San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102
T 415.554.3155
F 415.554.3161
TTY 415.554.3488

DATE: March 7, 2023

TO: Commissioner Newsha Ajami, President
Commissioner Sophie Maxwell, Vice President
Commissioner Tim Paulson
Commissioner Anthony Rivera
Commissioner Kate Stacy

FROM: Dennis J. Herrera, General Manager

RE: Water Enterprise Capital Improvement Program Quarterly Report (2nd Quarter / FY 2022-2023)

Enclosed please find the Water Enterprise Capital Improvement Program (WECIP) Quarterly Report for the 2nd Quarter (Q2) of Fiscal Year (FY) 2022-2023. The primary intent of the report is to provide the Commission, stakeholders, and the public with a status summary of the Water Enterprise Capital Improvement Program based on data for the period of October 1, 2022 to December 31, 2022.

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San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

QUARTERLY REPORT

Water Enterprise Capital Improvement Program

Q2 FY 2022 | 2023

October 2022 — December 2022

Published: March 7, 2023

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EXECUTIVE SUMMARY

This quarterly report provides a summary update on both Regional and Local Water Enterprise CIP projects. The primary intent of the report is to provide the Commission, stakeholders, and the public with a status summary of the Water Enterprise Capital Improvement Program based on data for the period of October 1, 2022 to December 31, 2022.

This quarterly report incorporates all the changes made to the Regional Water Enterprise CIP projects and the Local Water Enterprise CIP projects according to the 10-Year Water Enterprise Capital Plan for FY2022-23 to FY2031-32, presented to and approved by this Commission on February 8, 2022.

The 2022 approved Regional Water Enterprise CIP (2022 Regional WECIP) has twenty-five (25) projects only one of which is not yet initiated – Merced Manor Reservoir Facilities Repairs.

The 2022 approved Local Water Enterprise CIP (2022 Local WECIP) has eleven (11) projects, all of which are in progress.

Program Current Status:

Overall steady progress continued on the ongoing Water Enterprise CIP projects. As of the end of the reporting period, the Regional Water Enterprise CIP includes 25 projects in various phases as follows: one (1) project not initiated, twenty (20) projects in planning, design or bid and award, two (2) projects in construction, and two (2) projects in closeout.

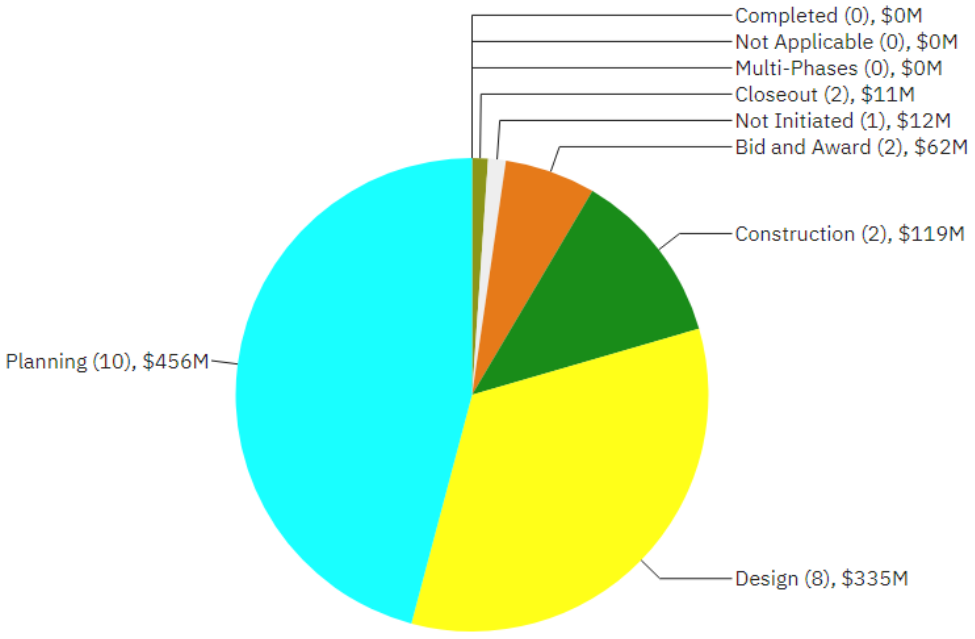

Figure A Total Current Approved Budget for Regional Projects Active in Each Phase

As of the end of the reporting period, the Local Water Enterprise CIP includes 11 projects in various phases as follows: three (3) projects in multiple phases, five (5) projects in planning or design, and three (3) projects in construction.

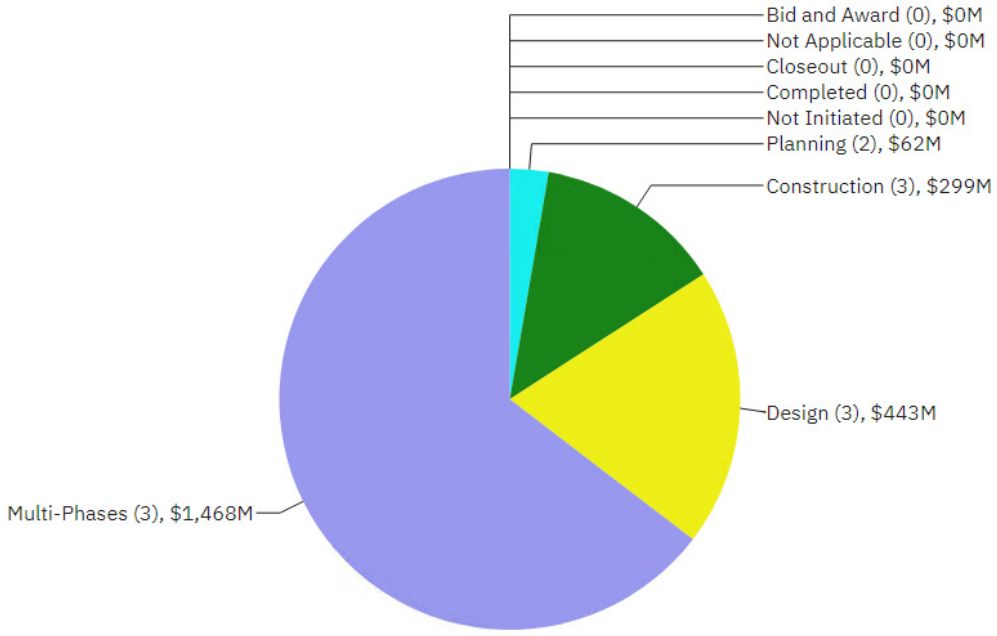

Figure B Total Current Approved Budget for Local Projects Active in Each Phase

The following Tables provide a high- level summary of the cost and schedule status for the Regional and Local programs.

Table A. Program Cost Summary

Programs	Expenditures To Date ($ Million) (A)	Current Approved Budget ($ Million) (B)	Q2/FY22-23 Forecast Costs ($ Million) (C)	Cost Variance ($ Million) (D = B - C)	Variance Over Reporting Period* ($ Million) (E)
Regional Program	**$173.12**	$995.12	$1,111.60	($116.48)	($125.41)
Local Program	**$843.88**	$2,271.39	$1,969.74	$301.65	$301.65
Programs Total	**$1,017.00**	**$3,266.51**	**$3,081.34**	**$185.18**	**$176.24**

* Negative number reflects cost increases since last quarter, and positive number reflects cost reduction since last quarter.

The total Current Approved Budget (including Regional and Local Programs) and Current Forecast Cost at completion are $3,266.5 million and $3,081.3 million, respectively. The Current Approved Budget and Forecast Cost at completion for only the Regional Water Program (including construction contingency) are $995.1 million and $1,111.6 million, respectively. The Current Approved Budget and Forecasted Cost at completion for only the Local Water Program (including construction contingency) are $2,271.4 million and $1,969.7 million, respectively.

Fifteen (15) projects in the Regional Program, and seven (7) projects in the Local Program, had schedule variances during the quarter. These project variances impacted only the Local Program's forecasted completion date.

Table B. Current Approved vs. Current Forecast Schedule Dates

Programs	Current Approved Project Start	Actual Start	Current Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Water Regional	01/01/09	01/01/09	06/29/35	06/29/35	-
Water Local	03/03/03	03/03/03	06/30/32	06/30/33	12 (Late)
Overall Water Enterprise CIP	**03/03/03**	**03/03/03**	**06/29/35**	**06/29/35**	

Program Key Updates:

The key updates for the Regional Water Enterprise Capital Improvement Program include:

- For the Sunol Valley Water Treatment Plant Ozone project, the 95% design and environmental work continued. It was determined that the washwater recovery system upgrades and repairs will be included in the Ozone design but the decant pump station will be addressed in a future project. The project will apply for State Revolving Fund loan financing for potentially significant cost savings.
- For San Andreas-1 Service Road/Ingoing Road project, the planning phase and 50% design have been completed.
- For the Crystal Springs Pipeline No. 2 Reach 5 Lining Replacement, the Conceptual Engineering Report was presented to the Technical Steering Committee and approved this quarter. A consultant task order for design support services is being negotiated.
- For the Crystal Springs Pipeline No. 2 Reaches 2 and 3 Rehabilitation, a draft Conceptual Engineering Report was completed and distributed for review this quarter and will be presented to the Technical Steering Committee for approval early next quarter.

- For the Regional Groundwater Treatment project, preparation of a Request for Proposals to procure a professional services contract for assistance with project planning, design, engineering services during construction, and closeout continued; however the impact of deferred future project funding due to 10-Year CIP budgeting priorities is being evaluated.
- For the Sunol Valley Water Treatment Plant – Short Term Improvements, during the reporting period the 50% design was submitted for review and a workshop/presentation was held for Water Enterprise. Work continued on the 50% cost estimate and started on the 95% design.
- For the Sunol Valley Water Treatment Plant – Polymer Feed Facility, during the reporting period, coordination continued on the full-scale tests to confirm the performance criteria and need for polymer systems in all five sedimentation basins.

The key updates for the Local Water Enterprise Capital Improvement Program include:

- For the Local Water Conveyance/Distribution System, the forecast mileage for the main replacement program in FY23 is 8.2 miles. FY23 budget increased from $29.6M to $61.2M with approximately $10M of additional budget received due to the redirection of funds in FY22 for the Stern Grove Emergency Restoration Contract and approximately $21.6M in additional funding that was previously not available Contracts under construction during the Q2 FY23 include pipeline replacements on the City streets of 17th Street, 19th Avenue, Vicente Street, Prospect Avenue, L-Taraval Segment B, and Diamond Street. The 17th Street contract achieved substantial completion during the quarter.
- For College Hill Reservoir Outlet, the contractor completed installation of the valve vault reinforced concrete wall; installation of reinforced concrete headwall within the reservoir; backfill of the jack-and-bore jacking and receiving pits; and installation of the 36-inch diameter welded steel pipe from the valve control to Santa Maria; relocation of the 8-inch diameter ductile iron pipe on Santa Maria from Mission Street to Gladys; and demolition of the Chlorine Building's storage tank, electrical, piping, and water quality system in preparation for new water quality sampling equipment.
- For the New City Distribution Division (CDD) Headquarters project, proposals in response to the rebid of the design services contract were received in October. The Commission will consider approval and award of PRO.0264 to Mark Cavagnero Associates (MCA) on January 10. The contract will go to the Board of Supervisors for approval prior to award of the contract.

Quarterly Report

Water Enterprise Capital Improvement Program

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I. Regional Capital Improvement Program

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1. CAPITAL IMPROVEMENT PROGRAM DESCRIPTION

The San Francisco Public Utilities Commission (SFPUC) Water Enterprise manages a complex water supply system stretching from the Sierra Nevada to San Francisco and featuring a series of reservoirs, tunnels, pipelines, and treatment systems. Two unique features of this system stand out: the drinking water provided is among the highest quality in the world, and water deliveries are made to most customers without the use of power, by gravity flow, while generating power at the same time.

The SFPUC is the third largest municipal utility in California, serving 2.7 million residential, commercial, and industrial customers in the Bay Area. Approximately one-third of the delivered water goes to retail customers in San Francisco, while wholesale deliveries to 26 suburban agencies in Alameda, Santa Clara, and San Mateo counties comprise the other two-thirds.

The Regional Water System consists of water storage and treatment facilities; water transmission infrastructure; buildings and structures for facilities and employees; communications systems; and watersheds and Rights-of- Way (ROW) lands in San Mateo, Santa Clara, and Alameda Counties as well as western San Joaquin County. The Regional Water System also includes numerous assets in San Francisco that are operated in conjunction with the regional system. The Regional Water System Capital Improvement Program (Regional Water CIP) part of the SFPUC's Ten Year Capital Improvement Program (10-Year CIP), is a 10-year proposed appropriations plan including planned projects to physically improve the assets within the Regional Water System. The 10-Year CIP is updated every two years (with minor modifications in the off years) and integrated with the SFPUC's Financial Plan and rate-setting.

Biannual updates to the Regional Water CIP also account for post-Water System Improvement Program (post-WSIP) conditions, including deferred projects not in WSIP and new projects needed to continue meeting level of service goals and to maintain facilities in a state of good repair.

The capital planning process is used to inform the Regional Water CIP with updates to master plans, asset condition assessment, and review of levels of service. There are six (6) groupings of projects in the Regional Water CIP. The categories are:

- Water Treatment
- Water Transmission
- Water Supply and Storage
- Watershed and Lands Management
- Communications and Monitoring
- Buildings and Grounds

A project is formally initiated (Project Initiation) when the planning process begins, a project manager is assigned, and the project's initial Approved Budget consistent with the most recently adopted Regional Water CIP is established.

Projects move from the planning, design, and environmental review phase to contract-award and construction phase when Project Approval occurs through an action by the Commission, usually at the same time CEQA findings are adopted. The Commission may also make decisions about a project's scope, budget, or schedule during annual or bi-annual review and approval of the Regional Water CIP.

While a project is active, additional budget modifications outside of the annual or bi-annual CIP process require approval of the Assistant General Manager (AGM) for the Water Enterprise. When and if these budget modifications occur, the modified budget becomes the new Approved Project Budget.

Outside of formal budget adjustments, the project manager regularly estimates and records the anticipated final project cost and schedule as the Forecasted Cost and Forecasted Schedule. Minor modifications to scope or schedule must be approved by increasing levels of management, with major modifications requiring approval by the Program Director and AGMs of Infrastructure and Water Enterprise. Most scope, schedule, and budget changes must be pre-approved by the Change Control Board which consists of managers within the Water Enterprise and Infrastructure Division. Final Project Closeout must be approved by the AGMs for Infrastructure and Water Enterprise.

Changes to the approved baseline program, including any changes to continuing projects' scopes, schedules, and budgets, are proposed as part of the biannually updated 10- year CIP to be approved by the SFPUC Commission. The proposed revisions to the program become the new baseline for new and continuing projects' scopes, schedules, and budgets in the beginning of the new fiscal year following SFPUC Commission approval.

