construction	$40,000,000	$93,800,000
Service Connection A-02 Rehabilitation	Preliminary Design	$475,000	$475,000

5 Additional preliminary design funds were required to perform additional computational fluid dynamic flow mixing simulations to minimize stagnant water in the reservoirs and to complete the preliminary design of the reservoir rehabilitation.

6 The additional final design and procurement funds were required to procure the higher-performance and larger capacity tanks than initially planned. The funds were also required for additional design efforts to address piping reconfiguration and changes to the foundation and anchoring system.

7 Additional funding was required due to the shift in project delivery method from internal design, development, and deployment to the use of consulting services.

8 Previously reported total amount authorized of $2,750,000 in Q1 of FY 2022–23 has been reduced to $25,000 for study only. With an additional total amount authorized of $2,325,000 for the reporting quarter, the total amount authorized to date for this project is $2,350,000.

Project Authorized	Activity Authorized	Amount Authorized for Current Biennium	Total Amount Authorized
Skinner Finished Water Reservoir Slide Gate Rehabilitation[9]	Refurbishment of Effluent Slide Gate and Additional Final Design for Backup Process Water System	$680,000	$680,000
Skinner Plant Control System Upgrade	Design	$325,000	$375,000
Skinner Ozone Contactor Structure Rehabilitation	Construction	$598,000	$598,000
Wadsworth Pumping Plant Bypass Pipeline	Procurement and Construction	$20,092,969	$21,878,664
West Valley Feeder No. 1 PCCP Rehabilitation	Study	$85,000	$85,000
	Total	**$143,052,333**	**$227,628,575**

Due to changes to the project implementation schedules or completion of projects under budget, $78,977,320 was reallocated back to the CIP Appropriation (Appropriation No. 15525) from the previously authorized projects listed in Table 6 below. The reallocated funds were used to fund the projects listed in Table 5 and will be used to support the upcoming projects in the current biennium.

Table 6: General Manager Actions to Reallocate Capital Project Funds

Project Authorized (Title)	Amount Authorized for Reallocation to CIP Appropriation	Total Amount from CIP Appn. for Current Biennium
Arc Flash Model Development	($2,000,000)	$9,400,000
Conveyance & Distribution Rehabilitation for FY 2006/07 through FY2011/12 Remaining Budget	($1,500,000)	$2,166,403
Conveyance & Distribution Rehabilitation for FY 2012/13 through FY 2017/18 Remaining Budget	($1,268,800)	$0
CRA Domestic Water Treatment System Upgrade	($8,000,000)	$30,453,000
CRA Pumping Plant Sump System Rehabilitation	($16,000,000)	$0
Datacenter Backup Infrastructure Upgrade	($625,520)	$0
Desert Housing Improvements	($3,700,000)	$1,612,851

[9] The additional final design funds were required to design a backup process water system for the chemical feed systems to deliver treated water during the finished water reservoir outages for the slide gate rehabilitation.

Project Authorized (Title)	Amount Authorized for Reallocation to CIP Appropriation	Total Amount from CIP Appn. for Current Biennium
Employee Village Enhancement Remaining Budget	($1,322,000)	$0
Mills Plant Control System Upgrade	($6,500,000)	$12,422,000
Second Lower Feeder PCCP Rehabilitation - Remaining Budget	($7,900,000)	$195,300
Sepulveda Feeder PCCP Rehabilitation Remaining Budget	($777,000)	$0
Employee Village Enhancement	($6,900,000)	$65,149
West Area Supply and Delivery Alternatives	($484,000)	$0
Weymouth Treatment Basins Nos. 5-8 and Filter Building No. 2 Rehabilitation	($22,000,000)	$82,253,000
Total:	($78,977,320)	

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 2022. 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.

Table 7: CEQA Exemption Determinations

Projects
Diamond Valley Lake Dam Monitoring System Upgrade – Stage 3
Headquarters Fire Sprinkler Piping Replacement
Garvey Reservoir Dam Monitoring System Upgrade
Jensen WWRP No. 2 Flocculator Rehabilitation

Construction and Procurement Contracts

The table below summarizes the status of all construction and procurement contracts that were awarded by the Board and 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 $45.51 million.

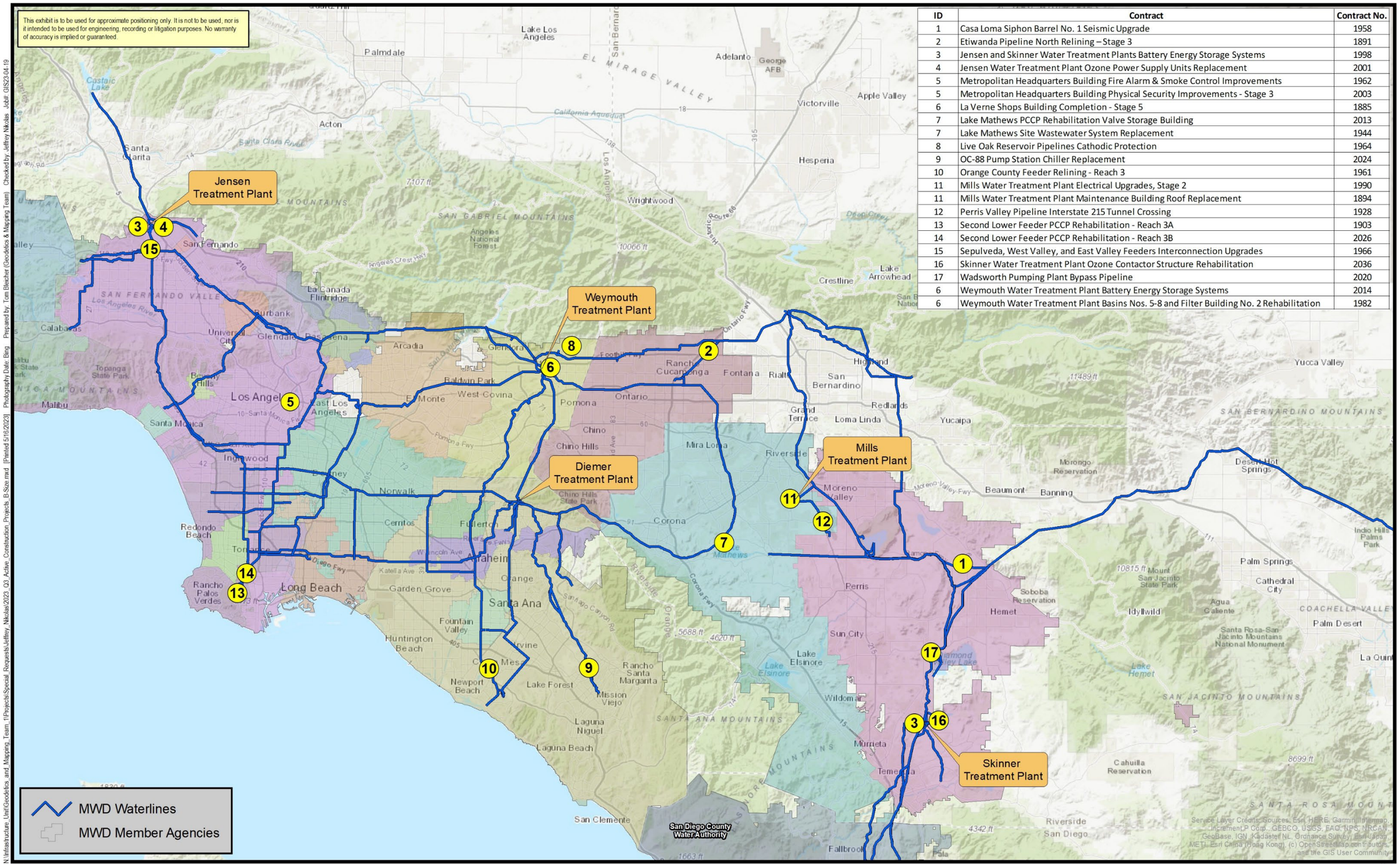
Table 8: 3rd Quarter Contract Action

Contract Actions during Q3 for FY 2022/2023, January 2023 through March 2023	
Contracts Awarded by Board	4 construction contracts totaling $143.55 million (Table 10) 1 procurement contract totaling $0.41 million (Table 10)
Total Payments Authorized	$45.51 million
Construction Contracts Completed	Notice of Completion was filed for 2 construction contracts (Table 9)
Active Contracts at end of Q3[10]	26 construction contracts, totaling $459.23 million (Table 11) 15 procurement contracts, totaling $56.55 million (Table 12) $515.79 million total value*

