CMAA NorCal Programs Webinar Presents....

NorCal Water / Wastewater Capital Improvement Programs

July 29th, 2021
UPCOMING CMAA NORCAL EVENTS

Thurs Aug 26\textsuperscript{th}, 11:30am – 1:00pm
Healthcare Capital Improvement Programs (original date April 29\textsuperscript{th})

September 12\textsuperscript{th} – 14\textsuperscript{th} 2021
CMAA2021 National Conference (In-Person & Virtual)
Philadelphia Marriott Downtown
1201 Market St., Philadelphia, PA 19107

Thurs Oct 7\textsuperscript{th}, 5:30pm – 8:30pm
AWARDS GALA & INDUSTRY CELEBRATION – Kimpton Hotel Sacramento CA

Nov 05, 10:00 AM – 4:30 PM
CMAA Virtual Rising CM Conference | Students, Young Professionals
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MODERATOR

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Advancing Professional Construction and Program Management Worldwide
Michiko M. Mares
East Bay Municipal Utility District
Engineering Manager of Construction
Mike Crooks
Sacramento RegionalSan
Deputy Director of Operations
Katie Miller
San Francisco Public Utilities Commission
Director of Water Capital Programs
Sacramento Regional County Sanitation District
Capital Projects Summary

CMAA Meeting | NorCal Water
Wastewater Capital Improvement Programs

July 28, 2021

Mike Crooks, Deputy Director of Operations
July 14, 2021
EchoWater Program Update
Program Updates

• Over 4,386,000 labor hours worked and 19 lost time injuries.
• The Biological Nutrient Removal Project has all 8 basins in operation.
• The Tertiary Treatment Facility Project contractor is progressing with work on all major facilities and remains on schedule. 98% of the concrete has been placed. Electrical commissioning underway.
• The Flow Equalization washdown system control panel installation is nearly complete and programming of automated wash-down sequences is nearing completion.
• The CO Tank Conversion Project has started the planning phase.
• Planning effort has started for decommissioning and close-out projects.
Program Progress

Biological Nutrient Removal
Program Progress

Primary Effluent Pump Station

Biofilter

Biological Nutrient Removal
Program Progress

Tertiary Treatment Facilities
Program Progress

TTF: Disinfection Contact Basins
Program Progress

TTF: Granular Media Filters
Program Progress

Tertiary Treatment Facilities
Upcoming Major Activities

Summer/Fall 2021

- Commission FEQ automated washdown system
- Continue TTF building construction and begin electrical equipment commissioning. Make initial connection to 96-inch secondary effluent pipeline.
- Complete BNR final Reliability Acceptance Testing @ Full Design Flow of 330 MGD
- Complete BNR punch list activities
- Continue planning efforts for close-out projects
  - CO Tanks Repurposing or Demo
  - Cryo Plant Decommissioning
  - Outfall Demo of Old Chemical Systems
  - Final Site Improvements
Harvest Water Program Update
Harvest Water Projects

• Harvest Water Pumping Station (HWPS)
  – 3 to 105 MGD Design Capacity
  – Six 600 HP Vertical Turbine Pumps Plus Standby
  – Electrical Building with Medium Voltage SWGR and VFDs
  – Dual Flow Meters – Low and High Flows
  – Surge Control System (Dual Tanks)
  – 66” Discharge to Elk Grove T-Main

Planning Level Cost Estimate: $26M
Harvest Water Projects

• Elk Grove Transmission Pipeline
  – 5 +/- Miles of 66-inch Pipeline
  – Material: Likely Welded Steel
  – 7 to 8 trenchless crossings (UPRR, Intersections, Water)
  Planning Level Cost Estimate: $69.8M

• Franklin-Eschinger Pipeline
  – 10 +/- Miles of 66-inch to 18-inch Pipeline
  – Materials: Welded Steel, PVC, HDPE, DIP?
  – 2 trenchless crossing (UPRR, Water)
  Planning Level Cost Estimate: $58.1M
Harvest Water Projects

• Central-South Distribution Pipelines
  – 15+/- Miles of 36-inch to 12-inch Pipeline
  – Material: PVC, HDPE, DIP?
  – No trenchless crossings
  Planning Level Cost Estimate: $35.2M

• West Distribution Pipelines
  – 12+/- Miles of 48-inch to 12-inch Pipeline
  – Material: PVC, HDPE, DIP?
  – 8 trenchless crossings (UPRR, Water)
  Planning Level Cost Estimate: $32.5M
Harvest Water Projects