2. CAPITAL IMPROVEMENT PROGRAM STATUS

This Quarterly Report presents the progress made on Regional Water projects between October 1, 2022 and December 31, 2022. This document serves as the second (2nd) Quarterly Report in Fiscal Year 2022-2023 (FY23) published for the Water Enterprise Capital Improvement Program.

This quarterly report incorporates all the changes made to the Regional Water Enterprise CIP projects and the Local Water Enterprise CIP projects in the Water Enterprise Capital Improvement Program according to the 10-Year Capital Plan for FY2022-23 to FY2031-32, presented to and adopted by the Commission on February 8, 2022, under Resolution No. 22-0031. The 10-Year Capital Plan for FY2022-23 to FY2031-32 serves as the new baseline for project scopes, schedules, and budgets starting as of the first quarter (Q1) of FY2022-23. The 2022 Approved Water Enterprise CIP is a subset of the Regional and Local Water Enterprise 10-year CIP for FY2023-2032 and includes individual projects over $5 million that were then currently active or intended to be active by June 30, 2022 at the time proposed to the Commission on February 8, 2022.

The 2022 Approved Regional Water Enterprise CIP (2022 Regional WECIP) has twenty-five (25) projects. The only Regional project not yet initiated and therefore not reported on herein is Merced Manor Reservoir Facilities Repairs; a project description is included in Appendix A.

Figure 2.1 shows the total Current Approved Budget for the 25 Regional projects in each phase of the program as of December 31, 2022. The number of projects currently active in each phase is shown in parentheses.

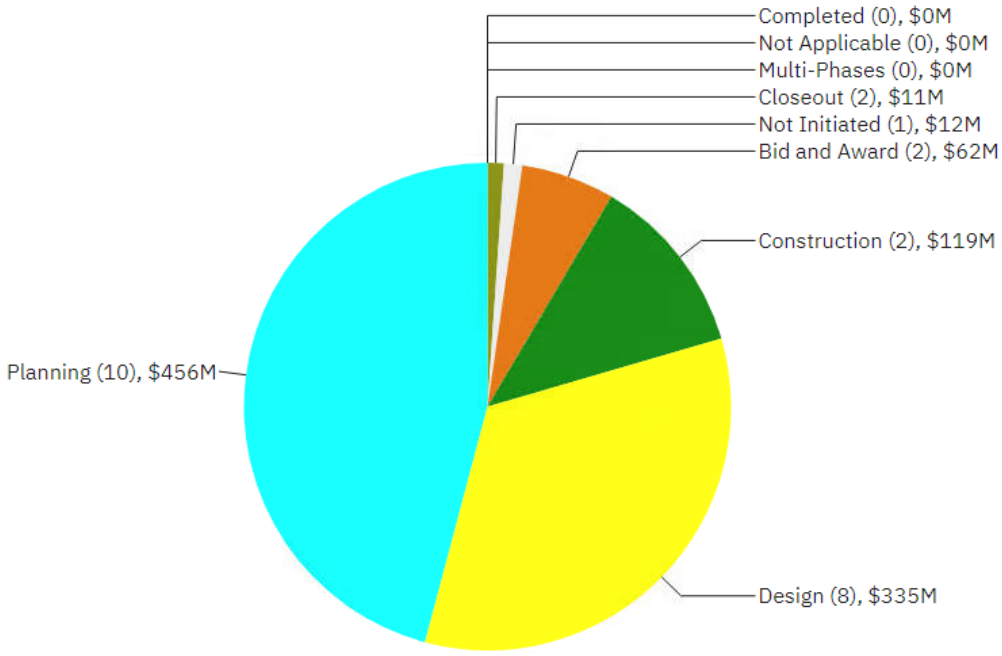

Figure 2.1 Total Current Approved Budget for Regional Projects Active in Each Phase

Figure 2.2 shows the number of Regional projects in the following stages as of December 31, 2022: Pre-construction, Construction, and Post-construction.

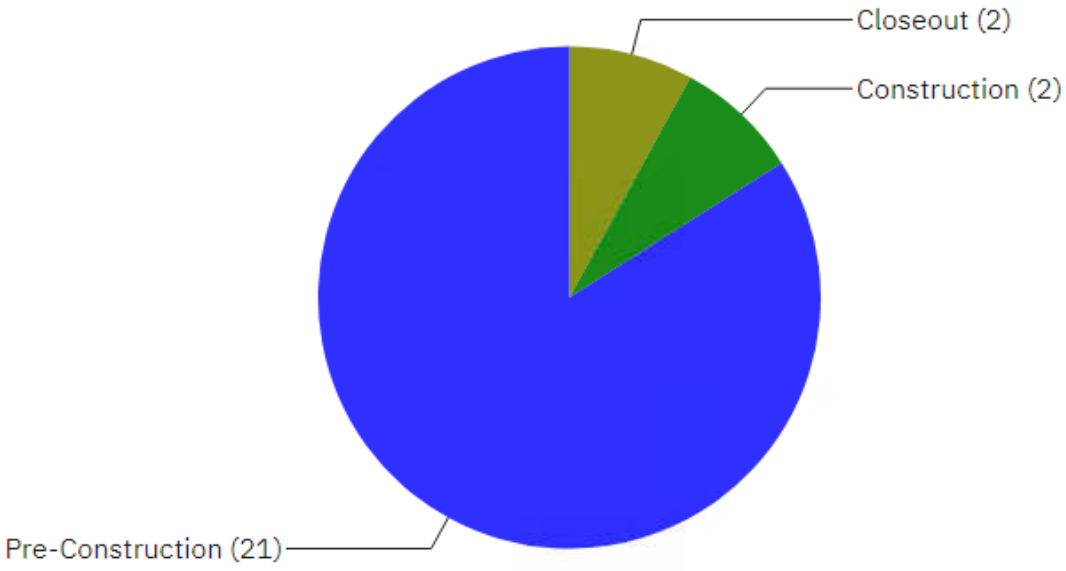

Figure 2.2 Number of Regional Projects in Pre-construction, Construction, and Post-construction

Figure 2.3 summarizes the environmental review status of the 25 Regional projects as of December 31, 2022.

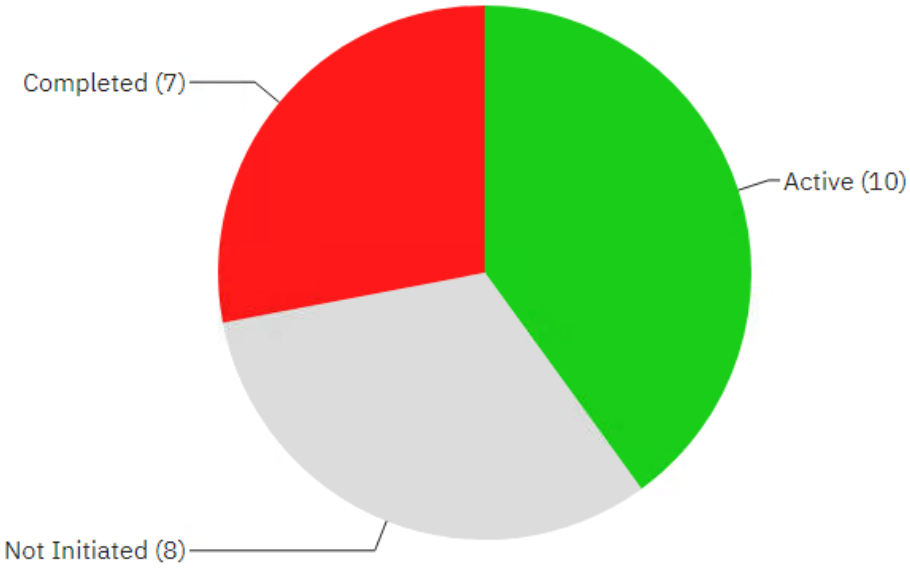

Figure 2.3 Regional Program Environmental Review

3. CAPITAL IMPROVEMENT PROGRAM COST SUMMARY

Table 3 provides an overall program-level cost summary of the Regional Water Program. It shows by categories of projects the Expenditures to Date, Current Approved Budgets, Q2/FY22-23 Forecast Costs, Cost Variance between the Current Approved Budgets and Forecast Costs, and Variance Over Reporting Period (difference between cost forecasts reported in Q1/FY22-23 and in Q2/FY22-23).

The total Current Approved Budget (including Regional and Local Programs) and Current Forecast Cost at completion are $3,266.5 million, and $3,081.3 million, respectively. The Current Approved Budget and Forecast Cost at completion for only the Regional Water Program (including construction contingency) are $995.1 million and $1,111.6 million, respectively.

The project budgets and schedules, including for new projects, that were included in the 10-Year CIP budget proposal that was presented to, and approved by, the Commission on February 8, 2022 became fully approved in Q1FY22-23 through Board of Supervisors action. Any variances from the budgets and schedules approved on February 8, 2022 are reported herein.

The overall 2022 Regional WECIP negative Cost Variance of $116.48M in Table 3 can be attributed to the following projects and their variances provided below; the reasons for the project variances are reported in Section 7:

- 10033123 SVWTP Ozone forecasted cost increased by $21.16M.
- 10015064 SVWTP Short Term Improvements forecasted cost increased by $5.84M.
- 10037628 SVWTP Polymer Feed Facility forecasted cost decreased by $3.43M.
- 10038328 SVWTP Long Term Improvements forecasted cost increased by $19.10M.
- 10015108 Sneath Lane Gate/North San Andreas forecasted cost increased by $5.70M.

- 10015113 Southern Skyline Blvd Ridge Trail Extension forecasted cost increased by $1.68M.
- 10030771 SA-1 Service Road/Ingoing Road forecasted cost decreased by $0.61M.
- 10034526 Millbrae Warehouse Settlement & Admin. Bldg. HVAC forecasted cost decreased by $8.93M.
- 10015124 Sunol Long Term Improvements forecasted cost increased by $9.58M.
- 10015128 Millbrae Yard Laboratory and Shop Improvements forecasted cost increased by $67.97M.
- 10033555 Rollins Road Building Renovations (CUW27703) forecasted cost decreased by $1.59M.

Table 3 Program Cost Summary

Programs	Expenditures To Date ($ Million) (A)	Current Approved Budget ($ Million) (B)	Q2/FY22-23 Forecast Costs ($ Million) (C)	Cost Variance ($ Million) (D = B - C)	Variance Over Reporting Period* ($ Million) (E)
Regional Water Program	**$173.12**	**$995.12**	**$1,111.60**	**($116.48)**	**($125.41)**
Water Treatment	$24.89	$335.38	$378.06	($42.68)	($42.68)
Water Transmission	$15.56	$228.78	$228.78	-	-
Water Supply & Storage	$8.77	$81.86	$81.86	-	-
Watershed & Lands Management	$12.60	$53.34	$60.11	($6.77)	($6.77)
Buildings and Grounds	$111.31	$295.75	$362.78	($67.03)	($75.96)
Local Water Program	**$843.88**	**$2,271.39**	**$1,969.74**	**$301.65**	**$301.65**
PROGRAMS TOTAL	**$1,017.00**	**$3,266.51**	**$3,081.34**	**$185.18**	**$176.24**

* Negative number is reflecting cost increases since last quarter, and positive number is reflecting cost reduction since last quarter

Please refer to the section of II.3 of this report for more details about the reported cost variance for the Local Water Program

4. CAPITAL IMPROVEMENT PROGRAM SCHEDULE SUMMARY

Figure 4 compares the Current Approved Schedule completion date and the Current Forecast Schedule completion date for the Regional Water CIP. As shown in Table 4, the Approved and Forecast Schedule completion for the overall Water Enterprise CIP (including Regional and Local Programs) are each in June 2035. The 2022 Approved and Forecast Schedule completion for the Regional Water CIP alone are also each in June 2035.

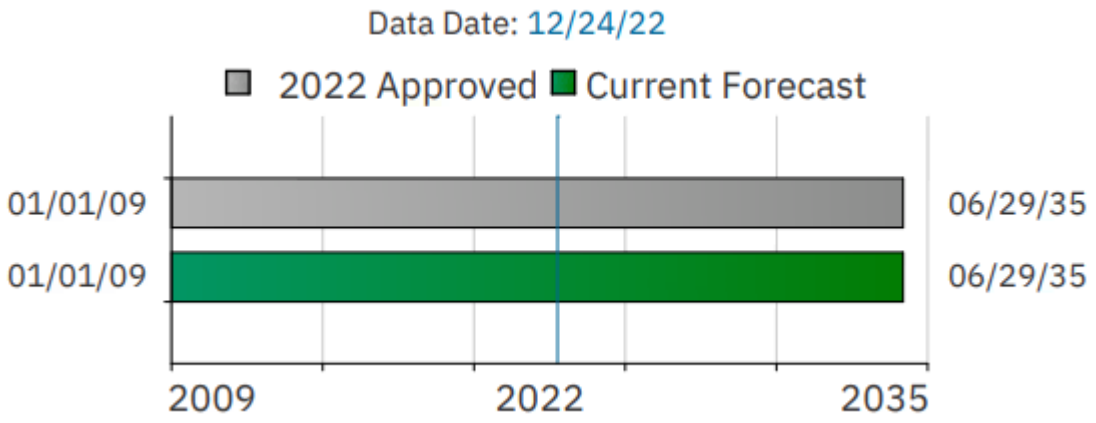

Table 4. Approved vs. Current Forecast Schedule Dates

Programs	Current Approved Project Start	Actual Start	Current Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Water Regional	01/01/09	01/01/09	06/29/35	06/29/35	-
Water Local	03/03/03	03/03/03	06/30/32	06/30/33	12 (Late)
Overall Water Enterprise CIP	**03/03/03**	**03/03/03**	**06/29/35**	**06/29/35**	

Please refer to the section of II.4 of this report for more details about the reported schedule variance for the Local Water Program.

5. BUDGET AND SCHEDULE TREND SUMMARY

Table 5, titled Budget and Schedule Trend Summary contains all approved Regional Water projects that are active and in any of the planning, design, bid and award, or construction phases of the project. The table excludes any projects that are either not-initiated, on-hold, in closeout, or completed.

During the reporting period, the following Regional projects achieved major project milestones:

- Construction notice-to-proceed (NTP) for HTWTP Filter Underdrain Replacement
- Construction final completion for Rollins Road Building Renovations

Table 5. Budget and Schedule Trend Summary

All Costs are shown in million.