*Numbers may not sum due to rounding

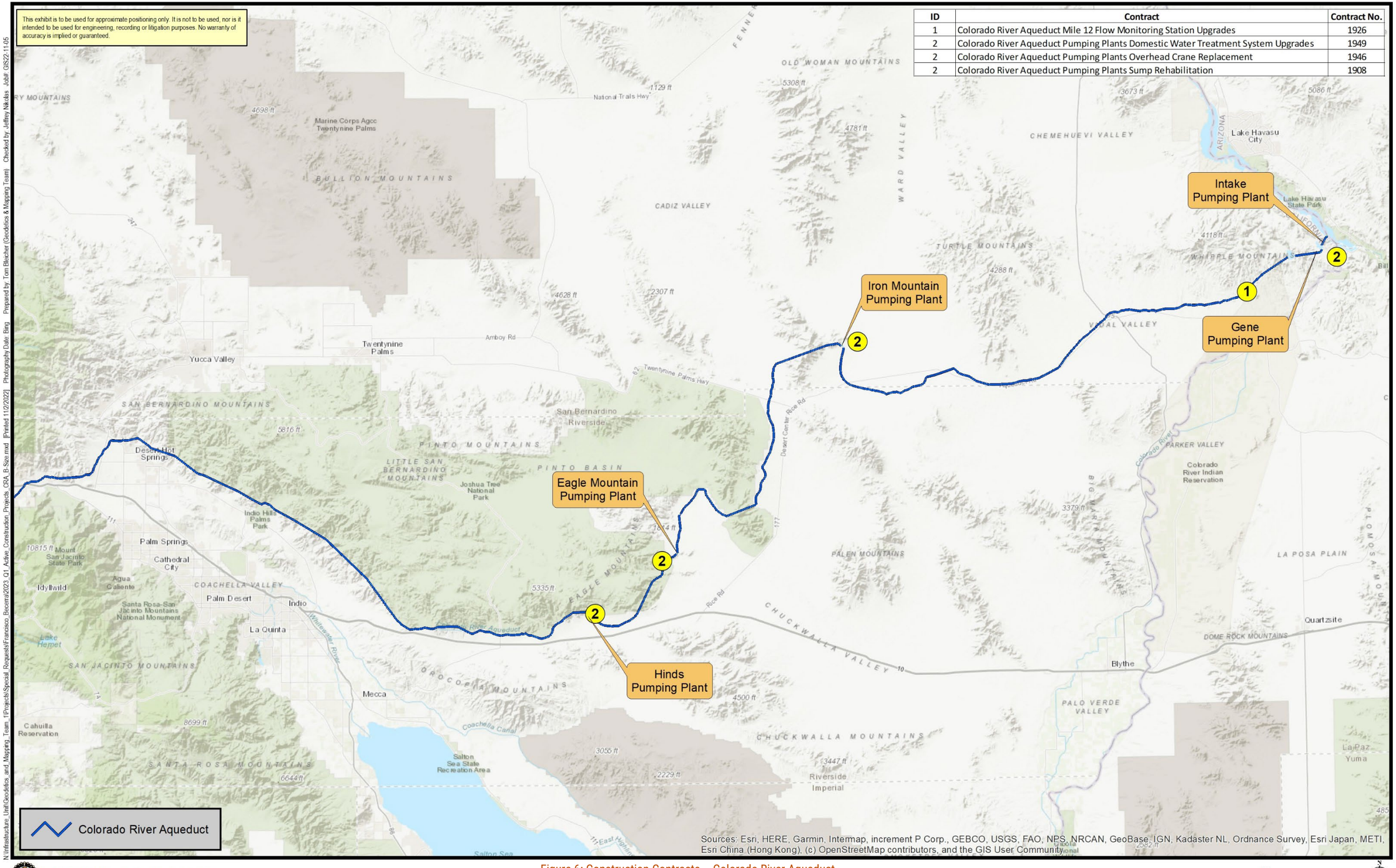
The figures on the next two pages show the locations of the twenty-six construction contracts that were active through the end of the 3rd Quarter.

[10] Active contracts at the end of the 3rd Quarter are those that are ongoing at the end of March 2022 and have not filed Notice of Completion with the county where the work was performed.



ID	Contract	Contract No.
1	Casa Loma Siphon Barrel No. 1 Seismic Upgrade	1958
2	Etiwanda Pipeline North Relining – Stage 3	1891
3	Jensen and Skinner Water Treatment Plants Battery Energy Storage Systems	1998
4	Jensen Water Treatment Plant Ozone Power Supply Units Replacement	2001
5	Metropolitan Headquarters Building Fire Alarm & Smoke Control Improvements	1962
5	Metropolitan Headquarters Building Physical Security Improvements - Stage 3	2003
6	La Verne Shops Building Completion - Stage 5	1885
7	Lake Mathews PCCP Rehabilitation Valve Storage Building	2013
7	Lake Mathews Site Wastewater System Replacement	1944
8	Live Oak Reservoir Pipelines Cathodic Protection	1964
9	OC-88 Pump Station Chiller Replacement	2024
10	Orange County Feeder Relining - Reach 3	1961
11	Mills Water Treatment Plant Electrical Upgrades, Stage 2	1990
11	Mills Water Treatment Plant Maintenance Building Roof Replacement	1894
12	Perris Valley Pipeline Interstate 215 Tunnel Crossing	1928
13	Second Lower Feeder PCCP Rehabilitation - Reach 3A	1903
14	Second Lower Feeder PCCP Rehabilitation - Reach 3B	2026
15	Sepulveda, West Valley, and East Valley Feeders Interconnection Upgrades	1966
16	Skinner Water Treatment Plant Ozone Contactor Structure Rehabilitation	2036
17	Wadsworth Pumping Plant Bypass Pipeline	2020
6	Weymouth Water Treatment Plant Battery Energy Storage Systems	2014
6	Weymouth Water Treatment Plant Basins Nos. 5-8 and Filter Building No. 2 Rehabilitation	1982

Figure 5: Construction Contracts – Greater Los Angeles Region



The Metropolitan Water District of Southern California
Engineering Services Group

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 authorized a $500,000 increase to the General Manager's change order authority for Construction Contract No. 1946 for CRA Pumping Plants – Overhead Crane Replacement.

Notices of Completion during 3rd Quarter:

The following table shows the three Board awarded construction contracts for which Metropolitan accepted the contract as completed during the 3rd Quarter of FY 2022/23 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.	Construction Contract	Notice of Completion	Original Bid Amount	Final Contract Costs	Change Order	Change Order %
1905	Metropolitan Headquarters Building Improvements	February 2023	$43,998,000	$51,034,265	$7,036,265	16.0%
2038	San Diego Pipeline No.1 Rainbow Tunnel Concrete Liner Rehabilitation	March 2023	$1,228,607	$1,182,695	-$45,912	-3.7%
Totals:			**$45,226,607**			

For the 3rd Quarter, the total bid amount of the completed construction contracts was approximately $45 million.

For Contract 1905 listed above, Metropolitan's Board authorized an increase of $5,600,000 in change order authority, to an aggregate amount of $7,799,900 in August 2020. The extra work included upgrading the board and committee room technology and security, installation of the UV-C air disinfection systems, replacing the carpet on floors 5 to 11 and in the second-floor rotunda area, installation of door assist devices on all building egress doors, and other ancillary work in and around the Headquarters Building.

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. The rolling average of change orders on completed construction contracts during the preceding 12-month period (April 2022 through March 2023) is 10.56 percent[11]. This sharp increase in the rolling average of change orders is mainly due to the aforementioned extra work on Contract 1905. The rolling average of change orders drops to 3.79 percent if Contract 1905 is excluded.

[11] Original amount of construction contracts completed (Apr. 2022 through Mar. 2023) = $79,305,178
Change orders for completed construction contracts (Apr. 2022 through Mar. 2023) = $8,372,955
Change order percentage (Apr. 2022 through Mar. 2023) = 10.56%

Contracts Awarded by the Board during 3rd Quarter:

During the period of January through March 2023, four construction contracts totaling $143,551,754 and one procurement contract totaling $407,800, were awarded by the Board.