- On-Farm Connections
  - Flow Control and Metering
  - Pressure Monitoring
  - Automated Control Based on Schedule
  - On Grower’s Property – Easement Acquisitions
  - # of Connections Estimated: 70 to 100 initially

Planning Level Cost Estimate: $15M
## Summary Program Schedule

<table>
<thead>
<tr>
<th>Project</th>
<th>Design NTP</th>
<th>Bid Date</th>
<th>Construction NTP</th>
<th>Substantial Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harvest Water Pumping Station</td>
<td>22-Sep-21</td>
<td>Mar-23</td>
<td>May-23</td>
<td>Jan-25</td>
</tr>
<tr>
<td>Elk Grove Transmission Pipeline</td>
<td>22-Sep-21</td>
<td>Dec-22</td>
<td>Feb-23</td>
<td>Jun-24</td>
</tr>
<tr>
<td>Franklin-Eschinger Pipelines</td>
<td>22-Sep-21</td>
<td>Feb-23</td>
<td>Apr-23</td>
<td>Sep-24</td>
</tr>
<tr>
<td>Central-South Pipelines</td>
<td>10-Nov-21</td>
<td>Jun-23</td>
<td>Aug-23</td>
<td>Jan-25</td>
</tr>
<tr>
<td>West Pipelines</td>
<td>13-Jan-22</td>
<td>Apr-23</td>
<td>Jul-23</td>
<td>Apr-25</td>
</tr>
<tr>
<td>On-Farm Connections</td>
<td>13-Jan-22</td>
<td>Mar-23</td>
<td>Jun-23</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Current Activities

- Design Consultant Procurement
- Property Rights
- Grower Outreach – Water Demands and Delivery Requirements
- Environmental Permitting
- Grant Funding Agreements
- Customer Agreements
- Recycled Water Utility Framework
- Public Outreach
Regional San Engineering Projects
Other Regional San Projects

• Bio-Generation Facility
  – On-Site Power Generation Burning Digester Gas
  – 8 to 12 MW Generation Capacity
  – Design-Build-Operate Delivery
  – 3 DB Teams Pre-Qualified
  – RFP in Spring 2022
  Planning Level Cost Estimate: $100M

• SRWTP Chiller Replacement
  – Replace Original Failing Absorption Chillers
  – BCE Recommendation: Electric Chillers
  – DBB Delivery with Design Start in 2021
  Planning Level Cost Estimate: $5M
Other Regional San Projects

• RTP I/O Sub-System Replacement
  – Replace obsolete equipment with PLC based system
  – Start with Primary Process Area Control Center (ACC3)
  – In-House Design for ACC3
  – Multiple ACCs over next several years, Total Cost $40M?

• Rehabilitation Projects
  – Digesters
  – Secondary Sedimentation Tanks
  – Ferric Chloride Chemical Feed Equipment, Rail Delivery?
  – N21 - Central Interceptor Near-Term Rehab: 22,000 LF 84-inch to 120-inch Calcareous Concrete Pipe.
  – N12 Interceptor Facility, 72-inch FM and 48-inch Bypass
Other Regional San Projects

• Bio-Generation Facility
  – 5 +/- Miles of 66-inch Pipeline
  – Material: Likely Welded Steel
  – 7 to 8 trenchless crossings (UPRR, Intersections, Water)
  Planning Level Cost Estimate: $90M

• SRWTP Chiller Replacement
  – 10 +/- Miles of 66-inch to 30-inch Pipeline
  – Materials: Welded Steel, PVC, HDPE, DIP?
  – 3 trenchless crossing (UPRR, Water)
  Planning Level Cost Estimate: $58.1M
Questions?
Water System
Capital Improvement Program

CMAA
July 29, 2021
Agenda

- Intro to EBMUD Water
- Who Builds Water?
- Upcoming Water System Construction and Consultant Opportunities
To manage the natural resources with which the District is entrusted; to provide reliable, high-quality water and wastewater services at fair and reasonable rates for the people of the East Bay; and to preserve and protect the environment for future generations.
EBMUD Water System

- 167 Reservoirs
- 136 Pumping plants
- 4,200 mi. pipelines
Current Water System CIP Budget by Asset Class (FY22-26)

- Pipelines: 42%
- WTPs: 20%
- Raw Water: 8%
- Other: 15%
- Reservoirs: 7%
- Other: 5%
- PPs: 3%
We Build Water!