Project Name	Most Recent CIP Approved Budget		Project Initiation		CER		35% Design		95% Design		Awarded Construction[1]		Current Status	
	Approved Budget	Approved Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion
	a	b	c	d	e	f	g	h	i	j	k	l	m	n
WECIP - Regional														
Water Treatment														
10033123 SVWTP Ozone	FY23-32		06/27/17		01/18/22		05/10/22		03/24/23		12/19/23		Q2-FY22-23	
	$192.8	06/30/28	$115	09/09/24	$192.8	06/30/28	$192.8	06/30/28	TBD	TBD	TBD	TBD	$214.0	11/21/28
10015064 SVWTP Short Term Improvements	FY23-32		03/03/14		07/29/22		01/24/23		10/02/23		03/12/24		Q2-FY22-23	
	$60.0	05/17/27	$7.1	10/01/18	$60.0	05/17/27	TBD	TBD	TBD	TBD	TBD	TBD	$65.9	12/29/27
10037628 SVWTP Polymer Feed Facility	FY23-32		07/16/16[2]		06/30/19[2]		08/17/20[2]		05/21/24		11/12/24		Q2-FY22-23	
	$19.1	08/01/25	$9.4	06/17/20	$10.2	02/15/23	$10.2	02/15/23	TBD	TBD	TBD	TBD	$15.6	07/09/27
10037349 HTWTP Filter Underdrain Replacement	FY23-32		11/02/20		06/29/21		10/22/21		01/14/22		09/02/22		Q2-FY22-23	
	$14.4	06/28/24	$14.4	06/28/24	$14.4	06/28/24	$14.4	06/28/24	$14.4	06/28/24	$14.4	06/28/24	$14.4	06/28/24
10037350 Regional Groundwater Treatment Improvement	FY23-32		08/13/20		09/30/27		06/07/28		06/28/29		06/28/30		Q2-FY22-23	
	$38.6	2/26/30	$38.6	12/27/29	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$38.6	12/31/33
10038328 SVWTP Long Term Improvements	FY23-32		11/01/21		06/27/25		11/17/25		07/28/26		06/21/27		Q2-FY22-23	
	$10.5	05/17/27	$10.5	05/17/27	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$29.6	08/10/29
Water Transmission														
10034578 CSPL2 Reach 5 Lining Replacement	FY23-32		02/25/19		01/31/23		05/31/23		03/29/24		04/30/25		Q2-FY22-23	
	$23.7	4/7/26	$12.8	11/30/22	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$23.7	11/30/27

Footnotes:

1. These columns represent forecast project cost and project completion date at the time of award of construction contract (or Award for CM/GC construction work).
2. For SVWTP Polymer Feed, project initiation, CER, and 35% Design were completed under WSIP - Closeout - Sunol Valley. Future milestones for this project are to be completed under WECIP.

All Costs are shown in million.

Project Name	Most Recent CIP Approved Budget		Project Initiation		CER		35% Design		95% Design		Awarded Construction[1]		Current Status	
	Approved Budget	Approved Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion
	a	b	c	d	e	f	g	h	i	j	k	l	m	n
10035029 As-Needed Pipeline Repairs	FY23-32		10/22/2016		06/30/21		03/28/23[2]		10/31/23		03/25/25		Q2-FY22-23	
	$7.7	08/25/28	$6.8	08/25/28	$6.8	08/25/28	TBD	TBD	TBD	TBD	TBD	TBD	$7.7	08/25/28
10036839 BDPL4 PCCP Repair	FY23-32		05/01/20		10/31/23		04/29/24		07/10/24		04/22/25		Q2-FY22-23	
	$54.7	5/28/25	$54.7	11/22/23	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$54.7	12/31/26
10036840 BDPL 1-4 Lining Repair	FY23-32		9/12/2016		06/30/21		06/14/23[2]		08/28/23		03/25/25		Q2-FY22-23	
	$10.8	08/25/28	$9.3	08/25/28	$9.3	08/25/28	TBD	TBD	TBD	TBD	TBD	TBD	$10.8	08/25/28
10015071 Corrosion Control	FY23-32		01/01/10		07/01/12 (Phase I) 12/29/17 (Phase II) 07/31/23 (Phase III)		12/31/13 (Phase I) 12/31/18 (Phase II) 08/30/24 (Phase III)		07/30/15 (Phase I) 11/30/21 (Phase II) 08/30/24 (Phase III)		12/30/18 (Phase I) 02/24/23 (Phase II) 08/01/25 (Phase III)		Q2-FY22-23	
Phase I Phase II Phase III	$36.5	01/31/28	$24.9	12/29/34	$24.9	12/29/34	$24.9	12/29/34	$36.5	1/31/28	$24.9	12/29/34	$36.5	06/30/28
10015076 San Antonio Pump Station MCC Upgrades	FY23-32		05/12/16		NA[3]		01/28/22[4]		09/30/22		09/22/23		Q2-FY22-23	
	$12.5	03/19/25	$7.2	01/27/23	NA	NA	$12.5	03/19/25	$12.5	03/19/25	TBD	TBD	$12.5	06/30/26
10015081 CSPL2 Reaches 2 and 3 Rehabilitation	FY23-32		09/12/16		01/31/23		05/31/23		03/29/24		04/30/25		Q2-FY22-23	
	$82.8	02/18/27	$55.9	10/10/23	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$82.8	11/30/27
Water Supply & Storage														
10036998 Turner Dam and Reservoir Improvements	FY23-32		10/01/20		06/30/27		06/29/28		12/31/30		10/21/31		Q2-FY22-23	
	$7.5	06/29/35	$7.5	06/29/35	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$7.5	06/29/35

Footnotes:

1. These columns represent forecast project cost and project completion date at the time of award of construction contract (or award of CM/GC scope).
2. This represents a project milestone of 50% Design.
3. For San Antonio Pump Station MCC, CER was not needed.
4. For San Antonio Pump Station MCC 35% Design was replaced with 65%

All Costs are shown in million.

Project Name	Most Recent CIP Approved Budget		Project Initiation		CER		35% Design		95% Design		Awarded Construction[1]		Current Status	
	Approved Budget	Approved Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion
	a	b	c	d	e	f	g	h	i	j	k	l	m	n
10015091 Pilarcitos Dam Improvements	FY23-32		04/07/14		06/30/23		02/08/24		02/07/25		11/12/25		Q2-FY22-23	
	$30.1	06/29/29	$25.7	09/05/25	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$30.1	06/29/29
10015092 San Andreas Dam Facility Improvements	FY23-32		12/11/13[3]		09/29/23[3]		09/30/24[3]		05/26/26[3]		05/4/27 (Scope I) 04/10/29 (Scope II)		Q2-FY22-23	
Scope I Scope II	$32.2	12/30/33	$26.8	04/20/27	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$32.2	12/30/33
Watershed & Lands Management														
10015108 Sneath Lane Gate/North San Andreas	FY23-32		02/01/21		03/24/22		10/16/24		05/09/25		10/28/25		Q2-FY22-23	
	$6.7	08/02/27	$6.7	01/27/28	$6.7	08/02/27	TBD	TBD	TBD	TBD	TBD	TBD	$12.4	08/02/27
10015113 Southern Skyline Blvd Ridge Trail Extension	FY23-32		10/31/12		03/09/15		09/10/15[2]		01/05/18		08/08/23		Q2-FY22-23	
	$25.3	02/02/24	$18.7	02/25/19	$18.7	02/25/19	$18.7	02/25/19	$19.3	07/22/21	TBD	TBD	$27.0	06/30/25
10030771 SA-1 Service Road/Ingoing Road	FY23-32		06/30/16		01/06/22		03/29/23[2]		06/19/23		02/29/24		Q2-FY22-23	
	$15.8	12/31/26	$9.6	12/31/26	$15.8	12/31/26	TBD	TBD	TBD	TBD	TBD	TBD	$15.2	03/03/27

Footnotes:

1. These columns represent forecast project cost and project completion date at the time of award of construction contract (or Award for CM/GC construction work).
2. This represents a project milestone of 50% Design.
3. For San Andreas Dam Facility Improvements, all milestones except Awarded Construction represent the same date for both scopes.

All Costs are shown in million.

Project Name	Most Recent CIP Approved Budget		Project Initiation		CER		35% Design		95% Design		Awarded Construction[1]		Current Status	
	Approved Budget	Approved Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion
	a	b	c	d	e	f	g	h	i	j	k	l	m	n
Buildings and Grounds														
10034526 Millbrae Warehouse Settlement & Admin. Bldg. HVAC	FY23-32		1/3/17		12/29/17 (Scope I) 01/2/18 (Scope II)		12/29/18(Scope I) 08/12/22 (Scope II)		08/03/20(Scope I) 03/29/23 (Scope II)		03/09/21 (Scope I) 10/10/23(Scope II)		Q2-FY22-23	
Scope I Scope II	$16.1	09/30/24	$5.5	11/30/23	$5.5	11/30/23	$7.1	06/02/25	$5.5	11/30/23	$5.5	11/30/23	$7.1	06/02/25
10015124 Sunol Long Term Improvements	FY23-32		01/01/09		04/27/12		05/28/13 (Scope I) 08/07/14 (Scope II)		03/30/15 (Scope I) 10/02/15 (Scope II)		11/08/16 (Scope I) 12/10/19 (Scope II)		Q2-FY22-23	
Scope I Scope II	$104.9	08/14/23	$91.7	09/01/21	$91.7	09/01/21	$91.7	09/01/21	$91.7	09/01/21	$91.7	09/01/21	$114.5	12/31/25
10015128 Millbrae Yard Laboratory and Shop Improvements	FY23-32		11/02/15		08/31/23		02/07/24		08/6/24		04/28/26		Q2-FY22-23	
	$169.6	03/30/29	$24.5	05/03/23	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$237.50	09/13/30

Footnotes:

1. These columns represent forecast project cost and project completion date at the time of award of construction contract (or Award for CM/GC construction work).

6. PROJECT PERFORMANCE SUMMARY*

All costs are shown in $1,000s

Project Name	Active Phase (a) (**)	CIP Approved Budget (b) (+)	Current Approved Budget (c) (++)	Current Forecast Cost (d)	Expenditures to Date (e)	Cost Variance (f=c-d) (+++)	% Cost Changes (g=f/c) (+++)	CIP Completion Date (h) (+)	Approved Completion Date (i) (++)	Forecast Completion Date (j)	Schedule Variance (Days) (k=i-j) (+++)
Water Treatment											
10033123 SVWTP Ozone (CUW27202)	DS	$192,816	$192,816	$213,972	$10,841	($21,157)	(11%)	06/30/28	06/30/28	11/21/28	(144)
10015064 SVWTP Short Term Improvements	DS	$60,035	$60,035	$65,871	$8,886	($5,836)	(10%)	05/17/27	05/17/27	12/29/27	(226)
10037628 SVWTP Polymer Feed Facility	DS	$19,046	$19,046	$15,620	$498	$3,426	18%	08/01/25	08/01/25	07/09/27	(707)
10037349 HTWTP Filter Underdrain Replacement	CN	$14,404	$14,404	$14,404	$2,699	$0	0%	06/28/24	06/28/24	06/28/24	0
10037350 Regional Groundwater Treatment Improvement	PL	$38,600	$38,600	$38,605	$1,920	($5)	0%	02/26/30	02/26/30	12/31/33	(1,404)
10038328 SVWTP Long Term Improvements	PL	$10,483	$10,483	$29,587	$43	($19,104)	(182%)	05/17/27	05/17/27	08/10/29	(816)

* Does not include projects in closeout, completed, not initiated,on hold, deleted projects, and projects combined with other projects.

**** Phase Status Legend**

PL Planning DS Design

BA Bid & Award CN Construction MP Multiple-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY23-32.

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(+++) Negative number reflects cost overrun (or schedule delay) and positive number reflects cost underrun (or ahead of schedule). Projects with a forecasted cost overrun greater than 10%, or forecasted delay of greater than 6 months or 10%, will be highlighted in grey.

Project Name	Active Phase (a) (**)	CIP Approved Budget (b) (+)	Current Approved Budget (c) (++)	Current Forecast Cost (d)	Expenditures to Date (e)	Cost Variance (f=c-d) (+++)	% Cost Changes (g=f/c) (+++)	CIP Completion Date (h) (+)	Approved Completion Date (i) (++)	Forecast Completion Date (j)	Schedule Variance (Days) (k=i-j) (+++)
Water Transmission											
10034578 CSPL2 Reach 5 Lining Replacement	PL	$23,697	$23,697	$23,696	$1,416	$0	0%	04/07/26	04/07/26	11/30/27	(602)
10035029 As-Needed Pipeline Repairs	DS	$7,724	$7,724	$7,723	$479	$0	0%	08/25/28	08/25/28	08/25/28	0
10036839 BDPL4 PCCP Repair	PL	$54,750	$54,750	$54,751	$641	($1)	0%	05/28/25	05/28/25	12/31/26	(582)
10036840 BDPL 1-4 Lining Repair	DS	$10,764	$10,764	$10,764	$341	$0	0%	08/25/28	08/25/28	08/25/28	0
10015071 Corrosion Control	BA	$36,536	$36,536	$36,536	$8,338	$0	0%	01/31/28	01/31/28	06/30/28	(151)
10015076 San Antonio Pump Station MCC Upgrades	DS	$12,500	$12,500	$12,500	$1,931	$0	0%	03/19/25	03/19/25	06/30/26	(468)
10015081 CSPL2 Reaches 2 and 3 Rehabilitation	PL	$82,813	$82,813	$82,813	$2,412	$0	0%	02/18/27	02/18/27	11/30/27	(285)
Water Supply & Storage											

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**** Phase Status Legend**

PL Planning DS Design

BA Bid & Award CN Construction MP Multiple-Phase

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Project Name	Active Phase (a) (**)	CIP Approved Budget (b) (+)	Current Approved Budget (c) (++)	Current Forecast Cost (d)	Expenditures to Date (e)	Cost Variance (f=c-d) (+++)	% Cost Changes (g=f/c) (+++)	CIP Completion Date (h) (+)	Approved Completion Date (i) (++)	Forecast Completion Date (j)	Schedule Variance (Days) (k=i-j) (+++)
10036998 Turner Dam and Reservoir Improvements	PL	$7,500	$7,500	$7,500	$1,870	$0	0%	06/29/35	06/29/35	06/29/35	0
10015091 Pilarcitos Dam Improvements	PL	$30,087	$30,087	$30,087	$4,022	$0	0%	06/29/29	06/29/29	06/29/29	0
10015092 San Andreas Dam Facility Improvements	PL	$32,195	$32,195	$32,195	$2,874	$0	0%	12/30/33	12/30/33	12/30/33	0
Watershed & Lands Management											
10015108 Sneath Lane Gate/North San Andreas	PL	$6,698	$6,698	$12,393	$450	($5,695)	(85%)	08/02/27	08/02/27	08/02/27	0
10015113 Southern Skyline Blvd Ridge Trail Extension	BA	$25,274	$25,274	$26,956	$6,037	($1,683)	(7%)	02/02/24	02/02/24	06/30/25	(514)
10030771 SA-1 Service Road/Ingoing Road	DS	$15,817	$15,817	$15,210	$1,075	$607	4%	12/31/26	12/31/26	03/03/27	(62)
Buildings and Grounds											

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**** Phase Status Legend**

PL Planning DS Design

BA Bid & Award CN Construction MP Multiple-Phase

Footnotes:

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(++) **Current Approved Budget and Schedule:** The budget and schedule approved as part of 10-year CIP for FY23-32, plus any additional budget and schedule changes approved by the Commission as part of construction contract award.