Table 10: Construction and Procurement Contracts Awarded This Quarter

Construction Contracts	
Perris Valley Pipeline Interstate 215 Tunnel Crossing	
Contract Number	1928
Contractor	James W. Fowler Co.
Amount	$59,489,720
Wadsworth Pumping Plant Bypass Pipeline	
Contract Number	2020
Contractor	Steve P. Rados, Inc.
Amount	$14,820,500
Second Lower Feeder PCCP Rehabilitation - Reach 3B	
Contract Number	2026
Contractor	J.F. Shea Construction, Inc.
Amount	$68,847,000
Skinner Water Treatment Plant Ozone Contactor Structure Rehabilitation	
Contract Number	2036
Contractor	Slater Waterproofing, Inc
Amount	$394,534
Procurement Contracts	
Furnishing a 20-inch Triple Offset Ball Valve for Service Connection CB-11	
Contract Number	2046
Contractor	Cascade Consultants, LLC.
Amount	$407,800

The table on this page lists the 26 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. This list contains construction contracts awarded by the Board.

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

	Cont. No.	Contract Title	Contractor	Contract Amount[12]	Earnings Through March 2023	Start Date	Est. Completion Date	Est. Percent Complete
1	1885	La Verne Shops Building Completion – Stage 5	Woodcliff Corporation, Inc.	$18,930,000	$3,586,960	6/10/22	5/24	19%
2	1891	Etiwanda Pipeline North Relining - Stage 3	Mladen Buntich Construction Co., Inc.	$25,562,413	$17,483,421	8/19/22	10/23	68%
3	1894	Mills Plant Maintenance Building Roof Replacement	Bishop, Inc.	$302,030	$121,704	10/12/22	6/23	40%
4	1903	Second Lower Feeder PCCP Rehabilitation – Reach 3A	J. F. Shea Construction, Inc.	$11,884,700	$9,714,235	6/6/22	6/23	82%
5	1908	CRA Pumping Plants – Sump Rehabilitation[13]	Michels Construction, Inc.	$27,242,360	$12,615,770	1/24/19	5/23	46%
6	1926	CRA Mile 12 Flow Monitoring Station Upgrades	R2 Engineering dba R2Build	$2,067,096	$1,996,886	6/16/21	5/23	97%
7	1928	Perris Valley Pipeline Interstate 215 Tunnel Crossing	James W. Fowler, Company	$59,489,720	$2,301,323	2/13/23	2/25	4%
8	1944	Lake Mathews Reservoir Wastewater System Replacement	Creative Home dba CHI Construction	$3,815,000	$3,374,900	12/13/21	6/23	88%
9	1946	Colorado River Aqueduct Pumping Plants - Overhead Crane Replacement	J.F. Shea Construction, Inc.	$13,611,460	$6,394,115	10/14/20	9/23	47%

[12] 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.

[13] Contract 1908 and Contract 1998 have exceeded the contract working days and Metropolitan is assessing liquidated damages.

	Cont. No.	Contract Title	Contractor	Contract Amount[12]	Earnings Through March 2023	Start Date	Est. Completion Date	Est. Percent Complete
10	1949	Colorado River Aqueduct Pumping Plants Domestic Water Treatment System Replacement	J.F. Shea Construction, Inc.	$32,824,000	$6,150,605	1/20/22	3/25	19%
11	1958	Colorado River Aqueduct Replacement of Casa Loma Siphon Barrel No. 1	J.F. Shea Construction, Inc.	$11,581,575	$11,218,135	1/20/22	6/23	97%
12	1961	Orange County Feeder Relining – Reach 3	Spiniello Infrastructure West, Inc.	$17,226,250	$6,319,764	5/11/22	10/23	37%
13	1962	MWD HQ Building Fire Alarm & Smoke Control Improvements	Bernards Bros. Inc.	$14,165,888	$11,612,571	9/24/20	9/23	82%
14	1964	Live Oak Reservoir Pipelines Cathodic Protection	Exaro Technologies Corporation	$182,800	$0	9/28/22	4/23	0%
15	1966	Sepulveda, West Valley, and East Valley Feeders Interconnection Upgrades	Blois Construction, Inc.	$3,143,592	$1,188,046	7/7/22	9/23	38%
16	1982	Weymouth Water Treatment Plant Basins Nos. 5-8 & Filter Building No. 2 Rehabilitation	J. F. Shea Construction, Inc.	$94,314,347	$20,016,068	6/10/22	5/25	21%
17	1990	Henry J. Mills Water Treatment Plant Electrical Upgrades, Stage 2	CSI Electrical Contractors, Inc.	$9,203,606	$2,094,414	12/13/21	2/25	23%
18	1998	Jensen and Skinner Water Treatment Plants Battery Energy Storage Systems[13]	Ameresco, Inc.	$11,604,521	$3,870,857	10/7/21	11/24	33%
19	2001	Jensen Water Treatment Plant Ozone Power Supply Units Replacement	Leed Electric, Inc.	$2,257,897	$916,900	7/20/22	12/23	41%
20	2003	Metropolitan Headquarters Building Exterior Physical Security Improvements	Caltec, Corp.	$2,165,000	$72,487	1/12/23	1/24	3%
21	2013	Lake Mathews PCCP Rehabilitation Valve Storage Building	Facility Builders & Erectors, Inc.	$4,766,776	$3,578,093	3/10/22	9/23	75%

	Cont. No.	Contract Title	Contractor	Contract Amount[12]	Earnings Through March 2023	Start Date	Est. Completion Date	Est. Percent Complete
22	2014	Weymouth Plant Battery Energy Storage System	Siemens Industry, Inc.	$6,176,521	$2,075,861	7/18/22	8/23	34%
23	2020	Wadsworth Pumping Plant Bypass Pipeline	Steve P. Rados, Inc.	$14,820,500	$490,000	2/2/23	6/24	3%
24	2024	OC-88 Pump Station Chiller Replacement	Mehta Mechanical Co., Inc. dba MMC Inc.	$2,654,000	$259,600	6/6/22	7/23	10%
25	2026	Second Lower Feeder PCCP Rehabilitation - Reach 3B	J.F. Shea Construction, Inc.	$68,847,000	$1,475,000	2/13/23	9/25	2%
26	2036	Skinner Water Treatment Plant Ozone Contactor Structure Rehabilitation	Slater Waterproofing, Inc.	$394,534	$0	4/12/23	12/23	0%
Total contract value for active construction contracts:				**$459,233,586**				

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

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

	Cont. No.	Contract	Contractor	Contract Amount[14]	Earnings Through March 2023	Start Date	Est. Delivery Completion Date	Est. Percent Complete[15]
1	1861	Furnishing Lubricated Plug Valves for Second Lower Feeder	Southwest Valve & Equipment, Inc.	$2,380,909	$2,362,968	9/11/17	D[16]	99%
2	1867[17]	Furnishing Butterfly Valves for the Weymouth Water Treatment Plant – Schedule 1	Crispin Valve, LLC	$5,066,975	$2,674,908	12/18/17	12/23	53%
3	1868	Furnishing Butterfly Valves for the Weymouth Water Treatment Plant – Schedule 2	DeZurick, Inc.	$771,984	$760,384	12/18/17	D[16]	98%
4	1873	Furnishing One Hydraulic Shear System for the La Verne Maintenance Shops	Landmark Solutions, LLC	$151,870	$146,970	3/21/18	D[16]	97%
5	1912	Furnishing Large-Diameter Conical Plug Valves	Ebara Corporation	$23,750,060	$17,562,939	12/24/18	6/23	74%
6	1922	Furnishing One Double Column Vertical Machining Center for the La Verne Maintenance Shops	Gosiger Machine Tools, LLC (Gosiger West)	$2,193,356	$2,170,295	9/17/18	D[16]	99%
7	1948	Refurbishing Valve Actuators for the Diemer Water Treatment Plant	Flowserve Limitorque	$3,370,402	$2,922,963	2/16/19	9/24	87%
8	1955	Furnishing Membrane Filtration Systems for the CRA Domestic Water Treatment Systems	Wigen Water Technologies	$1,244,535	$599,970	5/28/20	7/25	48%
9	1965	Furnishing Equipment for the Jensen Ozone Power Supply Units Upgrades	Suez Treatment Solutions, Inc.	$4,141,194	$3,229,976	3/30/20	D[16]	78%

[14] 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.

[15] 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.

[16] All items were delivered prior to this reporting quarter but contract remains open pending use of manufacturer field services.