Construction Division
- 87 staff
- Administration (5)
- Survey (25)
- Plant Inspection (8)
- Field Inspection (28)
- CM (21)
### Upcoming Water System Construction Contracts

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Est. Contract Value</th>
<th>Description</th>
<th>Estimated Advertise Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orinda, Lafayette, and Walnut Creek Water Treatment Plants Carbonic Acid Storage and Feed Control Systems</td>
<td>$10M</td>
<td>Rehabilitation of chemical feed systems and various EBMUD WTPs</td>
<td>08/2021</td>
</tr>
<tr>
<td>Orinda Water Treatment Plant Disinfection and Chemical Systems Safety Improvements</td>
<td>$185M</td>
<td>Water Treatment Plant Ultraviolet treatment and chemical system improvements</td>
<td>08/2021</td>
</tr>
<tr>
<td>Westside Pumping Plant Relocation, Encinal Regulator Installation, and Encinal Reservoir and Pumping Plant Demolitions</td>
<td>$5M</td>
<td>New Pumping Plant and regulator, reservoir and pumping plant demolition</td>
<td>08/2021</td>
</tr>
<tr>
<td>Oakland Inner Harbor Pipeline Crossing</td>
<td>$29M</td>
<td>Installation of new pipelines across Oakland Estuary</td>
<td>09/2021</td>
</tr>
<tr>
<td>Pardee Center and Recreation Area Water Treatment Improvements</td>
<td>$3.5M</td>
<td>Replace potable water treatment facilities at Pardee Recreation Area and Pardee Center</td>
<td>10/2021</td>
</tr>
<tr>
<td>Project Name</td>
<td>Est. Contract Value</td>
<td>Description</td>
<td>Estimated Advertise Date</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>---------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Briones Reservoir Tower Upgrade</td>
<td>$8M</td>
<td>Rehabilitation of the Briones Reservoir Tower</td>
<td>10/2021</td>
</tr>
<tr>
<td>Upper San Leandro and Sobrante Water Treatment Plants Reliability and Chemical Systems Safety Improvements</td>
<td>$100M</td>
<td>Water Treatment Plant Improvements for reliable operation</td>
<td>11/2021</td>
</tr>
<tr>
<td>Happy Valley and Sunnyside Pumping Plants</td>
<td>$8M</td>
<td>New pumping plants and associated pipelines</td>
<td>11/2021</td>
</tr>
<tr>
<td>Camanche South Shore Wastewater Collection System Improvements</td>
<td>$7M</td>
<td>Replace sewer mains, lift stations, and force mains. Install other water treatment facilities</td>
<td>02/2022</td>
</tr>
<tr>
<td>Pardee Chemical Plant Improvements</td>
<td>$25M</td>
<td>Treatment facility improvements</td>
<td>03/2022</td>
</tr>
<tr>
<td>Wildcat Pipeline Improvements – El Cerrito</td>
<td>$12M</td>
<td>New large diameter pipeline</td>
<td>07/2022</td>
</tr>
</tbody>
</table>
Upcoming CM-Inspection RFP
Orinda WTP Disinfection & Safety Improvements

CM and Inspection Services

- One or two contracts for $10M total over 5-years
- Construction Support and Specialty Inspection
- Structural RE, scheduler, estimator, quality assurance officer, specialty inspectors, dispute advisor
Orinda WTP CM and Inspection

- RFP Out – August 2021
- Award – Late 2021
- NTP - Early 2022
Helpful Links:

https://www.ebmud.com/business-center/requests-proposal-rfps/

https://construction-bids.ebmud.com/

Construction Questions to:

constructionstrong@ebmud.com
Overview of SFPUC Water Capital Improvement Programs

July 29, 2021
Katie L. Miller, Director
Water Capital Programs - Infrastructure

Presented to: CMAA Northern California Chapter
Mission Statement:

Our mission is to provide our customers with high quality, efficient and reliable water, power, and sewer services in a manner that is inclusive of environmental and community interests, and that sustains the resources entrusted to our care.
SFPUC REGIONAL WATER SYSTEM
SFPUC HHWP Assets

Hetch Hetchy Water and Power
- 7 dams,
- 6 reservoirs,
- 3 hydroelectric generation facilities,
- 60 miles tunnels,
- 160 miles pipelines, and
- extensive power facilities.
Regional Water System