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Project Name	Active Phase (a) (**)	CIP Approved Budget (b) (+)	Current Approved Budget (c) (++)	Current Forecast Cost (d)	Expenditures to Date (e)	Cost Variance (f=c-d) (+++)	% Cost Changes (g=f/c) (+++)	CIP Completion Date (h) (+)	Approved Completion Date (i) (++)	Forecast Completion Date (j)	Schedule Variance (Days) (k=i-j) (+++)
10034526 Millbrae Warehouse Settlement & Admin. Bldg. HVAC	DS	$16,080	$16,080	$7,149	$2,203	$8,931	56%	09/30/24	09/30/24	06/02/25	(245)
10015124 Sunol Long Term Improvements	CN	$104,914	$104,914	$114,494	$99,517	($9,580)	(9%)	08/14/23	08/14/23	12/31/25	(870)
10015128 Millbrae Yard Laboratory and Shop Improvements	PL	$169,563	$169,563	$237,533	$6,211	($67,970)	(40%)	03/30/29	03/30/29	09/13/30	(532)

* Does not include projects in closeout, completed, not initiated,on hold, deleted projects, and projects combined with other projects.

**** Phase Status Legend**

PL Planning DS Design

BA Bid & Award CN Construction MP Multiple-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY23-32.

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7. PROJECT STATUS REPORT

10033123 - SVWTP Ozone (CUW27202)

Project Description: In recent years, SFPUC's Sunol Valley Water Treatment Plant (SVWTP) has experienced more frequent taste and odor (T&O) events from seasonal algal blooms than had occurred historically. This project's objective is to install ozone treatment facilities as a long-term solution to control T&O events encountered in the raw water supply from both the San Antonio and Calaveras Reservoir sources. This project will improve the reliability to meet water quality goals especially during warm months and during Hetch Hetchy shutdowns.

Program: Water Treatment	**Project Status:** Design	**Environmental Status:** Active (EIR)

Project Cost:

Approved	$ 192.82 M
Forecast	$ 213.97 M
Actual	$ 10.84 M

Project Schedule:

Approved 06/27/17	06/30/28
Forecast 06/27/17	11/21/28

Project Percent Complete: 5.1%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/15/23	08/29/23	03/04/24	11/22/27

Progress and Status:
During this reporting period, the 95% design and environmental work continued. The field investigation and potholing work for utility locations was completed. A memo evaluating the need for improvements to the existing decant pump station and washwater recovery system was completed. The washwater recovery system upgrades and repairs will be included in the ozone facility design. The decant pump station will be addressed in a future project. The project will apply for State Revolving Fund loan financing which would result in substantial cost savings. The environmental requirements will be fulfilled by adding an amendment to the SVWTP Expansion and Treated Water Reservoir Environmental Impact Report prepared under the Water System Improvement Program. The addendum will include the SVWTP Ozone, Polymer Feed Facility and the SVWTP Short Term Improvements projects.

Issues and Challenges:
The budget variance is due to further design development for the above ground water manifold and ozone contact structure, incorporation of updated construction escalation rate percentages, and increased project delivery costs, including the addition of costs for Department of Public Works Bureau of Architecture architectural services. The schedule variance is due to additional time needed to address design of improvements for the washwater recovery system and additional time that was recommended to mitigate risks for Bid and Award and Construction phases.

Decant Pumps

10015064 - SVWTP Short Term Improvements

Project Description: The primary objective of the SVWTP Short Term Improvements project is to improve regional delivery reliability by addressing various conditions and deficiencies of the Sunol Valley Water Treatment Plant (SVWTP). Upgrades were identified through condition assessments and operations staff observations, review of level of service, subsequent feasibility studies, and alternative analyses.

Program: Water Treatment	**Project Status:** Design	**Environmental Status:** Active (EIR)

Project Cost:

Approved	$ 60.03 M
Forecast	$ 65.87 M
Actual	$ 8.89 M

Project Schedule:

Approved 03/03/14	05/17/27
Forecast 03/03/14	12/29/27

Project Percent Complete: 19.2%

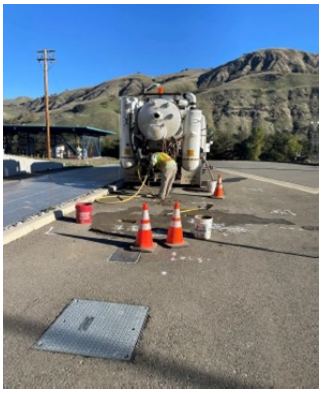
Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/03/23	12/11/23	07/01/24	07/01/27

Progress and Status:

During the reporting period the 50% design was submitted for review and a workshop/presentation of the 50% design was held for Water Enterprise. Work continued on the 50% cost estimate and commenced on the 95% design. The final design criteria report was submitted for signatures. The environmental requirements will be fulfilled by adding an amendment to the SVWTP Expansion and Treated Water Reservoir Environmental Impact Report that was prepared under the Water System Improvement Program.

Issues and Challenges:

The Short-Term Improvements project scope has been revised to include nine critical scope items to address plant reliability issues identified by Water Supply and Treatment Division. The budget variance is due to construction and project delivery cost increases since the draft Conceptual Engineering Report. The schedule variance is due to longer Conceptual Engineering Report and design phase durations needed to sequence and detail the requirements for the nine scope items. In addition, a longer construction duration is anticipated due to the changes in scope, extended anticipated construction material lead times, and need to coordinate construction within the limited time frames of facility outages.



Utility Pothole Work

10037628 - SVWTP Polymer Feed Facility

Project Description: At the Sunol Valley Water Treatment Plant (SVWTP), the new flocculation/sedimentation basin built in 2013 as well as the other 4 existing basins that are each rated at a capacity of 40 million gallons per day (mgd) were not able to achieve their capacity under all operating and water quality scenarios. A basin optimization plan was prepared to address the performance; it recommended adding a flocculant ai polymer system. The project will build a polymer feed facility that will serve all five sedimentation basins to optimize plant water production.

Program: Water Treatment	**Project Status:** Design	**Environmental Status:** Active (EIR)

Project Cost:

Approved	$ 19.05 M
Forecast	$ 15.62 M
Actual	$ 0.50 M

Project Schedule:

Approved 07/01/21	08/01/25
Forecast 07/01/21	07/09/27

Project Percent Complete: 1.7%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	03/24/23	06/28/24	03/03/25	08/31/26

Progress and Status:

During the reporting period, planning continued for the full-scale tests at Sunol Valley Water Treatment Plant to confirm the need and design criteria for polymer systems in all five sedimentation basins. The project team continued coordination on securing the polymer testing equipment. The project's environmental requirements will be fulfilled by adding an amendment to the Sunol Valley Water Treatment Plant Expansion and Treated Water Reservoir Environmental Impact Report that was prepared under the Water System Improvement Program.

Issues and Challenges:

The schedule variance is due to the need to perform additional full scale plant testing to verify performance assumptions. The full-scale testing is planned to begin in Summer 2023. After testing is complete, any needed scope refinements will be identified, confirmed, and implemented through this project. The budget variance is due to the implementation of the preferred cost savings option identified from the 65% cost estimate.

Sample Polymer Tote System

10037349 - HTWTP Filter Underdrain Replacement

Project Description: Over twenty projects have been identified to improve the performance and reliability of the Harry Tracy Water Treatment Plant (HTWTP). However, underdrains in two filters in a bank of six have failed since 2019 and replacement of the underdrains is being prioritized to restore the plant's treatment capacity and reliability. The remaining projects will be deferred to future CIP Planning.

Program: Water Treatment	**Project Status:** Construction	**Environmental Status:** Completed (Not Applicable)

Project Cost:

Approved	$ 14.40 M
Forecast	$ 14.40 M
Actual	$ 2.70 M

Project Schedule:

Approved 11/02/20	06/28/24
Forecast 11/02/20	06/28/24

Project Percent Complete: 32.4%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/29/21 A	04/21/22 A	10/03/22 A	12/29/23

Progress and Status:
Notice to Proceed (NTP) was issued for Contract WD-2887, Harry Tracy Water Treatment Plant - Filters No. 1 to 6 Underdrain Replacement, this quarter. Construction is in progress; Removal of the filter media and demolition of the existing plastic underdrains from Filters 2, 4, 5, and 6 have both been completed. Fabrication of the new stainless-steel underdrains is also in progress.

Issues and Challenges:
None at this time.

Removal of Filter Media

10037350 - Regional Groundwater Treatment Improvement

Project Description: The purpose of this project is to improve the performance of the Regional Groundwater Wells and treatment systems in the South Westside Basin for reliable use during dry years. In normal and wet years, the SFPUC will supply treated surface water to Daly City, San Bruno, and Cal Water to be used in place of their typical groundwater supply, thereby increasing the volume of groundwater in storage that can be pumped as supplemental water in dry years. This project will address emerging well water quality issues that require treatment, will provide additional reliability for treatment systems at the wells, and will evaluate the potential for a consolidated treatment facility (through Alternatives Analysis only). If a centralized treatment alternative is selected, the estimated project cost could potentially be $250 million, which includes construction of approximately 14 miles of 8" to 24" diameter pipeline, a pump station, storage tanks, treatment facilities, and other ancillary facilities. This project will build auxiliary water treatment facilities as well as other enhancements to increase the reliability and efficiency for maintenance and operation of the well stations.

Program: Water Treatment	**Project Status:** Planning	**Environmental Status:** Not Initiated (TBD)

Project Cost:

Approved	$ 38.60 M
Forecast	$ 38.61 M
Actual	$ 1.92 M

Project Schedule:

Approved 08/13/20	02/26/30
Forecast 08/13/20	12/31/33

Project Percent Complete: 2.6%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/21/29	11/30/29	07/01/30	06/30/33

Progress and Status:

The project team continued to revise and improve the Request for Proposals for consultant services to support project planning and design.

Issues and Challenges:

The overall schedule has been extended to accommodate 10-Year CIP budget restrictions, resulting in construction funding delayed to 2030. Project planning will continue on schedule with the intention of future budget cycles providing adequate funding for construction.

Typical Well Station

10038328 - SVWTP Long Term Improvements

Project Description: The primary objective of the SVWTP Long Term Improvements project is to improve regional delivery reliability by addressing various conditions and deficiencies of the Sunol Valley Water Treatment Plant (SVWTP). Upgrades were identified through condition assessments and operations staff observations, review of level of service, subsequent feasibility studies, and alternative analyses.

Program: Water Treatment	**Project Status:** Planning	**Environmental Status:** Not Initiated (TBD)

Project Cost:

Approved	$ 10.48 M
Forecast	$ 29.59 M
Actual	$ 0.04 M

Project Schedule:

Approved 11/01/21	05/17/27
Forecast 11/01/21	08/10/29

Project Percent Complete: 0.7%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	09/30/25	01/11/27	08/23/27	02/14/29

Progress and Status:

During the quarter, significant work was performed to sequence scope items in coordination with the SVWTP Short-Term Improvement Project. It was determined that a Request for Proposals for a professional services support contract will be needed for this project. The scope for the contract was drafted during the quarter.

Issues and Challenges:

The re-sequenced scope for the SVWTP Long-Term Improvements project will include 16 scope items to address plant reliability issues identified by WSTD, including five additional scope items that were postponed from the SVWTP Short-Term Improvements Project. The budget variance is due to the re-sequenced scope items and increases in construction costs and project delivery costs. The schedule variance is due to the rescoping of the project and need for a professional services contract, delaying start of construction until 2027. Funding has been reduced to accommodate 10-Year CIP budget restrictions; project planning will continue on schedule with the intention of future budget cycles providing adequate funding for construction.

Administration Building Roof and HVAC system

10034578 - CSPL2 Reach 5 Lining Replacement

Project Description: Crystal Springs Pipeline No. 2 (CSPL2) runs from Crystal Springs Pump Station to University Mound Reservoir. It delivers potable and emergency water supply to San Francisco and to several cities along the Peninsula. Reach 5 of CSPL2, 60" in diameter, from Millbrae Yard to Baden Pump Station (approximately 3.8 miles) in the cities of South San Francisco and San Bruno is over 80 years old and has extensive lining failures. This project would replace approximately 3.8 miles of coal tar lining with cement mortar lining (CML), upgrade 34 appurtenances to meet current standards, and improve access and shutdown flexibility for maintenance by installing 5 manway structures and one 60" diameter valve on CSPL2 and one 48" diameter valve on San Andreas Pipeline No. 1 (SAPL1) near Baden Pump Station.

Program: Water Transmission	**Project Status:** Planning	**Environmental Status:** Active (Cat Ex)

Project Cost:

Approved	$ 23.70 M
Forecast	$ 23.70 M
Actual	$ 1.42 M

Project Schedule:

Approved 02/25/19	04/07/26
Forecast 02/25/19	11/30/27

Project Percent Complete: 6.7%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	09/18/20 A	09/20/24	05/01/25	05/31/27

Progress and Status:

The Conceptual Engineering Report (CER) was presented to the Technical Steering Committee and approved this quarter. The CER includes updates on the quantity of coal tar lining removal to be performed to address water quality concerns and on the need for additional valves to provide safe pipeline entry for workers. In addition, a consultant task order for design support services is being negotiated.

Issues and Challenges:

The budget variance is due to the noted updates to scope to provide the highest level of cleanliness in coal tar lining removal from pipes and to add large diameter valves for safe pipeline entry by workers. The schedule variance is due to the additional time needed in the planning phase to evaluate water quality concerns with the level of coal tar removal and the type of lining, and to evaluate various methods to achieve safe pipeline entry.

Typical Lining Failure

10035029 - As-Needed Pipeline Repairs

Project Description: Water Supply and Treatment Division's (WSTD) maintenance and inspection program inspects the regional pipeline system on an ongoing basis. However, when repairs are identified to be needed following inspections and when emergency repairs are needed, a contractor is not readily available to perform the repairs. This project will increase system reliability by reducing the duration and number of outages since a prequalified, as-needed contractor will be available to complete repairs immediately following inspections or in emergencies. This project will repair/replace regional pipeline segments that will be inspected over the next five years, in addition to any emergency repairs that may be needed. The initial construction contract will be 3 years and combined with Project 10036840, BDPL1-4 Lining Repair to provide a sufficient guaranteed scope. Subsequent construction contract(s) will be issued to parallel WSTD's inspection program.