[17] 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[14]	Earnings Through March 2023	Start Date	Est. Delivery Completion Date	Est. Percent Complete[15]
10	1969	Furnishing Inlet Valve Gearboxes for Skinner Module No. 7	R&B Automation, Inc.	$224,510	$207,035	4/29/20	2/24	92%
11	1978	Furnishing Steel Pipe for the Casa Loma Siphon Barrel No. 1	Northwest Pipe Company	$6,134,208	$5,860,701	1/16/20	12/23	96%
12	2012	Furnishing Electrical Panels for Diemer Treatment Plant	Integrated Power System, LLC	$247,789	$0	11/30/22	5/23	0%
13	2022	Furnishing Butterfly Valves for the Wadsworth Bypass Pipeline, Inland Feeder-Rialto Pipeline Intertie, and Badlands Tunnel Isolation Surge Tanks	Sojitz Machinery Corp. of America	$5,647,405	$0	10/3/22	9/25	0%
14	2028	Furnishing Slide Gates for the San Jacinto Diversion Structure	Whipps, Inc.	$820,853	$0	12/8/22	6/24	0%
15	2046	Furnishing a 20-inch Triple Offset Ball Valve for Service Connection CB-11	Cascade Consultants, LLC	$407,800	$0	3/8/23	8/24	0%
Total contract value for active procurement contracts:				**$56,553,850**				

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 most cases lie within or below the metric target ranges. In select 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 performances are reported for the Board awarded construction contract projects.

Table 13: Performance Metric Actuals, Construction Costs > $3 Million

Project	Metric	Actual Cost of Metric	Construction Cost	Target Range	Actual %
Headquarters Building Improvements	Inspection	$6,610,946	$54,400,690	9-12%	12.2%[18]
Perris Valley Pipeline Interstate 215 Tunnel Crossing	Final Design	$5,907,564	$60,089,720	9-12%	9.8%
Second Lower Feeder PCCP Rehabilitation - Reach 3B	Final Design	$6,301,138	$85,659,000	9-12%	7.4%

[18] Inspection costs for Headquarters Building Improvements were higher than the target range due to longer than anticipated time to complete construction, which required additional inspection. The construction delays were mainly due to differing site conditions and additional work to replace the outdated cafeteria kitchen cold room refrigeration system, improve the board and committee rooms, and other additional work as described in the August 2020 Board Letter, Item 7-1.

Project	Metric	Actual Cost of Metric	Construction Cost	Target Range	Actual %
Wadsworth Pumping Plant Bypass Pipeline	Final Design	$1,891,753	$17,238,500	9-12%	11%

Table 14: Performance Metric Actuals, Construction Costs < $3 Million

Project	Metric	Actual Cost of Metric	Construction Cost	Target Range	Actual %
Rainbow Tunnel Concrete Liner Rehabilitation	Inspection	$150,398	$1,549,763	9-15%	9.7%
Skinner Ozone Contactor Structure Rehabilitation	Final Design	$55,152	$412,534	9-15%	13.4%

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 2023).

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 3rd Quarter of FY 2022/23 (January through March 2023).

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 2023 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
Colorado River Aqueduct Reliability Program	**Total**	$532,217	$449,115	$29,160	$23,578
Cabazon Radial Gate Facility Improvements	15320	$2,456	$845	$0	$141
White Water Siphon Protection	15341	$15,585	$14,498	$2,650	$14
CRA - Conveyance Reliability	15373	$117,828	$116,970	$1,500	$593
CRA Pumping Plant Reliability	15374	$24,467	$24,012	$0	$8
CRA - Electrical/Power Systems Reliability	15384	$58,665	$51,625	$1,507	$3,135
CRA – Discharge Containment	15385	$8,129	$7,977	$0	$2
CRA - Reliability for FY2006/07 through FY2011/12	15438	$134,194	$121,891	$7,530	$2,419
CRA Main Pump Reliability	15481	$75,000	$60,869	$8,445	$7,812
CRA - Reliability for FY2012/13 through FY2017/18	15483	$82,967	$43,510	$6,212	$7,630
CRA - Reliability for FY2018/19 through FY2023/24	15507	$12,926	$6,918	$1,316	$1,825
Cost Efficiency & Productivity Program	**Total**	$161,488	$110,354	$8,750	$6,686
DVL Recreation Facilities	15334	$87,104	$59,975	$1,350	$590
Yorba Linda Power Plant Modifications	15446	$17,125	$17,103	$0	$11
Business Operations Improvement	15484	$17,416	$11,363	$1,810	$1,126

Capital Programs/Appropriations	Appn. No.	Total to Date		Biennium to Date	
		Appn. Amount ($1,000's)	Costs thru March 2023 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
Project Controls and Reporting System	15490	$6,440	$6,292	$0	-$10
Enterprise Content Management	15500	$3,600	$3,595	$2,480	$0
DVL Recreation Rehabilitation & Refurbishment	15515	$1,898	$1,133	$150	$220
Energy Sustainability Improvements	15521	$27,905	$10,893	$2,960	$4,748
Dams and Reservoirs Reliability Program	**Total**	$80,294	$70,557	$3,000	$1,569
Reservoir Cover and Replacement	15417	$68,864	$60,658	$640	$1,289
Dam Rehabilitation & Safety Improvements	15419	$11,430	$9,899	$2,360	$280
Distribution System Reliability Program	**Total**	$486,278	$413,227	$43,840	$45,099
Conveyance and Distribution System - Rehabilitation	15377	$125,961	$109,091	$8,760	$7,346
Conveyance and Distribution System - Rehabilitation for FY2006/07 through FY2011/12	15441	$154,412	$134,181	$170	$18,693
Hydroelectric Power Plant Improvements	15458	$28,611	$17,750	$3,960	$474
Conveyance and Distribution System - Rehabilitation for FY2012/13 through FY2017/18	15480	$138,942	$123,399	$23,800	$9,747
Pipeline Rehabilitation and Replacement	15482	$1,143	$1,042	$160	$9
Conveyance and Distribution System - Rehabilitation for FY2018/19 through FY2023/24	15503	$37,209	$27,764	$6,990	$8,831
District Housing & Property Improvements Program	**Total**	$12,285	$9,069	$10,100	$2,519
Employee Village Enhancement	15513	$12,285	$9,069	$10,100	$2,519

Capital Programs/Appropriations	Appn. No.	Total to Date		Biennium to Date	
		Appn. Amount ($1,000's)	Costs thru March 2023 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
Minor Capital Projects Program	**Total**	$45,500	$21,821	$6,600	$3,694
Capital Program for Projects Costing Less Than $400,000 for FY2018/19 through FY2019/20	15504	$15,500	$12,258	$1,750	$833
Capital Program for Projects Costing Less Than $400,000 for FY2020/21 through FY2021/22	15518	$20,000	$8,253	$3,270	$1,550
Capital Program for Projects Costing Less Than $400,000 for FY2022/23 through FY2023/24	15526	$10,000	$1,311	$1,580	$1,311
Prestressed Concrete Cylinder Pipe Rehabilitation Program	**Total**	$380,391	$283,942	$38,810	$16,275
PCCP Rehabilitation and Replacement	15471	$26,966	$23,057	$510	$383
Sepulveda Feeder PCCP Rehabilitation	15496	$38,813	$29,257	$2,900	$1,334
Second Lower Feeder PCCP Rehabilitation	15497	$298,927	$219,666	$32,900	$13,301
Allen-McColloch Pipeline, Calabasas Feeder, and Rialto Pipeline PCCP Rehabilitation	15502	$15,685	$11,962	$2,500	$1,256
Regional Recycled Water Supply Program	**Total**	$24,350	$20,410	$3,350	$110
Demonstration-Scale Recycled Water Treatment Plant	15493	$24,350	$20,410	$3,350	$110
Right of Way & Infrastructure Protection Program	**Total**	$31,715	$28,152	$6,740	$1,092
Right of Way & Infrastructure Protection	15474	$31,715	$28,152	$6,740	$1,092
System Flexibility/Supply Reliability Program	**Total**	$750,240	$651,679	$22,070	$10,131
Hayfield and Lake Perris Groundwater Recovery	15402	$1,500	$1,121	$525	$8