- 10 dams,
- 5 reservoirs,
- 20 miles tunnels,
- 230 miles pipelines,
- 5 pump stations,
- 3 water treatment plants,
- 13 groundwater wells, and
- 27 wholesale customers.
Local Water System

11 reservoirs,
10 tanks,
24 pump stations,
1,240 miles of pipelines,
7 groundwater wells,
130 miles of firefighting pipelines,
8,000 hydrants, and
188,000 metered retail customers.
SFPUC Water Capital Programs

SFPUC has a 10-Year CIP budgeted every 2 years

**Water System Improvement Program (WSIP)**
- 2005-2023; 99% complete
- 87 Local and Regional Projects
- $4.8B

**Water Enterprise Capital Improvement Program (WECIP)**
- 2021-2030
- 36 Regional (Bay Area) and Local (SF) Projects + R&R
- $2.2B

**Hetchy Capital Improvement Program (HCIP)**
- 2018-2030
- 22 Regional (Upcountry) Projects + R&R
- $1B
Level of Service Goals and Prioritization in Capital Planning

Water LOS Goals:
• Seismic Reliability
• Delivery Reliability
• Water Quality
• Water Supply

Criticality Scoring
• Risk, consequence of Failure
Upcoming Construction Opportunities
Regional Groundwater Storage & Recovery - Phases 2A and 2B

Construction Estimate: $10.5M (two contracts)

• Major mechanical and electrical for one well site;
• Minor mechanical and electrical for ten well facilities;
• Cathodic protection on ten well pump systems;
• Furnish/install 8-inch ductile iron pipe;
• Restore roadways.

Trades: earthwork, paving, concrete, pipeline, electrical, mechanical, plumbing

Advertisement Dates:
2A: September 2021
2B: May 2022
Southern Skyline Blvd Ridge Trail Extension

Construction Estimate: $13M

- Construction of 6-mile-long trail extension;
- Install trail, soldier pile retaining walls, fencing, parking lots, pre-fabricated vault toilets and a pre-fabricated bridge.

Trades: traffic control, earthwork, paving, trucking, concrete, fencing, landscaping

Advertisement Date:
September 2021
Local (San Francisco) Pipeline Construction Projects

Water Pipeline Construction Contracts

SFPUC Lead:
2021/22 Advertisement
Diamond Street ($9.6M) – Currently Advertised
Laidley Street ($7.8M)
Hampshire St. ($17.7M)
Gold Mine Drive ($6.3M)

2022/23 Advertisement:
Jersey Street ($8.0M)
Precita Avenue ($7.3M)
Parnassus Avenue ($8.6M)
21st Street ($5.6M)
San Bruno Avenue ($7.4M)
Joost Street ($8.6M)

Requirements for Local Water Construction Projects to install distribution (<48”) water pipelines:

- Companies or principal staff with five years experience in:
  - Water pipeline construction (<48”)
  - Welded steel/ductile iron pipeline (<48”)
  - Working in urban settings
  - Field engineers/superintendents with five years experience in pipeline work
New CDD Headquarters at 2000 Marin, San Francisco

Construction Management/General Contractor (CM/GC)

Construction Estimate: $225M

- Administration Building
- Warehouse
- Industrial Shops: Machine, Meter, Carpentry, Electrical, and Landscaping
- Parking Structure

Trades: construction management, earthwork, paving, concrete, heavy equipment, welding, carpentry, plumbing, electrical, HVAC, security system, painting, and landscaping

Advertisement Date:

June 2021 – bids due August 11, 2021 4:00PM
## Water Contracts to be Advertised in 2022

<table>
<thead>
<tr>
<th>Project</th>
<th>Estimated Contract Value</th>
<th>Advertise Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay Division Pipeline No. 4 Prestressed Concrete Pipe Repair</td>
<td>$2.8M</td>
<td>Spring 2022</td>
</tr>
<tr>
<td>Harry Tracy Water Treatment Plant Filter Underdrain Replacement</td>
<td>$8.7M</td>
<td>Summer 2022</td>
</tr>
<tr>
<td>Millbrae Administrative Building – HVAC Upgrades &amp; Security Upgrades (2 contracts)</td>
<td>$8.5M</td>
<td>Summer 2022</td>
</tr>
<tr>
<td>Large Diameter Pipeline As-Needed Repairs and Bay Division Pipeline Nos. 1-4 Corrosion Repairs</td>
<td>$8.4M</td>
<td>Fall 2022</td>
</tr>
<tr>
<td>Sunol Valley Water Treatment Plant Polymer Feed Facilities</td>
<td>$8.0M</td>
<td>Fall 2022</td>
</tr>
</tbody>
</table>
## Contracts to be Advertised in 2023