Program: Water Transmission	**Project Status:** Design	**Environmental Status:** Active (Cat Ex)

Project Cost:

Approved	$ 7.72 M
Forecast	$ 7.72 M
Actual	$ 0.48 M

Project Schedule:

Approved 10/22/16	08/25/28
Forecast 10/22/16	08/25/28

Project Percent Complete: 8.9%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/27/24	12/26/24	08/01/25	02/27/28

Progress and Status:

An addendum to the Conceptual Engineering Report (CER) for this project to incorporate valves for safe pipeline entry for workers is in progress. As-builts and system maps are being reviewed to identify preferred locations for the new valves. Survey and geotechnical work, which will provide the specific information for incorporating valves into the project, began this quarter.

Issues and Challenges:

None at this time.

Valve Lot where New Valve will be Installed for Safe Entry

10036839 - BDPL4 PCCP Repair

Project Description: Historically, when pre-stressed concrete cylinder pipe (PCCP) fails due to breaks in the spirally wound wire, the high-pressure failure can have catastrophic consequences. Some segments of the Regional Water System are constructed of PCCP. From recent inspections of Bay Division Pipeline No. 4 (BDPL4) Segment D, constructed of PCCP, a large number of wire breaks and circumferential cracks were found in the last 1.25 miles of pipeline that parallels Edgewood Road in Redwood City. In addition, several leaks have surfaced at circumferential cracks and where the pipeline transitions from PCCP to steel. Segments where wire breaks are concentrated will need to be repaired/replaced to prevent catastrophic failure and circumferential cracks and leaks will also be repaired. The first phase of this project will be to repair segments where there are high concentrations of wire breaks, wide circumferential cracks and active leaks. This first phase will include planning, design and construction of repairs. The second phase of the project will be to address the remaining 1.25 miles of pipeline, which includes planning, design and partial encumbrance of a construction contract. The project budget will be reevaluated following completion of the Alternatives Analysis for the second phase. The first construction contract will increase system reliability by rehabilitating approximately 650 feet of 84-inch diameter BDPL4 PCCP in Redwood City.

Program: Water Transmission	**Project Status:** Planning	**Environmental Status:** Active (Cat Ex)

Project Cost:

Approved	$ 54.75 M
Forecast	$ 54.75 M
Actual	$ 0.64 M

Project Schedule:

Approved 05/01/20	05/28/25
Forecast 05/01/20	12/31/26

Project Percent Complete: 1.2%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/31/24	11/25/24	07/01/25	06/30/26

Progress and Status:

Early planning studies of 1.3 miles of Bay Division Pipeline No. 4 Pre-Stressed Concrete Cylinder Pipe (BDPL4 PCCP) in Redwood City identified segments (approximately 650 feet total) of PCCP to be a high priority for repairs due to extensive wire breaks, wide circumferential cracks, and active leaks. A Needs Assessment Report (NAR) is in progress to consolidate prior studies, determine the remaining useful life of the 1.3 miles of pipeline, and to identify preliminary alternatives. Since 650 feet of pipeline have been identified to be a high priority for repairs, a task order for a consultant to prepare a Conceptual Engineering Report (CER) to address these segments is being negotiated. Repairs to these high priority segments will be the first phase of this project. A second phase may be needed based on the findings of the NAR.

Issues and Challenges:

The variance in project schedule is due to the need to evaluate long-term and short-term improvements following the discovery of new leaks in the pipeline.

Segment of Pipeline on Hilly Terrain with an Active Leak

10036840 - BDPL 1-4 Lining Repair

Project Description: Water Supply and Treatment Division's (WSTD) ongoing pipeline inspection program has identified segments of the BDPL 1-4 and other regional pipelines that require lining repairs. In addition, this project will retain an as-needed contractor to repair linings identified to be deficient by WSTD over the next 5-years. This project will repair the lining in segments of the BDPL 1-4 and other regional pipelines over the next 5 years. The initial construction contract for this project will be 3 years and combined with Project 10035029, As-Needed Pipeline Repair to provide a sufficient guaranteed scope.

Program: Water Transmission	**Project Status:** Design	**Environmental Status:** Active (Cat Ex)

Project Cost:

Approved	$ 10.76 M
Forecast	$ 10.76 M
Actual	$ 0.34 M

Project Schedule:

Approved 09/12/16	08/25/28
Forecast 09/12/16	08/25/28

Project Percent Complete: 4.8%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/27/24	12/31/24	08/01/25	02/27/28

Progress and Status:
An addendum to the Conceptual Engineering Report (CER) for this project to incorporate valves for safe pipeline entry is in progress. Survey and geotechnical work, which will provide specific information for this incorporation of valves into the project, began this quarter.

Issues and Challenges:
None at this time.

Valve Requiring Installation of an Additional Valve for Safe Pipeline Entry

10015071 - Corrosion Control

Project Description: This project will implement the corrosion protection and control program as recommended in the Corrosion Control Master Plan completed in August 2010. Sites identified with the worst levels of corrosion were bundled up in the master plan in three phases. Each phase will take several years to implementation. The scope for all phases will be similar, but the number of sites will vary at each phase. Phase 1 construction work for ten sites was completed and accepted on August 27, 2019. Phase 2 has eleven sites and is currently in the design phase. Phase 3 is anticipated to include up to twenty sites depending on the funding.

Program: Water Transmission	**Project Status:** Bid and Award	**Environmental Status:** Completed (Cat Ex)

Project Cost:

Approved	$ 36.54 M
Forecast	$ 36.54 M
Actual	$ 8.34 M

Project Schedule:

Approved 01/01/16	01/31/28
Forecast 01/01/16	06/30/28

Project Percent Complete: 23.8%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	N/A	N/A	11/09/16 A	12/31/18 A
	B	01/31/22 A	05/27/22 A	03/06/23	03/06/25
	C	TBD	09/10/25	05/04/26	09/03/27

Progress and Status:

Award of the construction contract to the lowest responsive bidder was approved by the Commission on October 24, 2022. Notice to proceed (NTP) is being processed and is anticipated to be issued within March 2023. Neighborhood notification for construction has been prepared and will be distributed when specific NTP date is known and can be stated in the notification.

Issues and Challenges:

The overall schedule variance of six months is due to additional time recommended to mitigate schedule risks for Bid and Award and Construction phases.

Corrosion Control
Project Vicinity – Phase 1, 2 & 3

Project Vicinity - Phase 1, 2 & 3

10015076 - San Antonio Pump Station MCC Upgrades

Project Description: The San Antonio Pump Station (SAPS) is one of the key facilities in the Sunol Valley; it was constructed in 1965 and modified in 1990. The existing motor control centers (MCC) MCC-A, MCC-B, and MCC-C have been in service since the 1960's and they are approaching the end of their useful life. In order to maintain reliable operation at SAPS, the existing MCCs are being replaced and facility walls are being seismically retrofitted. In order to accommodate the retrofit work, the communications system is being relocated to an adjacent room and the HVAC will be replaced in affected rooms. In addition, a new propane generator will replace the existing diesel generator to serve as reliable backup power to the facility.

Program: Water Transmission	**Project Status:** Design	**Environmental Status:** Active (Cat Ex)

Project Cost:

Approved	$ 12.50 M
Forecast	$ 12.50 M
Actual	$ 1.93 M

Project Schedule:

Approved 05/12/16	03/19/25
Forecast 05/12/16	06/30/26

Project Percent Complete: 17.3%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	03/31/23	04/03/23	12/01/23	10/31/25

Progress and Status:

During this reporting period, the design team continued addressing various stakeholder and third-party review comments and updating the design to prepare the package for bid advertisement. In the 95% design, the generator and propane tank location was relocated farther away from the building than in earlier proposed designs due to the buffer space requirements per state building codes. This change of location brought the need for additional utility exploration to route the duct bank back to the building. Bid advertisement is forecasted to take place in the next quarter. The California Environmental Quality Act (CEQA) document was in process during the quarterand anticipated to be completed in the next quarter.

Issues and Challenges:

The schedule variance is due to additional design duration needed for the additional utility exploration for the foundation design as discussed above and additional construction duration due to additional long lead time items and required coordination with Mountain Tunnel shutdowns since the SAPS is a critical facility during these shutdowns.

Utility Exploration at San Antonio Pump Station

10015081 - CSPL2 Reaches 2 and 3 Rehabilitation

Project Description: Crystal Springs Pipeline No. 2 (CSPL2) spans from Crystal Springs Pump Station to University Mound Reservoir. It delivers potable water supply to San Francisco and several cities along the Peninsula, Reaches 2 and 3 of CSPL2 in the Town of Hillsborough, unincorporated areas of San Mateo County, the City of San Mateo, and the City of Burlingame are over 80 years old and have deteriorated, with Reach 2 located on eroding slopes with difficult access and Reach 3 containing extensive lining failures. This project will relocate approximately 1.5 miles of 60-inch diameter CSPL2 into Crystal Springs Road by removing the abandoned-in-place 48-inch diameter CSPL1, reline approximately 2.2 miles of CSPL2 with cement mortar lining, and upgrade appurtenances to meet current standards.

Program: Water Transmission	**Project Status:** Planning	**Environmental Status:** Not Initiated (MND)

Project Cost:

Approved	$ 82.81 M
Forecast	$ 82.81 M
Actual	$ 2.41 M

Project Schedule:

Approved 09/12/16	02/18/27
Forecast 09/12/16	11/30/27

Project Percent Complete: 3.2%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/27/24	09/24/24	05/01/25	05/31/27

Progress and Status:

A draft Conceptual Engineering Report (CER) was completed and distributed for review this quarter. It includes updates concerning the level of coal tar lining removal to address water quality concerns and requirements of valves/line stops for safe pipeline entry. The draft CER will be presented to the Technical Steering Committee (TSC) for approval early next quarter.

Issues and Challenges:

Scope variance has occurred during the quarter due to the updated requirements to remove coal tar to the highest level of cleanliness and to procure and install large diameter valves and line stops for safe pipeline entry. The schedule variance is due to the additional time needed in the planning phase to evaluate water quality concerns with the level of coal tar removal and the type of lining, and to evaluate various methods to achieve safe pipeline entry.

CSPL2 Creek Crossing

10036998 - Turner Dam and Reservoir Improvements

Project Description: Turner Dam is a 195-foot-high earth embankment dam that was completed in 1965 and impounds San Antonio Reservoir in the East Bay. The dam is regulated by the California Division of Safety of Dams (DSOD). This project is to investigate the seismic stability and hydraulic performance of the Turner Dam and San Antonio Reservoir facilities and to perform necessary upgrades identified during the Planning Phase.

Program: Water Supply & Storage	**Project Status:** Planning	**Environmental Status:** Not Initiated (EIR)

Project Cost:

Approved	$ 7.50 M
Forecast	$ 7.50 M
Actual	$ 1.87 M

Project Schedule:

Approved 10/01/20	06/29/35
Forecast 10/01/20	06/29/35

Project Percent Complete: 17.1%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/30/31	07/01/31	01/02/32	12/29/34

Progress and Status:

The project team completed all the geotechnical investigation field work, and the boring samples were sent to the laboratory for analysis during this quarter. Once lab testing has been completed, the project team will determine material characterization in evaluating the stability of the dam embankment and spillway foundation. An underwater sonar survey of the outlet works, and geologic mapping of the left abutment hillside were both completed this quarter. The project team will continue with condition assessment of the outlet works by performing emergency drawdown assessment, a structural stability analysis, and an inspection using a remote operating vehicle in the next quarter.

Issues and Challenges:

None at this time.

Helicopter Boring Equipment

10015091 - Pilarcitos Dam Improvements

Project Description: The Pilarcitos Dam is an earthen embankment dam that was built in 1866 and raised in 1874; it is the SFPUC's oldest dam and it is regulated by the California Division of Safety of Dams (DSOD). This project will investigate the seismic stability and hydraulic performance of the Pilarcitos Dam and Reservoir facilities, including the dam and forebay outlet structure, spillway, outlet tunnel, and outlet pipeline, and will perform necessary upgrades identified during the Planning Phase.

Program: Water Supply & Storage	**Project Status:** Planning	**Environmental Status:** Not Initiated (MND)

Project Cost:

Approved	$ 30.09 M
Forecast	$ 30.09 M
Actual	$ 4.02 M

Project Schedule:

Approved 04/07/14	06/29/29
Forecast 04/07/14	06/29/29

Project Percent Complete: 20.4%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/30/25	07/09/25	01/02/26	12/31/28

Progress and Status:

As part of the alternatives analysis evaluation, the project team developed criteria reflecting the facility's performance objectives. The team also began developing cost estimates and construction schedules and began evaluating environmental opportunities and constraints for each of the five alternatives to be evaluated. Evaluation criteria and findings from the environmental opportunities and constraints will be presented to stakeholders for review in the next quarter.

Issues and Challenges:

The planning phase may need to be extended to accommodate the additional time taken for the geotechnical investigation and for additional studies performed for the condition and needs assessment. The overall project schedule and budget will be reforecast once the scope is defined at the end of the alternatives analysis phase.

Looking Upstream

10015092 - San Andreas Dam Facility Improvements

Project Description: The San Andreas dam is a 105-foot-high earthen embankment dam that was built in 1870; it impounds San Andreas Reservoir that is the raw water source for the Harry Tracy Water Treatment Plant, and it is regulated by the California Division of Safety of Dams (DSOD). This project will investigate the seismic stability and hydraulic performance of the San Andreas Dam and Reservoir facilities, including the dam, spillway, emergency outlet, and ancillary facilities, and perform necessary upgrades identified during the Planning Phase..

Program: Water Supply & Storage	**Project Status:** Planning	**Environmental Status:** Not Initiated (Not Applicable)

Project Cost:

Approved	$ 32.20 M
Forecast	$ 32.20 M
Actual	$ 2.87 M

Project Schedule:

Approved 12/11/13	12/30/33
Forecast 12/11/13	12/30/33

Project Percent Complete: 7.2%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/31/26	01/04/27	07/01/27	06/29/33

Progress and Status:

The project team continued analyzing the nine alternatives identified during the condition and needs assessment phase. All the geotechnical boring samples for the dam embankment were sent to the laboratory for analysis. Once all the lab testing has been completed, the project team will perform material characterization in evaluating the stability of the dam embankment. Three additional horizontal borings at the right abutment, where a potential new spillway will be located, are being planned. These borings will be drilled in the next quarter to conclude the geotechnical investigation field program in support of the Alternative Analysis and Evaluation.

Issues and Challenges:

The approved schedule assumed the construction work for the spillway and emergency drawdown outlet structures would be completed under Contract B and two years before the dam embankment work under Contract A. Based on the preliminary needs assessment and condition assessment findings, it is now recommended that the alternatives analysis also include analysis for combining the two contracts under a single construction contract. This combined construction contract alternative would impact the project overall schedule. As the project is still in early planning phase, the overall project schedule and budget will be reforecast once the scope of work is defined at the end of the alternatives analysis.