Capital Programs/Appropriations	Appn. No.	Total to Date		Biennium to Date	
		Appn. Amount ($1,000's)	Costs thru March 2023 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
Perris Valley Pipeline	15425	$180,500	$133,720	$10,653	$2,603
Water Delivery System Improvements	15488	$106,420	$76,606	$8,281	$7,001
Verbena Property Acquisition	15492	$264,000	$262,130	$2,560	$182
Delta Wetlands Properties (Delta Islands)	15494	$197,819	$178,102	$51	$337
System Reliability Program	**Total**	$454,331	$331,225	$39,310	$24,294
Information Technology System - Infrastructure	15376	$51,306	$47,803	$30	$85
Information Technology System - Security	15378	$12,351	$12,051	$0	$1,236
La Verne Shop Facilities Upgrade	15395	$71,348	$51,268	$680	$3,949
Water Operation Control	15467	$68,524	$42,894	$4,580	$813
Union Station Headquarters Improvements	15473	$108,221	$91,712	$7,040	$5,486
IT Infrastructure Reliability	15487	$59,667	$40,327	$6,690	$3,534
Operations Support Facilities Improvement	15495	$35,363	$22,875	$13,880	$3,333
Metropolitan Security System Enhancements	15499	$20,110	$11,637	$3,145	$585
Infrastructure Reliability Information System	15501	$16,500	$4,877	$95	$2,011
System-Wide Paving & Roof Replacements for FY 2020/21 through FY 2021/22	15516	$4,791	$4,023	$1,450	$2,430
System-Wide Paving & Roof Replacements for FY2020/21 through FY2023/24	15519	$2,461	$1,681	$730	$763
Enterprise Data Analytics	15522	$3,690	$75	$990	$70

Capital Programs/Appropriations	Appn. No.	Total to Date		Biennium to Date	
		Appn. Amount ($1,000's)	Costs thru March 2023 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
Treatment Plant Reliability Program	**Total**	$908,472	$777,042	$21,270	$28,959
Weymouth Water Treatment Plant Improvements	15369	$195,711	$188,762	$3,090	$622
Jensen Water Treatment Plant Improvements	15371	$47,062	$46,649	$310	$11
Diemer Water Treatment Plant Improvements	15380	$216,907	$207,811	$3,060	-$519
Mills Water Treatment Plant Improvements	15381	$5,525	$5,281	$0	$4
Diemer Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15436	$74,207	$67,414	$3,660	$1,743
Weymouth Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15440	$116,079	$44,679	$1,559	$17,163
Jensen Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15442	$91,376	$85,102	$3,270	$406
Mills Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15452	$39,852	$26,543	$72	$1,950
Weymouth Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15477	$77,539	$77,176	$39	$218
Diemer Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15478	$2,955	$1,510	$120	$75
Mills Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15479	$2,664	$1,010	$0	$163
Jensen Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15486	$8,339	$7,482	$0	-$2

Capital Programs/Appropriations	Appn. No.	Total to Date		Biennium to Date	
		Appn. Amount ($1,000's)	Costs thru March 2023 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
Weymouth Water Treatment Plant Improvements for FY2020/21 through FY2023/24	15505	$685	$632	$0	$330
Jensen Water Treatment Plant Improvements for FY2020/21 through FY2023/24	15508	$17,895	$9,885	$4,690	$4,679
Diemer Water Treatment Plant Improvements for FY2020/21 through FY2023/24	15510	$3,758	$1,544	$0	$788
Skinner Water Treatment Plant, Improvements for FY 2020/21 Through FY 2023/24	15512	$5,239	$3,982	$1,400	$345
Mills Water Treatment Plant Improvements for FY2020/21 through FY2023/24	15520	$2,631	$1,572	$0	$975
Chlorine System Improvements	15523	$50	$6	$0	$6
Water Quality Program	**Total**	$10,240	$9,615	$0	$0
Enhanced Bromate Control	15472	**$10,240**	**$9,615**	**$0**	**$0**
Total CIP		**$3,877,802**	**$3,176,208**	**$233,000**	**$164,005**

Notes on the above table:

- Numbers may not sum due to rounding.
- Numbers are based on the general ledger information downloaded on 04/12/2023.
- $0 under Planned Expenditures indicates 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.

List of Tables

List of Figures

Engineering, Operations, & Technology Committee

Capital Investment Plan Quarterly Report for Period Ending March 2023

Item 7b

June 12, 2023

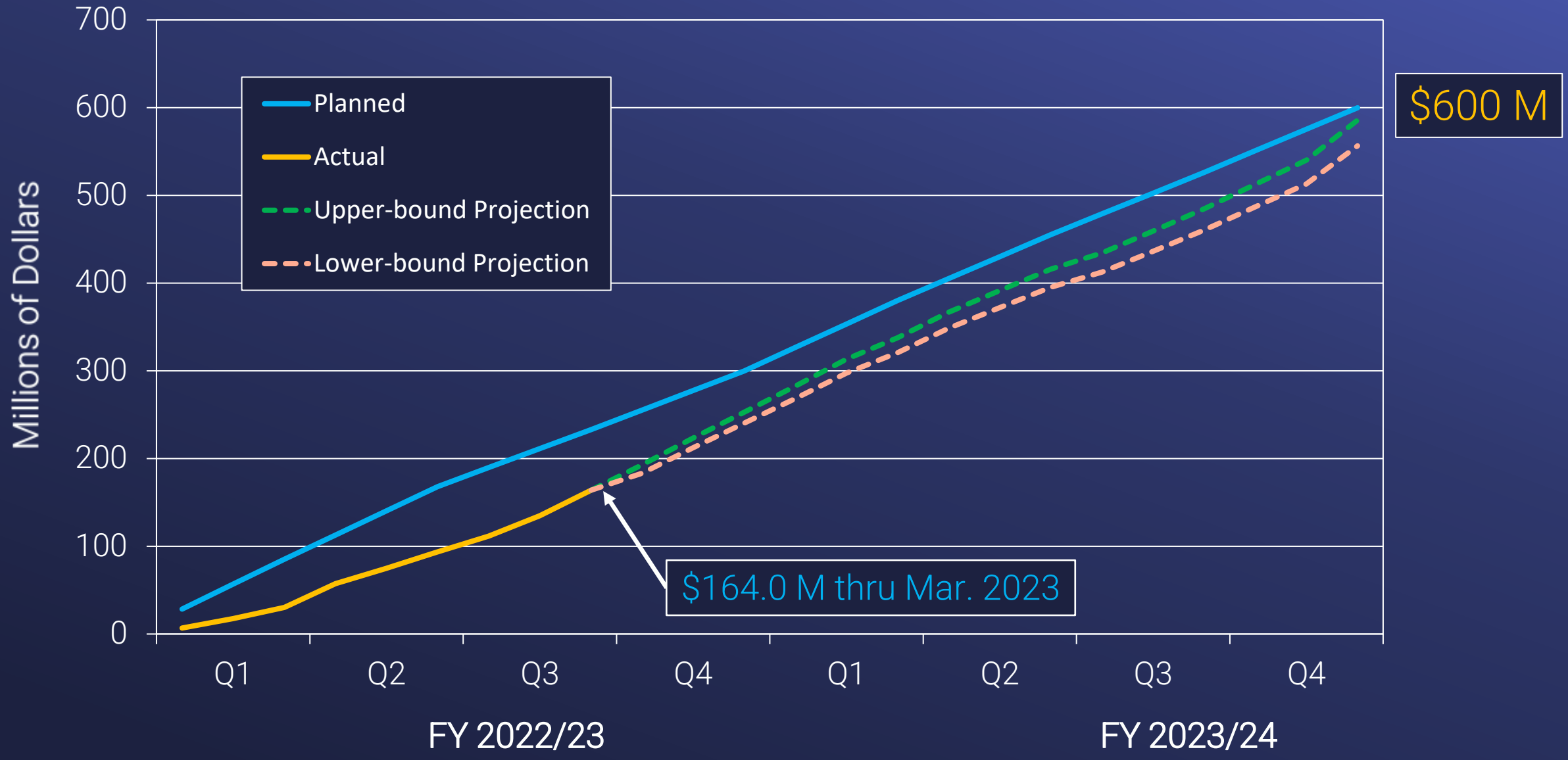
Capital Investment Plan Quarterly Report