<table>
<thead>
<tr>
<th>Project</th>
<th>Estimated Contract Value</th>
<th>Advertise Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystal Springs Pipeline No. 2 Reach 5 Lining Replacement</td>
<td>$12M</td>
<td>Fall 2023</td>
</tr>
<tr>
<td>San Antonio Pump Station Motor Control Center Upgrades</td>
<td>$7M</td>
<td>Summer 2023</td>
</tr>
<tr>
<td>Town of Sunol Pipeline</td>
<td>$2M</td>
<td>Fall 2023</td>
</tr>
<tr>
<td>Contract Title</td>
<td>Estimated Contract Value</td>
<td>Advertise Date</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------------</td>
<td>--------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>SJPL Valve and Safe Entry Improvements – Phase 1A (HH-1005)</td>
<td>$12 M</td>
<td>September 2021</td>
</tr>
<tr>
<td>SJPL Valve and Safe Entry Improvements – Phase 1B (HH-1006)</td>
<td>$8 M</td>
<td>December 2021</td>
</tr>
<tr>
<td>Electric Transmission Lines 7/8 Upgrades (HH-1007)</td>
<td>$28 M</td>
<td>January 2022</td>
</tr>
<tr>
<td>SJPL Valve and Safe Entry Improvements – Phase 3</td>
<td>$7 M</td>
<td>May 2022</td>
</tr>
<tr>
<td>O'Shaughnessy Dam Outlet Works, Phase 1</td>
<td>$15 M</td>
<td>June 2022</td>
</tr>
<tr>
<td>SJPL Valve and Safe Entry Improvements – Phase 2</td>
<td>$30 M</td>
<td>December 2022</td>
</tr>
</tbody>
</table>
San Joaquin Pipeline Valve and Safe Entry Improvement Phase 1 A & B

Replace large diameter isolation valves at Tesla Valve House, install removable spool pieces at Oakdale and Tesla Portals.

Trades: plumbers, welders, pipefitters, concreters, heavy equipment operators, and carpenters.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Anticipated Advertisement Date</th>
<th>Construction Contract Estimate</th>
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</thead>
<tbody>
<tr>
<td>Phase 1A</td>
<td>September 2021</td>
<td>$12 M</td>
</tr>
<tr>
<td>Phase 1B</td>
<td>December 2021</td>
<td>$8 M</td>
</tr>
</tbody>
</table>
O’Shaughnessy Dam Outlet Works, Phase 1

Install, replace or rehabilitate bulkhead system, access and drainage within the dam.

Trades: plumbers, welders, pipefitters, concreters, heavy equipment operators, carpenters.

<table>
<thead>
<tr>
<th>Anticipated Advertisement Date</th>
<th>Construction Contract Estimate</th>
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</thead>
<tbody>
<tr>
<td>June 2022</td>
<td>$15M</td>
</tr>
<tr>
<td>Request for Proposal Title</td>
<td>Estimated Contract Value</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Regional Groundwater Treatment Improvements Project (PRO.0187)</td>
<td>$11.0M</td>
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<tr>
<td>Engineering Services for the Emergency Firefighting Water System and City’s Water Distribution System (PRO.0163)</td>
<td>$8.0M</td>
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<tr>
<td>Corrosion Control Engineering and Inspection Services (PRO.0176)</td>
<td>$3.0M</td>
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<tr>
<td>Wastewater Capital Plan Delivery (PRO.0179)</td>
<td>$90.0M</td>
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<tr>
<td>Program Management Services, SFPUC Water Capital Programs (PRO.0205)</td>
<td>$80.0M</td>
</tr>
<tr>
<td>Engineering Services for Millbrae Yard Laboratory &amp; Shop Improvements (PRO.0186)</td>
<td>$7.5M</td>
</tr>
</tbody>
</table>
The San Francisco Public Utilities Commission Local Business Enterprise (SFPUC-LBE) Certification Program provides small and micro construction firms located in the Hetch Hetchy water service area opportunity to bid and compete for contracts under regional capital improvement projects.

What type of work applies towards certification?

- Public works/construction services
- Construction material supplies
- Construction equipment rental and/or trucking
- Professional services (construction management, architectural and engineering)
Questions?
Questions?