Barge Launch for Geotechnical Drilling in Reservoir

10015108 - Sneath Lane Gate/North San Andreas

Project Description: The 2001 Peninsula Watershed Management Plan identified the need for a new trail connection between San Mateo County's Crystal Springs Regional Trail (North San Andreas) to Golden Gate National Recreation Area's (GGNRA) Sweeney Ridge property at the Sneath Lane Gate. The trail is a critical connection among existing regional trails at the north end of the Peninsula watershed, that will serve hikers, bikers and equestrians.

Program: Watershed & Lands Management	**Project Status:** Planning	**Environmental Status:** Active (MND)

Project Cost:

Approved	$ 6.70 M
Forecast	$ 12.39 M
Actual	$ 0.45 M

Project Schedule:

Approved 02/01/21	08/02/27
Forecast 02/01/21	08/02/27

Project Percent Complete: 14.3%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	01/31/25	07/01/25	01/02/26	02/01/27

Progress and Status:

During this quarter, the environmental consultant prepared the first administrative draft of the project description for the Mitigated Negative Declaration, and SFPUC staff and the San Francisco Planning Department reviewed the project description.

Issues and Challenges:

The budget variance is due to additional scope refinement and higher estimated escalation rates that resulted in significantly higher forecasted construction costs than previously estimated.

View South from Trail Alignment

10015113 - Southern Skyline Blvd Ridge Trail Extension

Project Description: The Bay Area Ridge Trail project was started in 1987 by the Bay Area Ridge Trail Council to create an approximately 550-mile long continuous trail for hikers, mountain bicyclists, and equestrians along the ridgelines overlooking San Francisco Bay. The objective of the project is to provide access to the Peninsula watershed, to enhance educational opportunities, and to ensure watershed protection. South of Highway 92, this proposed extension project would construct a 6-mile-long trail on the Peninsula Watershed in San Mateo County between Highway 92 and the Golden Gate National Recreation Area's (GGNRA) Phleger Estate. The project consists of a 6' foot wide, all-weather surface trails; retaining structures to stabilize cut and/or fill slopes; drainage facilities; a 15,000-square-foot parking lot accommodating up to 14 cars; two pre-fabricated restrooms along the trail; site security features; and landscape restoration. North of Highway 92, the project includes construction of a trail segment adjacent to the Fifield Cahill Trail that is compliant with the Americans with Disabilities Act, a 16,000-square foot parking lot, and one pre-fabricated restroom.

Program: Watershed & Lands Management	**Project Status:** Bid and Award	**Environmental Status:** Completed (EIR)

Project Cost:

Approved	$ 25.27 M
Forecast	$ 26.96 M
Actual	$ 6.04 M

Project Schedule:

Approved 10/31/12	02/02/24
Forecast 10/31/12	06/30/25

Project Percent Complete: 24.6%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	05/11/21 A	04/05/23	10/02/23	04/04/25

Progress and Status:

During the past quarter, Caltrans issued the project's right of way certification, which had been dependent on the prior determination of National Environmental Protection Act (NEPA) categorical exclusion, issued the previous quarter. The project team prepared and submitted to Caltrans a preliminary request for construction phase grant funding authorization, and received comments back from Caltrans.

Issues and Challenges:

The overall schedule variance is due to the additional 14-months required to complete NEPA prior to bid advertisement. The overall budget variance is due to delayed bid advertisement leading to increased construction cost escalation and increased construction cost associated with environmental approval requirements.

View of southern trail alignment

10030771 - SA-1 Service Road/Ingoing Road

Project Description: The SFPUC has identified landslide and erosion damage that have destabilized service roads (East Shore Service Road and West Shore Service Road) and adjacent areas in three locations on San Francisco Peninsula Watershed lands situated along the San Andreas Reservoir in San Mateo County. The project is to evaluate and repair the damage, and to implement long term solutions for SFPUC staff and contractors to continue to use the roads to access, operate, and maintain SFPUC facilities and watershed lands. Construction for these locations can be done through phases to accommodate budget cash flow.

Program: Watershed & Lands Management	**Project Status:** Design	**Environmental Status:** Active (EIR)

Project Cost:

Approved	$ 15.82 M
Forecast	$ 15.21 M
Actual	$ 1.08 M

Project Schedule:

Approved 06/30/16	12/31/26
Forecast 06/30/16	03/03/27

Project Percent Complete: 6.5%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/15/23	07/25/23	03/01/24	02/27/26

Progress and Status:

The project team achieved 50% design and submitted a review package to the team in November. Review comments will be addressed and incorporated into the 95% design.

Issues and Challenges:

The budget variance is due to a combination of the additional scope of a debris boom and anchorage system within the reservoir, upstream of the San Andreas Dam and Spillway, and the deleted scope of the roadway realignment. Two months was added to the forecast overall project schedule to accommodate time to lower the water level in the reservoir and for additional time anticipated to obtain environmental clearance with the changed scope.

In-going Road-1 (IGR-1) along the west side of San Andreas Reservoir facing north along In-going Service Road.

In-going Road -1 of SA-1 Service Road

10034526 - Millbrae Warehouse Settlement & Admin. Bldg. HVAC

Project Description: This project will construct improvements for two buildings located at the Millbrae Yard facility, the Millbrae Warehouse and the Administration Building. The Millbrae Warehouse Settlement project will provide a long-term repair for the displacement (settlement) of the slab between the loading dock and the offices. The slab settlement resulted from expansive clay layers located seven feet below the top of the existing concrete slab. For the Millbrae Administration Building HVAC Upgrades, this project will provide long-term reliable and economical improvements to heating and cooling systems.

Program: Buildings and Grounds	**Project Status:** Design	**Environmental Status:** Completed (Various)

Project Cost:

Approved	$ 16.08 M
Forecast	$ 7.15 M
Actual	$ 2.20 M

Project Schedule:

Approved 01/03/17	09/30/24
Forecast 01/03/17	06/02/25

Project Percent Complete: 30.9%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	08/31/20 A	09/01/20 A	06/16/21 A	11/24/21 A
	B	01/12/22 A	05/22/23	01/08/24	09/27/24

Progress and Status:
(Contract A) Warehouse Settlement; Completed. (Contract B) Administration Building HVAC Upgrades (JOC): The scope of work is limited to the retrofit of the existing heating, ventilation, and air conditioning (HVAC) system inside the building. The improvements will address increased heat generating lab equipment and the inadequate heating and ventilation that affect working conditions inside the building. A contractor performed site inspections at inaccessible locations of existing HVAC boxes that will be replaced under this project and continued preparation of a cost proposal for access modification for use both during project construction and also for future maintenance.

Existing Millbrae Administration Building

Issues and Challenges:
The budget and schedule variances are due to the reduction of the scope of work. After a contractor conducted an inspection of the existing heating, ventilation, and air conditioning system in March 2022, the contractor determined that an upgrade to the existing system inside the building could sufficiently provide the necessary improvements to address the outdated nonoperational pneumatic controls, increased heat generating lab equipment, and the inadequate heating and ventilation that affect the working conditions inside the building. The heating, ventilation, and air conditioning upgrade inside the Building will provide about 15 to 20 years of use, which will allow time for construction of an entirely new administration building.

10015124 - Sunol Long Term Improvements

Project Description: The project includes redevelopment of the existing Sunol Yard and construction of a Watershed Center near the Sunol Water Temple. Most of the existing structures at the Sunol Yard date back to 1930 and were converted from the original purpose, residence and barn, to office and shop spaces. The structures contain lead-based paint, asbestos, bats, and bat guano, and did not meet current building, health, or safety codes. The project will demolish six existing dilapidated structures at the Sunol Yard and construct a LEED Gold administration building, shops, fuel station, backup generator system, truck wash station, paving and site restoration.

Program: Buildings and Grounds	**Project Status:** Construction	**Environmental Status:** Completed (MND)

Project Cost:

Approved	$ 104.91 M
Forecast	$ 114.49 M
Actual	$ 99.52 M

Project Schedule:

Approved 01/01/09	08/14/23
Forecast 01/01/09	12/31/25

Project Percent Complete: 93.8%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	12/02/15 A	03/01/16 A	01/17/17 A	09/15/20 A
	B		08/30/19 A	03/09/20 A	11/28/24

Progress and Status:

Sunol Yard (Contract A): Completed. Watershed Center (Contract B): During the reporting period, construction work and deficiency list work continued throughout the building. The submittals and fabrication work continued for the exhibits, equipment, and signage. Work on the operation and maintenance manuals, training, as-builts, and extended maintenance coordination all continued.

Issues and Challenges:

The budget variance is due to delays related to exhibit redesign work, additional archaeological monitoring and recovery work, costs of project delivery for additional owner-requested scope, and other miscellaneous changes to the original construction contract. The exhibit redesign occurred while construction was ongoing and will extend the construction contract approximately one year beyond the original final completion date. Exhibit redesign will also require extended overhead from the contractor and additional project management, construction management, and design support services. Additional project schedule variance is due to a 2-year extended maintenance period added to the construction contract.

Aerial view of the project site

10015128 - Millbrae Yard Laboratory and Shop Improvements

Project Description: SFPUC has determined that the existing Millbrae Administration Building must remain operational following a major earthquake, and therefore needs to be retrofitted or replaced to meet essential facility requirements. SFPUC also wants to expand the existing Millbrae Administration Building to merge and house the Water Enterprise staff and equipment from the Rollins Road Facility. This project is necessary to provide Water Enterprise personnel a long term and sustainable campus, and allow the consolidation of work groups for increased staff efficiency. This project will also alleviate shortage of program space, increase efficiency of operations, improve employee working environment with improved heating, ventilation, and air conditioning, improve employee health and safety, and enhance site and building security. A recent planning study has identified several alternatives to meet the project goals. The selected alternative for the Millbrae Yard campus improvements will be implemented in three phases. Phase 1 includes a new laboratory office and new south shop building to alleviate Water Enterprise undersized and outdated workspaces and desire to relocate mission-critical functions to code-compliant structures. This project will provide additional space in the laboratory building by constructing two additional floors on top of it to accommodate the relocation of all personnel from Rollins Road Facility. Phase 2 includes demolition of the existing Administration Building and construction of a new consolidated Administration Building adjacent to the new laboratory building to accommodate other Water Enterprise staff. Phase 3 includes new covered storage for materials and equipment. Only the scope of work for Phase 1 will be implemented under this project to meet near-term needs, minimize disruptions to operations, and allow gradual buildout of the master plan to stay within the 10-year CIP budget.

Program: Buildings and Grounds	**Project Status:** Planning	**Environmental Status:** Not Initiated (MND)

Project Cost:

Approved	$ 169.56 M
Forecast	$ 237.53 M
Actual	$ 6.21 M

Project Schedule:

Approved 11/02/15	03/30/29
Forecast 11/02/15	09/13/30

Project Percent Complete: 2.7%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	05/08/25	12/12/25	10/01/26	09/17/29

Progress and Status:
Preparation of the conceptual design continued to progress. The draft revised project with the new conceptual schemes, which included the use of the entire tenant area, were presented to Water Enterprise staff. Preparation of the cost estimate for the proposed revised project continued, and it is anticipated to be available in the next quarter. A new Request For Proposals for engineering services for the project is being prepared through SF Public Works and focuses on the mechanical, electrical, and plumbing services. No proposals were received on the previously issued Request For Proposals under PUC PRO.0221 in November 2022 which was broader in the services requested.

Existing Administration Building

Issues and Challenges:
The schedule variance is due to delay in construction for budgetary reasons; increased project scope leading to increase in both bid and award and construction phases forecast; time needed to procure a consultant for engineering services to support design, construction, and closeout; and additional time needed to complete planning phase to implement the new project concept. The budget variance is due to increased scope resulting from the alternatives planning study, including changes for the laboratory building, south shop, tenant area, and exterior site.

8. ON-GOING CONSTRUCTION*

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Percent Complete
	NTP Date	Approved Construction Final Completion**	Current Forecasted Construction Final Completion	Approved Contract Cost	Current Forecasted Cost**	Schedule (Cal Days)	Cost	
Buildings and Grounds								
10015124 - WD-2794B Sunol Long Term Improvements - Watershed Center	03/09/20	03/16/22	11/28/24	$30,979,359	$33,639,289	(988)	($2,659,930)	93.0%
Water Treatment								
10037349 - WD-2887 - PUC HTWTP FILTERS 1 to 6 REPLC	10/03/22	12/29/23	12/29/23	$9,264,300	$9,264,300	0	$0	20.0%

	Approved Contract Cost	Current Forecast Cost	Variance Cost	Variance Percent
Program Total for On-Going Construction	**$40,243,659**	**$42,903,589**	**($2,659,930)**	**(6.6%)**

Note: * This table reflects Active Construction Contracts with an original contract amount greater than $1M.

** The Forecasted Cost includes all approved, pending, and potential change orders; and Final Completion includes all approved, pending, and potential change orders, and trends.

9. PROJECTS IN CLOSEOUT

Project Title	Current Approved Construction Phase Completion	Actual Construction Phase Completion	Current Approved Construction Phase Budget	Construction Phase Expenditures To Date
Watershed & Lands Management				
10015110 - EBRPD WATER SYSTEM	03/31/23	03/31/23	$2,634,808	$2,274,039
Buildings and Grounds				
10033555 - Rollins Road Building Renovations (CUW27703)	06/30/23	06/30/23	$2,737,000	$877,179
TOTAL			**$5,371,808**	**$3,151,218**

10. COMPLETED PROJECTS

There are no completed projects.

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II. Local Capital Improvement Program

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1. CAPITAL IMPROVEMENT PROGRAM DESCRIPTION

The San Francisco Public Utilities Commission (SFPUC) Water Enterprise manages a complex water supply system stretching from the Sierra to San Francisco and featuring a series of reservoirs, tunnels, pipelines, and treatment systems. Two unique features of this system stand out: the drinking water provided is among the highest quality in the world, and water deliveries are made to most customers without the use of power, by gravity flow, while generating power at the same time.

The SFPUC is the third largest municipal utility in California, serving 2.7 million residential, commercial, and industrial customers in the Bay Area. Approximately one-third of the delivered water goes to retail customers in San Francisco, while wholesale deliveries to 26 suburban agencies in Alameda, Santa Clara, and San Mateo counties comprise the other two-thirds.

The Local Water System is located primarily within the City and County of San Francisco and consists of water storage and treatment facilities; water transmission and distribution infrastructure; buildings and structures for facilities and employees; communications systems; and various lands in the City and County of San Francisco. In addition, the Local Water System includes several other small retail systems in Alameda, Santa Clara and San Mateo Counties where the SFPUC directly retails water to various customers. Groundwater in San Francisco is under the jurisdiction of the SFPUC; the Westside Basin is the only viable aquifer for municipal use. Additionally, the Local Water System includes the Emergency Firefighting Water System (EFWS) used for fire suppression in San Francisco and developer-funded assets that have been conveyed to the SFPUC.