Period Ending March 2023

3rd Quarter Summary for Fiscal Year 2022/23

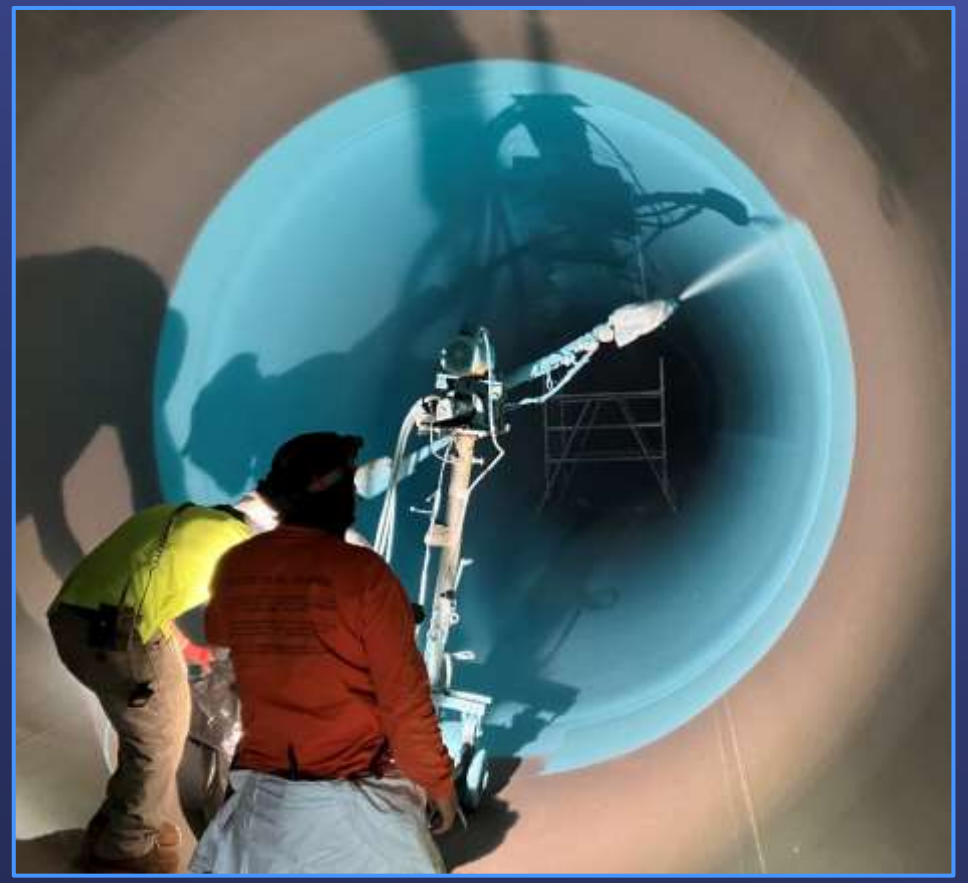
- Board awarded contracts – $144.0 M
  - 4 Construction contracts awarded
  - 1 Procurement contract awarded
- Contracts currently underway – $515.8 M
  - 26 Construction
  - 15 Procurement

CIP Performance – Fiscal Years 2022/23 & 2023/24



Etiwanda Pipeline Lining Replacement – Stage 3

- Contract awarded in July 2022
  - Expected construction completion in August 2023
- Total Project Estimate: $37.5 M
- Total Project Cost to Date: $26.8 M



Contractor applying polyurethane liner to interior of pipe

Second Lower Feeder PCCP Rehabilitation – Reach 3A

Contractor lowers steel liner into the pipeline

- Contract awarded in May 2022
  - Expected construction completion in June 2023
- Total Project Estimate: $23.0 M
- Total Project Cost to Date: $14.4 M

Construction Contract Completion and Change Orders

Contract	Original Contract Amount	Contract Change Orders	Change Order %
Metropolitan Headquarters Building Improvements	$43,998,000	$7,036,265	16.0%
San Diego Pipeline No. 1 Rainbow Tunnel Concrete Liner Rehabilitation	$1,228,607	-$45,912	-3.7%
Total	$45,226,607		

Performance Metrics – 3rd Quarter of FY 2022/23

Projects w/ Construction Costs Greater Than $3 Million

	Final Design % of Construction	Inspection % of Construction
Target Performance Range	9% to 12%	9% to 12%
Actual Performance	8.7%	12.2%

Projects w/ Construction Costs Less Than $3 Million

	Final Design % of Construction	Inspection % of Construction
Target Performance Range	9% to 15%	9% to 15%
Actual Performance	13.4%	9.7%

Minor Capital Projects

Fiscal Year Appropriation	2016/17 2017/18	2018/19 2019/20	2020/21 2021/22	2022/23 2023/24
Amount Appropriated	$10 M	$15.5 M	$20.0 M	$10.0 M
Amount Allocated	$7.8 M	$13.6 M	$16.0 M	$7.9 M
Expenditures Through March 2023	$7.2 M	$12.3 M	$8.3 M	$1.3 M
# of Projects Approved	41	48	54	29
# of Projects Completed Through March 2023	40	37	5	0
% of Work Complete	99%	92%	48%	9%

8 projects exceeded 3 years in duration


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

Engineering, Operations, & Technology Committee

Water System Operations Manager's Report

Item 8a
June 12, 2023

Current Operational Conditions

San Luis Reservoir

Managing Surplus Conditions

- 2023 SWP Allocation at 100%
- CRA at 5-pump flow
- SWP blend targets are 80% at Weymouth and Diemer; Skinner blend currently 25% and increasing
- Maximizing Colorado River water delivery to DWCV storage
- May 2023 deliveries of 91 TAF were 53 TAF lower than May 2022; lowest May demand since 1998

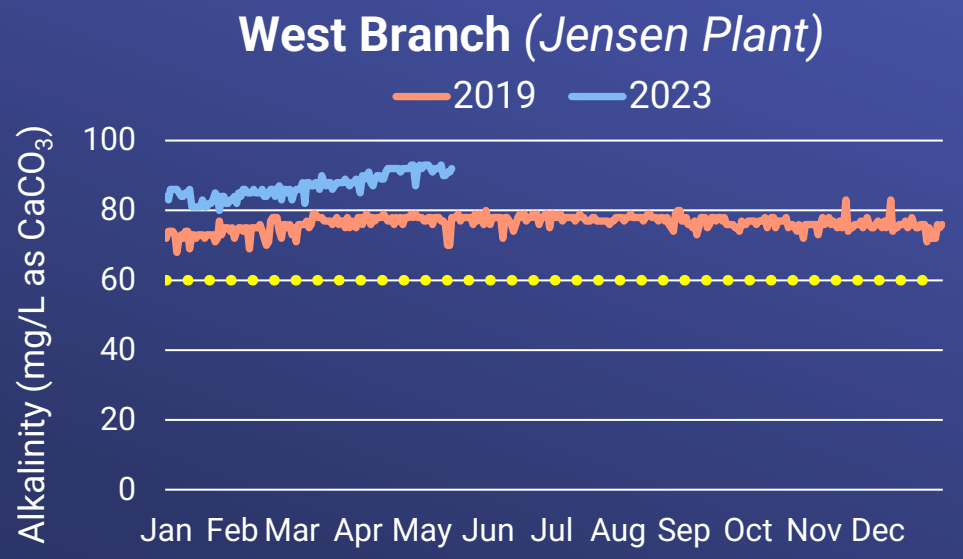
Maximizing SWP Supplies

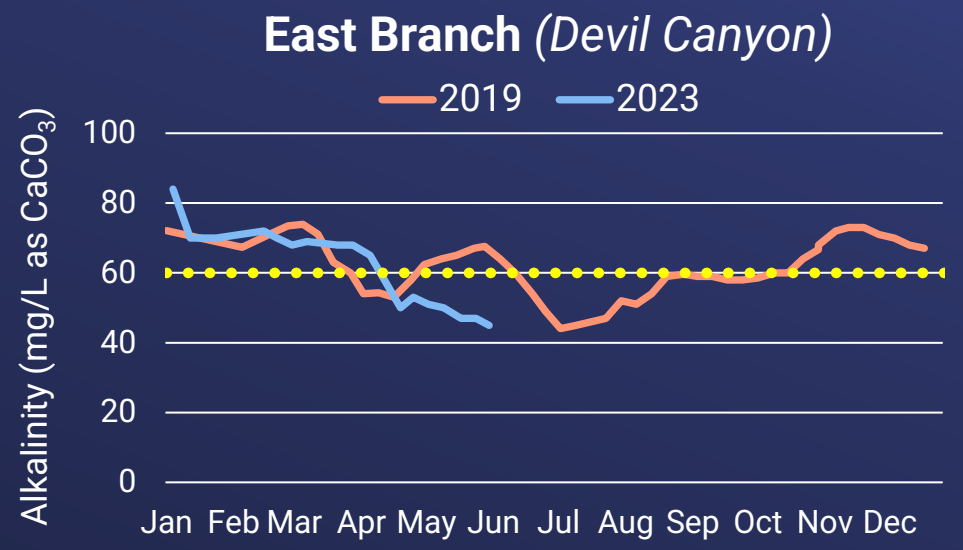
100% SWP Allocation

East Branch of California Aqueduct

- Maximizing SWP West and East Branch deliveries
  - Managing blends while balancing system and water quality constraints
- Prioritizing storage for SWP Dependent Area
  - Maximizing SWP Carryover
  - Filled Perris and Castaic Flex
  - Refilling DVL; currently ~70%
- Coordinating with member agencies on CUP and Cyclic programs (incl. CCOP and Reverse Cyclic)

Low Alkalinity Water during Surplus Conditions





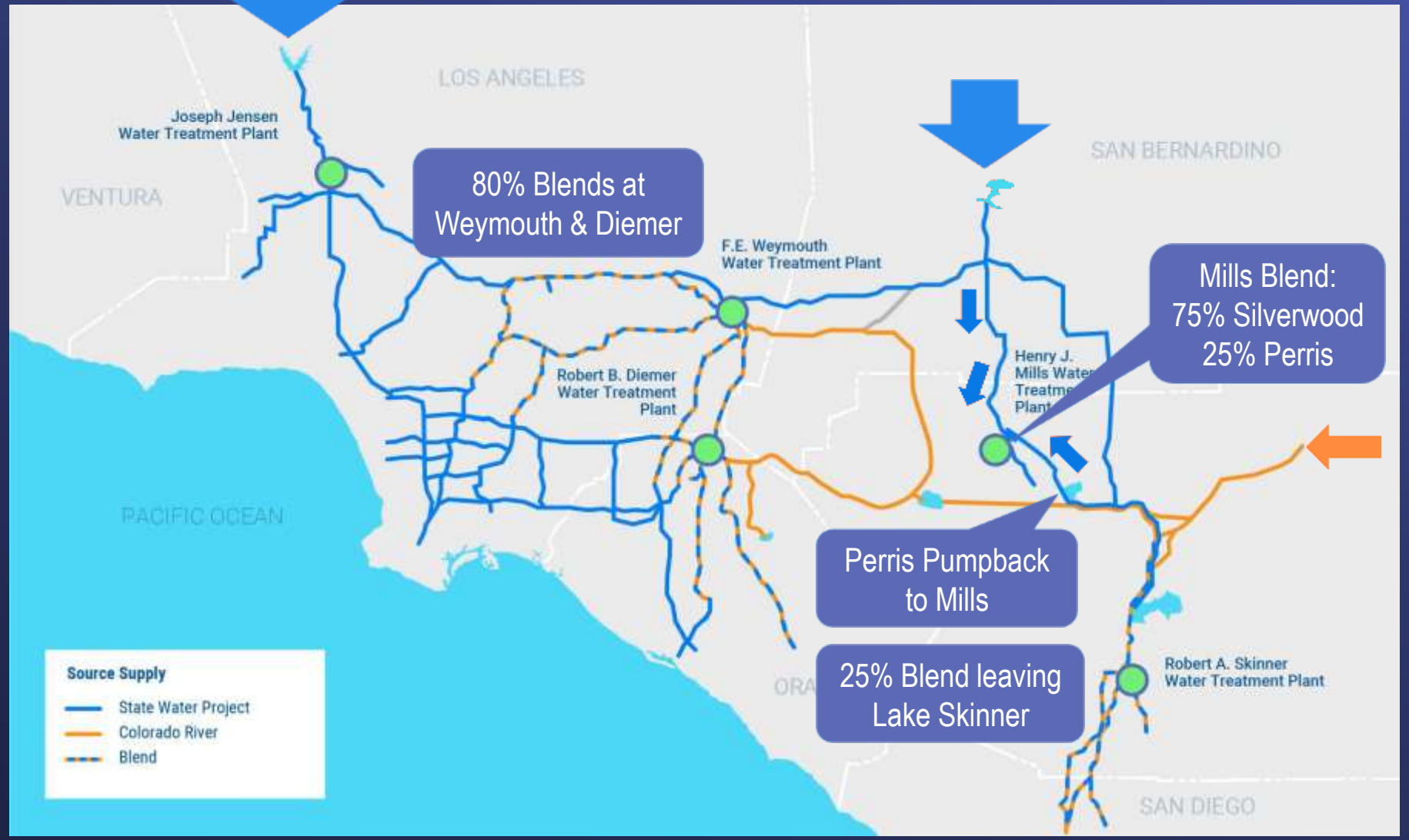
Historical Alkalinity Level (median, 2003-2023)

- SWP West Branch: 83 mg/L
- SWP East Branch: 76 mg/L
- Colorado River Aqueduct: 132 mg/L

Managing Low Alkalinity in Surplus Conditions

Current Surplus Operations

Metropolitan's management strategy includes chemical addition and blending at treatment plants, when feasible



Final Regulation Expected by End of 2023

Proposed Federal Regulations for Six PFAS

- MCL = 4 ng/L for PFOS & PFOA
- Hazard Index = 1 for PFBS, PFHxS, PFNA, & GenX

- May 30: Metropolitan submitted comment letter to U.S. EPA
- Coordinated with Member Agencies
- Summary comments
  - Premature for PFBS, PFHxS, PFNA, & GenX
  - Data from UCMR 5 and state monitoring should be considered
  - Analytical methods are not adequate or sensitive enough to measure at proposed trigger levels
  - Need to fully assess the consequences and economic impacts of regulation

Safety is for Everyone

Celebrating National Safety Month

- Field Safety Days
- Webinars & Workshops
- Equipment Vendors
- Safety Awards
- Training Sessions
- Staff Recognition

~20 safety awareness events scheduled during June at multiple facilities

Safety Day at Gene Pump Plant

Safety Day at Lake Mathews


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

Engineering, Operations, & Technology Committee

Engineering Services Manager's Report

Item 8b

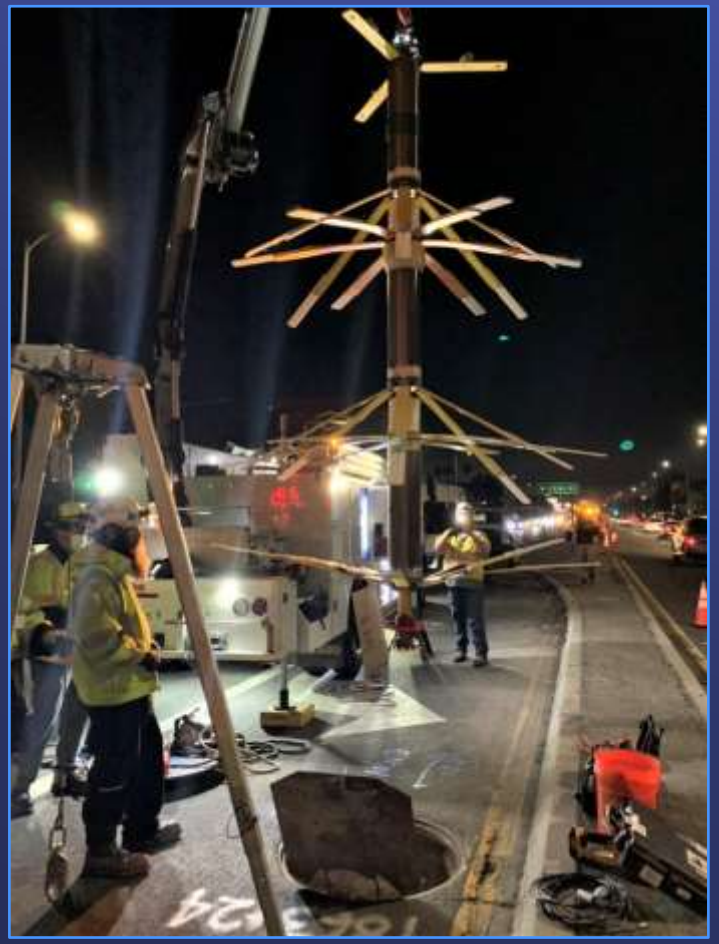
June 12, 2023

Construction and Procurement Contracts
April 2023

Construction and Procurement Contracts Through April 2023	
Number of Active Contracts at end of month	50
Total Bid Amount of Contracts in Progress at end of month	$578.6M
Contracts Awarded in month	3
Contracts With Notice To Proceed Issued in month	1
Contracts Completed in month	1
Contract Gross Earnings in month	$14.7 M