The Local Water System Capital Improvement Program (Local Water CIP) is a 10-year proposed appropriations plan of scheduled projects to physically improve the system assets and maintain level of service goals. This Local Water CIP is updated every two years (with minor modifications in the off years) and integrated with the SFPUC's 10-year Financial Plan and rate-setting.

There are seven (7) groupings of projects in the Local Water CIP in addition to a separate set of programmatic projects used for feasibility planning, for future capital projects, and for implementation of permit compliance activities. The categories are:

- Local Water Supply
- Local Water Conveyance/Distribution
- Local Reservoirs and Tanks Improvements
- Pump Station Improvements
- Automated Water Meter Reading
- Buildings and Grounds Improvements
- Emergency Firefighting Water System

A project is formally initiated (Project Initiation) when the planning process begins, a project manager is assigned, and the project's initial **Approved Budget** consistent with the most recently adopted Local Water CIP is established.

Projects move from the planning, design, and environmental review phase to contract-award and construction phase when **Project Approval** occurs through an action by the Commission, usually at the

same time CEQA findings are adopted. The Commission may also make decisions about a project's scope, budget, or schedule during annual review and approval of the Local Water CIP.
While a project is active, additional budget modifications outside of the annual CIP process require approval of the Assistant General Manager (AGM) for the Water Enterprise. When and if these budget modifications occur, the modified budget becomes the new **Approved Project Budget**.

Outside of formal budget adjustments, the project manager regularly estimates and records the anticipated final project cost and schedule as the **Forecasted Cost** and **Forecasted Schedule**.

Minor modifications to scope or schedule must be approved by increasing levels of management, with major modifications requiring approval by the Program Director and AGMs of Infrastructure and Water Enterprise. Most scope, schedule, and budget changes must be pre-approved by the Change Control Board which consists of managers within the Water Enterprise and Infrastructure Division. Final Project Closeout must be approved by the AGMs for Infrastructure and Water Enterprise.

Changes to the approved baseline program, including any changes to continuing projects' scopes, schedules, and budgets, are proposed as part of the bi-annually updated 10- year CIP to be approved by the SFPUC Commission. The proposed revisions to the program become the new baseline for new and continuing projects' scopes, schedules, and budgets in the beginning of the new fiscal year following SFPUC Commission approval.

2. CAPITAL IMPROVEMENT PROGRAM STATUS

This Quarterly Report presents the progress made on Local Water projects between October 1, 2022 and December 31, 2022. This document serves as the second (2nd) Quarterly Report in Fiscal Year 2022-2023 (FY23) published for the Water Enterprise Capital Improvement Program.

The 2022 Approved Water Enterprise CIP is a subset of the Regional and Local Water Enterprise 10-year CIP for FY2023-2032 adopted by the Commission on February 08, 2022, under Resolution No. 22-0031, and includes individual projects over $5 million that were then currently active or intended to be active by June 30, 2022 at the time approved by the Commission.

The 2022 Approved Local Water Enterprise CIP (2022 Local WECIP) has eleven (11) projects. No Local project is in "Not Initiated" status

Figure 2.1 shows the total Current Approved Budget for the Local projects in each phase of the program as of December 31, 2022. The number of projects currently active in each phase is shown in parentheses.

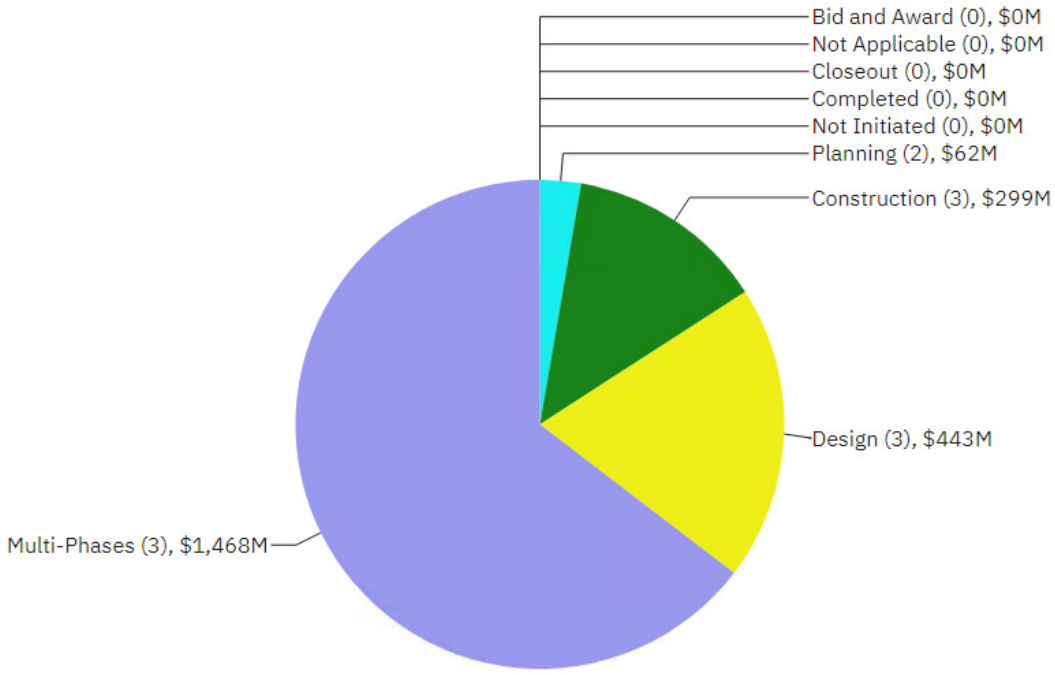


Figure 2.1 Total Current Approved Budget for Local Projects Active in Each Phase

Figure 2.2 shows the number of Local projects in the following phases as of December 31, 2022: Pre-construction, Construction, and Post-construction.

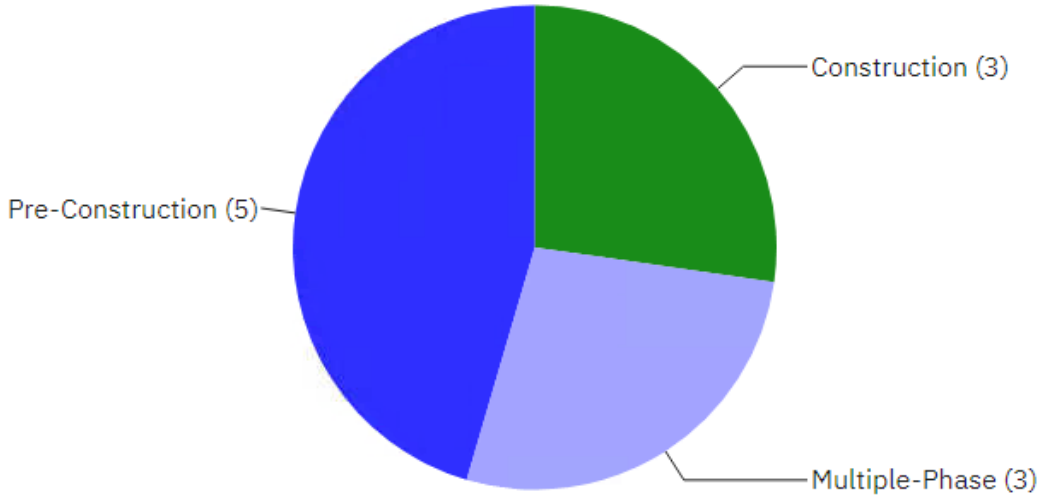


Figure 2.2 Number of Local Projects in Pre-construction, Construction, and Post-construction

Figure 2.3 summarizes the environmental review status of the Local projects as of December 31, 2022.

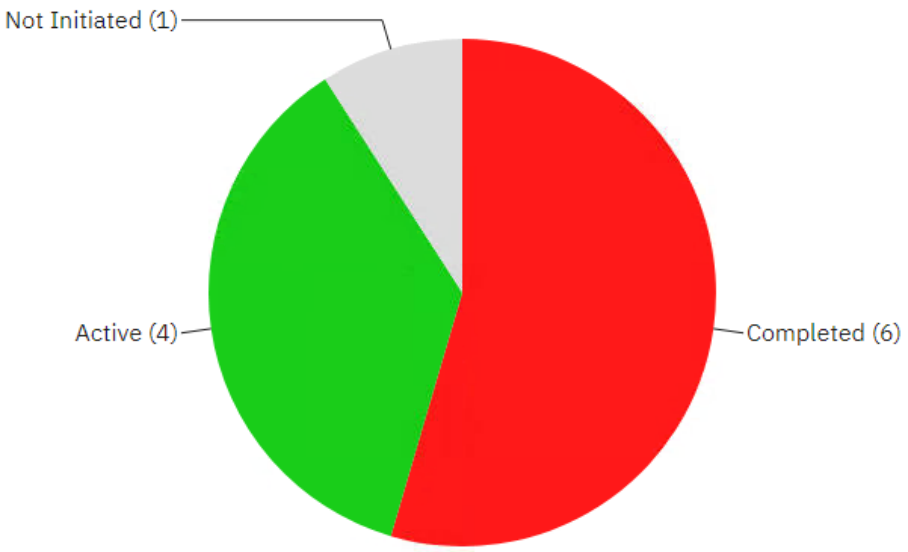
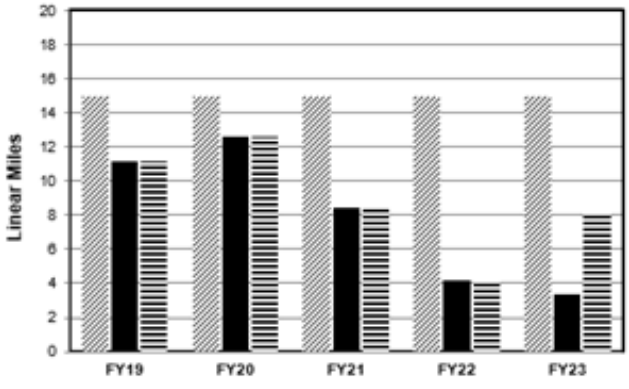


Figure 2.3 Local Program Environmental Status

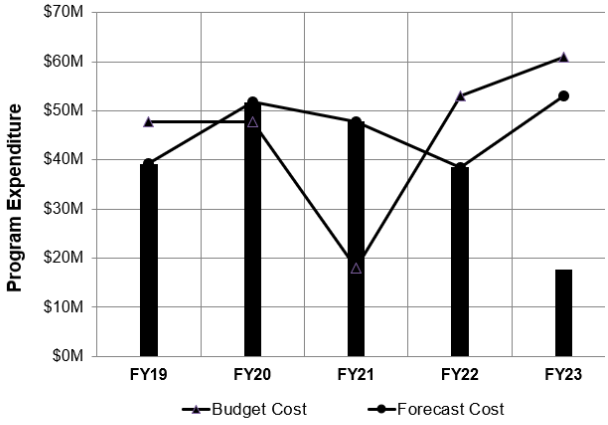
The Local Water Conveyance/Distribution System Program has an annual goal to replace or improve a target of 15 miles of water mains in San Francisco. Figure 2.4 shows the planned and actual miles of pipeline projects that have reached substantial completion since FY19. The forecasted mileage for FY23 is 8.2 miles which is reduced from the target of 15 miles due a reduction in program budget for FY22 and FY23 in order to fund emergency repairs from a water pipeline failure in 2021 at Stern Grove.



	FY19	FY20	FY21	FY22	FY23
Target Miles	15.0	15.0	15.0	15.0	15.0
Actual Miles	11.2	12.6	8.4	4.2	3.4
Forecast Miles					8.2

Figure 2.4 Water Conveyance/Distribution System Program - Linear Miles by Fiscal Year

Water main replacement contracts with construction underway in the 2nd quarter of FY23 included the City streets of 17th Street, 19th Avenue, Vicente Street, Prospect Avenue, L-Taraval Segment B, and Diamond Street. A water main replacement contract that achieved substantial completion during the 2nd quarter of FY23 was on 17th Street. Contracts anticipated to start in the 3rd quarter of FY23 include a project on Laidley Street.



	FY19	FY20	FY21	FY22	FY23
Budget	$47.7M	$47.7M	$18.M	$53.1M	$61M
Actual Expenditure	$39.2M	$51.7M	$47.8M	$38.5M	$17.6M
Forecast Expenditure					$53M

Figure 2.5 Water Conveyance/Distribution System Program - Expenditure by Fiscal Year

Figure 2.5 shows the annual total program expenditure by fiscal year for the pipeline replacement program. The FY23 budget has increased from $29.6M to $61.2M, with approximately $10M of additional budget received due to the redirection of funds in FY22 for the Stern Grove Emergency Restoration Contract and approximately $21.6M in funds that have been newly allocated to the main replacement program in order to increase mileage in the near future. The additional funds will be utilized for the construction of main replacement projects which were previously planned but put on hold due to a shortage of available funds. The additional funds are not anticipated to be encumbered until the end of FY23 or the beginning of FY24 due to the time required to finalize contract documents (6 months) followed by the time required to advertise, award, and certify the construction contract (8 months). The budgeted cost per mile has been updated for FY23 from $5.4 million per mile to $5.8 million per mile for replacement of water distribution mains based on past contract costs and due to rising costs of materials and labor associated with inflation. The updated budgeted cost per mile for streetscape, transit, or ERDIP type projects based on past projects and current market pricing is approximately $8.6 million per mile.

3. CAPITAL IMPROVEMENT PROGRAM COST SUMMARY

Table 3 provides an overall program-level cost summary by categories of projects for the Water Enterprise CIP Local Program. It shows the Expenditures to Date, Current Approved Budgets, Q2/FY22-23 Forecast Costs, Cost Variance between the Current Approved Budgets and Forecast Costs, and Variance Over Reporting Period (difference between cost forecasts reported in Q1/FY22-23 and that reported in Q2/FY22-23).

The total Current Approved Budget (including Regional and Local Programs) and Current Forecast Cost at completion are $3,266.5 million and $3,081.3 million, respectively. The Current Approved Budget and Forecast Cost at completion for only the Local Water Program (including construction contingency) are at $2,271.4 million and $1,969.7 million respectively.

The overall 2022 Local WECIP positive Cost Variance of $301.65M in Table 3 can be attributed to the following projects and their variances provided below; the reasons for the project variances are reported in Section 7:

- 19063 Local Water Conveyance/Distribution System forecasted cost decreased by $310.04M.
- 10033818 Town of Sunol Pipeline forecasted cost increased by $1.35M.
- 10015223 College Hill Reservoir Outlet forecasted cost increased by $6.50M.
- 10015231 Harding Park PS forecasted cost increased by $0.19M.
- 10015240 San Francisco Groundwater Supply forecasted cost increased by $0.35M.

Please refer to the section of I.3 of this report for more details about the reported cost variance for the Regional Water Program.