2022/2023 Shutdown – Inspection & Condition Assessment

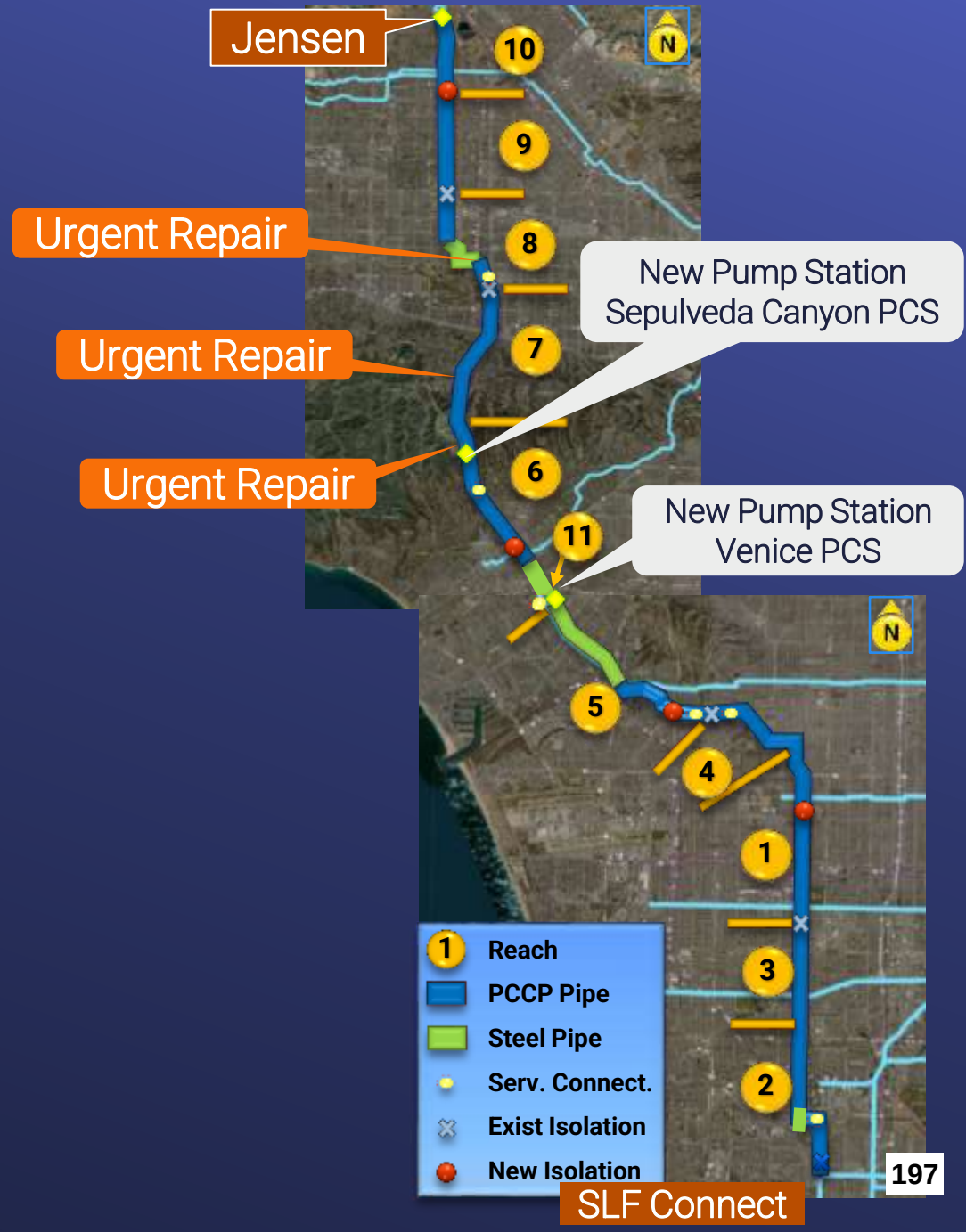
- Non-PCCP
  - Cholla Wash/Casa Loma Siphon Inspection & Repairs
  - Etiwanda Pipeline Inspection
  - Iron Mountain West Portal Tunnel
  - Middle Feeder North Inspection & Repairs
  - Rainbow Tunnel Inspection & Repairs
  - Sepulveda Feeder Inspection & Repairs
- PCCP
  - Sepulveda Feeder
  - Yorba Linda Feeder



Insertion of PipeDiver for electromagnetic inspection of Sepulveda Feeder

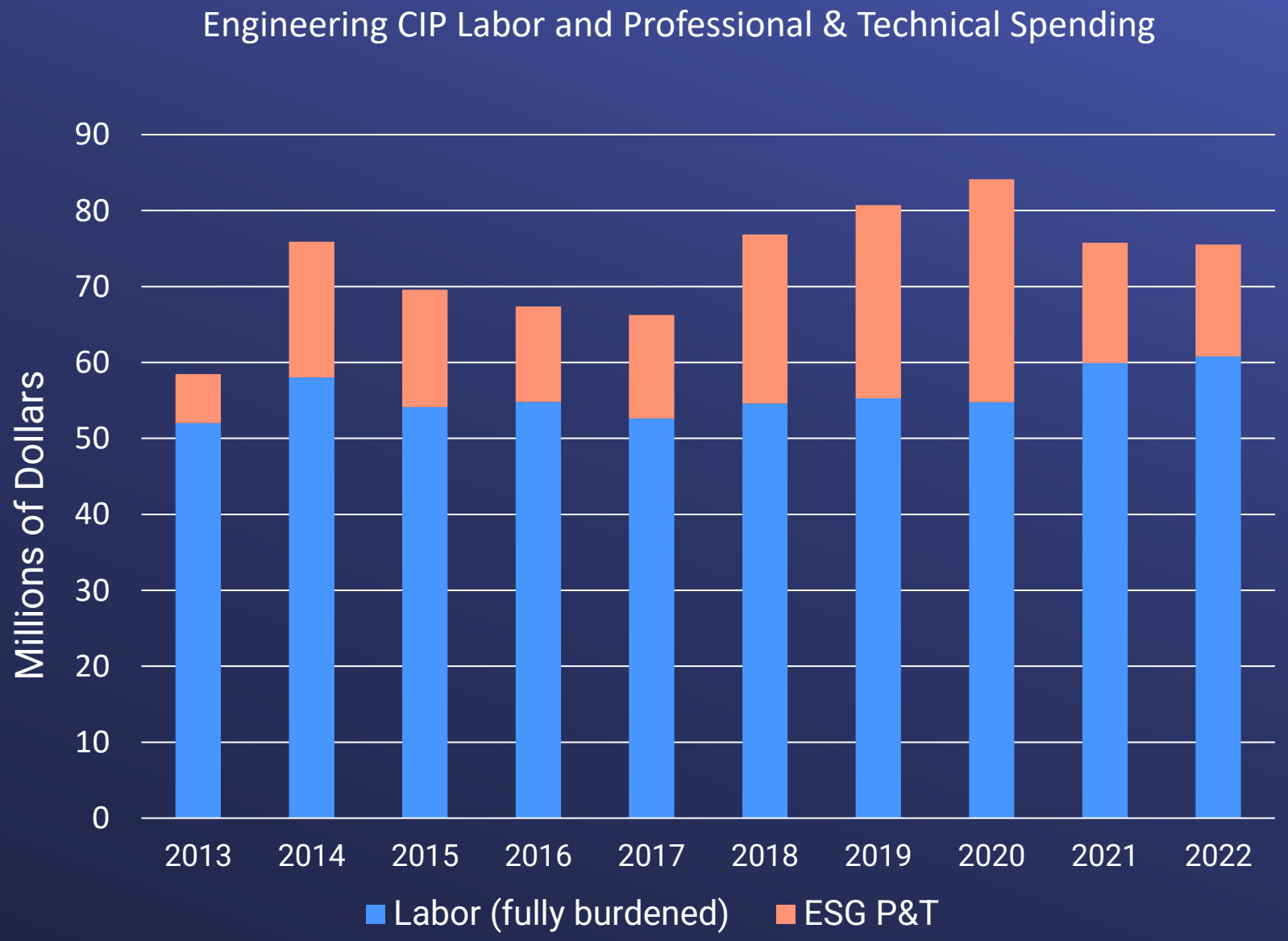
Upcoming Sepulveda Feeder Projects

- Sepulveda Feeder Urgent Repair
  - Findings - Identified three 24-foot PCCP sections with 15 to 20 wire breaks using PipeDiver
  - Plans - Reline pipeline with carbon fiber reinforced polymer
  - Timeline - Advertise June 2023
- Sepulveda Feeder Pump Stations
- Sepulveda Feeder PCCP Rehabilitation



Higher costs for consultant design

- Billing rates average 5% higher
- Other project costs
  - Agreement administration
  - Design input & oversight



2023 Member Agency Engineering Managers Forum

- June 1, 2023
- In-person event
- Fifth consecutive year
- Co-hosted with Inland Empire Utility Agency


THE METROPOLITAN WATER DISTRICT OF
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