Table 3. Program Cost Summary

Programs	Expenditures To Date ($ Million) (A)	Current Approved Budget ($ Million) (B)	Q2/FY22-23 Forecast Costs ($ Million) (C)	Cost Variance ($ Million) (D = B - C)	Variance Over Reporting Period* ($ Million) (E)
Local Program	**$843.88**	**$2,271.39**	**$1,969.74**	**$301.65**	**$301.65**
Water Transmission	$461.02	$1,273.20	$964.51	$308.69	$308.69
Local Water Supply	$260.64	$322.54	$322.88	($0.35)	($0.35)
Local Tanks/Reservoir Improvements	$9.71	$19.28	$25.78	($6.50)	($6.50)
Pump Stations	$0.53	$6.53	$6.72	($0.19)	($0.19)
Buildings and Grounds	$4.81	$393.60	$393.60	-	-
Emergency Firefighting Water System	$107.18	$256.25	$256.25	-	-
Regional Program	**$173.12**	**$995.12**	**$1,111.60**	**($116.48)**	**($125.41)**
PROGRAMS TOTAL	**$1,017.00**	**$3,266.51**	**$3,081.34**	**$185.18**	**$176.24**

* Negative number reflects cost increases since last quarter, and positive number reflects cost reduction since last quarter.

4. CAPITAL IMPROVEMENT PROGRAM SCHEDULE SUMMARY

Figure 4 compares the 2022 Approved Schedule and the Current Forecast Schedule for the Local Water CIP. As shown in Table 4, the 2022 Approved and Forecast Schedule completion for the overall Water Enterprise CIP (including Regional and Local Programs) are each in June 2035. The 2022 Approved and Forecast Schedule completion for the Local CIP are in June 2032 and June 2033 respectively.

Figure 4. Local Program Schedule Summary

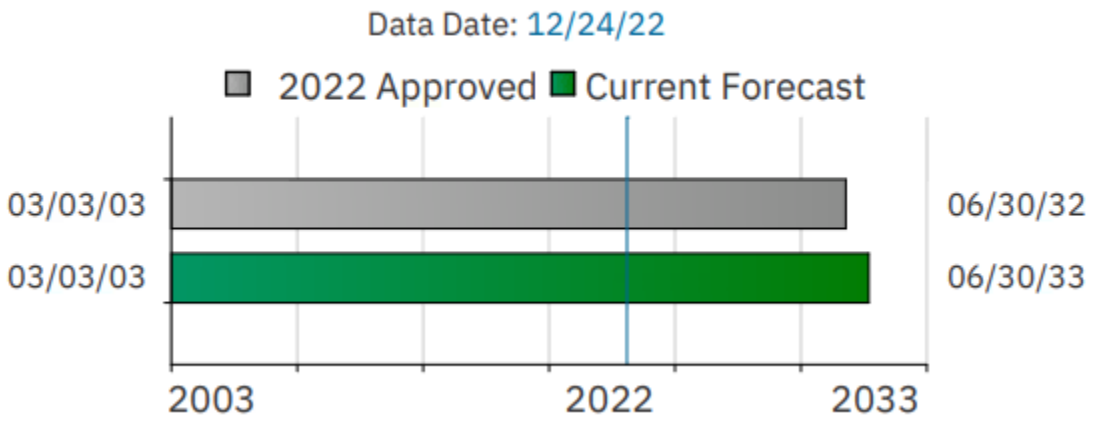


Table 4. 2022 Approved vs. Current Forecast Schedule Dates

Programs	Current Approved Project Start	Actual Start	Current Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Water Regional	01/01/09	01/01/09	06/29/35	06/29/35	-
Water Local	03/03/03	03/03/03	06/30/32	06/30/33	12 (Late)
Overall Water Enterprise CIP	**03/03/03**	**03/03/03**	**06/29/35**	**06/29/35**	

The reason for the schedule variance for the Local Water Program is due to the addition of one year of budget for the Local Water Conveyance/Distribution System project; this is a rolling capital project that has funding added annually.

5. BUDGET AND SCHEDULE TREND SUMMARY

This Table 5 contains all approved Local Water projects that are active and in any of the planning, design, bid and award, or construction phases of the project. The table excludes any projects that are either not-initiated, on-hold, in closeout, or completed.

During the reporting period, the following Local projects achieved major project milestones:

- 35% Design for Town of Sunol Pipeline
- Construction Final Completion for San Francisco Groundwater Supply Phase 2

Table 5. Budget and Schedule Trend Summary

All Costs are shown in million.

Project Name	Most Recent CIP Approved Budget		Project Initiation		CER		35% Design		95% Design		Awarded Construction[1]		Current Status	
	Approved Budget	Approved Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion
	a	b	c	d	e	f	g	h	i	j	k	l	m	n
WECIP - Local														
Local Water Conveyance/Distribution System														
10033816 Potable Emergency Firefighting Water System[2]	FY23-32		8/12/19		N/A		N/A		N/A		N/A		Q2-FY22-23	
	$55.0	06/30/28	$44.8	06/30/28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$55.0	06/30/29
10033818 Town of Sunol Pipeline	FY23-32		06/17/19		11/01/21		10/14/22[3]		02/27/23		12/04/23		Q2-FY22-23	
	$6.7	04/04/25	$5.0	04/03/23	$5.0	04/03/23	$8.0	05/30/25	TBD	TBD	TBD	TBD	$8.0	05/30/25
19063 Local Water Conveyance / Distribution System[4]	FY23-32		N/A		Various		Various		Various		Various		Q2-FY22-23	
	$1,211.5	06/30/32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$901.5	06/30/33
Local Water Supply														
10015239 Lake Merced Water Level Restoration	FY23-32		06/16/03		04/30/10		01/20/23[5]		03/24/23		04/10/24		Q2-FY22-23	
	$42.7	03/03/27	$32.7	01/31/19	$32.7	01/31/19	TBD	TBD	TBD	TBD	TBD	TBD	$42.7	03/03/27
10015240 San Francisco Groundwater Supply	FY23-32		06/16/03		12/08/06		10/19/10		03/11/16		08/22/17		Q2-FY22-23	
	$66.5	06/30/22	$39.8	02/27/14	$49.8	09/08/14	$49.8	09/08/14	$66.5	06/25/18	$66.5	06/25/18	$66.9	12/31/24
10015242 San Francisco Westside Recycled Water	FY23-32		03/03/03		05/15/09		12/08/14		06/29/16		10/17/17		Q2-FY22-23	
	$213.3	04/06/23	$201.3	04/18/08	$149.6	09/25/13	$186.2	12/18/19	$186.2	12/18/19	$186.2	12/18/19	$213.3	05/20/26

Footnotes:

1. These columns represent forecast project cost and project completion date at the time of award of construction contract (or Award for CM/GC construction work).
2. Potable Emergency Firefighting Water System: This project will fund construction phase of PEFWS pipelines in the next several years.
3. Town of Sunol first Design milestone is 65%.
4. Local Water Conveyance/Distribution System: This is a Renew and Replacement Program where the corresponding CIP budget and forecast completion date are updated every 2 years during the CIP budget update cycle.
5. Lake Merced Water Level Restoration: 35% Design in table is the date for 35% & 65% combined in P6.

All Costs are shown in million.

Project Name	Most Recent CIP Approved Budget		Project Initiation		CER		35% Design		95% Design		Awarded Construction[1]		Current Status	
	Approved Budget	Approved Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion
	a	b	c	d	e	f	g	h	i	j	k	l	m	n
Local Tank/Reservoir Improvements														
10015223 College Hill Reservoir Outlet[2]	FY23-32		01/24/13		10/14/16		12/15/16		02/15/19		06/8/21		Q2-FY22-23	
	$19.3	04/24/24	$16.3	09/28/21	$16.3	09/28/21	$16.3	09/28/21	$16.3	09/28/21	$19.3	01/29/24	$25.8	04/24/24
Pump Stations														
10015231 Harding Park PS	FY23-32		07/06/21		04/28/23		01/23/24		09/14/24		03/19/25		Q2-FY22-23	
	$6.5	04/3/26	$6.5	04/3/26	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$6.7	11/30/26
Buildings and Grounds														
10037249 New CDD Headquarters	FY23-32		02/01/20		08/31/21		12/30/21		03/28/25		06/28/22[5]		Q2-FY22-23	
	$393.6	06/28/28	$350.2	06/28/28	$393.6	06/28/28	$393.6	06/28/28	TBD	TBD	$393.6	06/28/28	$393.6	05/31/29
Emergency Firefighting Water System														
EFWSPL EFWS Pipelines[3]	FY23-32		04/01/11		Various		Various		Various		Various		Q2-FY22-23	
	$205.3	12/29/28	$31.6	09/29/17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$205.3	12/29/28
EFWSPPS EFWS Pump Stations[4]	FY23-32		04/01/11		Various		Various		Various		Various		Q2-FY22-23	
	$45.2	12/29/28	$17.5	09/26/16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$45.2	12/29/28

Footnotes:

1. These columns represent forecast project cost and project completion date at the time of award of construction contract (or Award for CM/GC construction work).
2. College Hill Reservoir Outlet: Planning through 65% Design was achieved under a different program in Local Water Conveyance/Distribution System.
3. EFWS Pipelines: EFWS Pipelines include multiple projects.
4. EFWS Pump Stations: EFWS Pump Stations include multiple projects.
5. This represents Forecasted project cost and project completion date at the time of award of CM/GC contract during Pre-Construction

6. PROJECT PERFORMANCE SUMMARY*

All costs are shown in $1,000s

Project Name	Active Phase (a) (**)	CIP Approved Budget (b) (+)	Current Approved Budget (c) (++)	Current Forecast Cost (d)	Expenditures to Date (e)	Cost Variance (f=c-d) (+++)	% Cost Changes (g=f/c) (+++)	CIP Completion Date (h) (+)	Approved Completion Date (i) (++)	Forecast Completion Date (j)	Schedule Variance (Days) (k=i-j) (+++)
Water Transmission											
10033816 Potable Emergency Firefighting Water System	PL	$55,000	$55,000	$55,000	$814	$0	0%	06/30/28	06/30/28	06/30/29	(365)
10033818 Town of Sunol Pipeline	DS	$6,663	$6,663	$8,013	$3,030	($1,351)	(20%)	04/04/25	04/04/25	05/30/25	(56)
19063 Local Water Conveyance/ Distribution System	MP	$1,211,536	$1,211,536	$901,496	$457,173	$310,040	26%	06/30/32	06/30/32	06/30/33	(365)
Local Water Supply											
10015239 Lake Merced Water Level Restoration	DS	$42,668	$42,668	$42,668	$4,819	$0	0%	03/03/27	03/03/27	03/03/27	0
10015240 San Francisco Groundwater Supply	CN	$66,552	$66,552	$66,900	$64,577	($348)	(1%)	06/30/22	06/30/22	06/30/23	(365)

* Does not include projects in closeout, completed, not initiated,on hold, deleted projects, and projects combined with other projects.

**** Phase Status Legend**

PL Planning DS Design

BA Bid & Award CN Construction MP Multiple-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY23-32.

(++) **Current Approved Budget and Schedule:** The budget and schedule approved as part of 10-year CIP for FY23-32, plus any additional budget and schedule changes approved by the Commission as part of construction contract award.

(+++) Negative number reflects cost overrun (or schedule delay) and positive number reflects cost underrun (or ahead of schedule). Projects with a forecasted cost overrun greater than 10%, or forecasted delay of greater than 6 months or 10%, will be highlighted in grey.

Project Name	Active Phase (a) (**)	CIP Approved Budget (b) (+)	Current Approved Budget (c) (++)	Current Forecast Cost (d)	Expenditures to Date (e)	Cost Variance (f=c-d) (+++)	% Cost Changes (g=f/c) (+++)	CIP Completion Date (h) (+)	Approved Completion Date (i) (++)	Forecast Completion Date (j)	Schedule Variance (Days) (k=i-j) (+++)
10015242 San Francisco Westside Recycled Water	CN	$213,316	$213,316	$213,316	$191,242	$0	0%	04/06/23	04/06/23	05/20/26	(1,140)
Local Tanks/Reservoir Improvements											
10015223 College Hill Reservoir Outlet	CN	$19,283	$19,283	$25,783	$9,713	($6,500)	(34%)	04/24/24	04/24/24	04/24/24	0
Pump Stations											
10015231 Harding Park PS	PL	$6,527	$6,527	$6,717	$529	($190)	(3%)	04/03/26	04/03/26	11/30/26	(241)
Buildings and Grounds											
10037249 New CDD Headquarters	DS	$393,601	$393,601	$393,601	$4,807	$0	0%	06/28/28	06/28/28	05/31/29	(337)
Emergency Firefighting Water System											
EFWS PL - EFWS Pipelines	MP	$205,263	$205,263	$205,263	$57,106	$0	0%	12/29/28	12/29/28	12/29/28	0
EFWS PS - EFWS Pump Station	MP	$45,245	$45,245	$45,245	$44,427	$0	0%	12/29/28	12/29/28	12/29/28	0

* Does not include projects in closeout, completed, not initiated,on hold, deleted projects, and projects combined with other projects.

**** Phase Status Legend**

PL Planning DS Design

BA Bid & Award CN Construction MP Multiple-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY23-32.

(++) **Current Approved Budget and Schedule:** The budget and schedule approved as part of 10-year CIP for FY23-32, plus any additional budget and schedule changes approved by the Commission as part of construction contract award.

(+++) Negative number reflects cost overrun (or schedule delay) and positive number reflects cost underrun (or ahead of schedule). Projects with a forecasted cost overrun greater than 10%, or forecasted delay of greater than 6 months or 10%, will be highlighted in grey.

7. PROJECT STATUS REPORT

10033816 - Potable Emergency Firefighting Water System

Project Description: This project provides funding for the design and construction of about 2 to 3 miles of large diameter earthquake resistant pipeline to improve the fire water and potable supply reliability in the western area of San Francisco, particularly in the Sunset and Richmond Districts. This project is part of a larger effort to construct approximately 14 miles of the Potable Emergency Firefighting Water System (PEFWS), which also includes two planned pump stations. Current funding will fund the aforementioned 2 to 3 miles of pipeline and design work for a Lake Merced Pump Station. The pipeline will be designed as a potable AWSS pipeline, meaning it will convey low pressure potable water with connections to the distribution system during normal operations but can be isolated with motorized valves and operate under high pressure for firefighting after a major seismic event or emergency conditions by activating associated pumps. This funding will provide planning and design through FY 22-23 with construction funding in FY24 and 25. Additional funding will be provided by existing Earthquake Safety & Emergency Response (ESER) general obligation bond funds, with additional funding possibly approved in the March 2020 ESER referendum. The total Local Water funding commitment to this project is $55M with $12M carryover from FY 18-19 and FY19-20 budgets.

Program: Water Transmission	**Project Status:** Planning	**Environmental Status:** Completed (Cat Ex)

Project Cost:

Approved	$ 55.00 M
Forecast	$ 55.00 M
Actual	$ 0.81 M

Project Schedule:

Approved 08/12/19	06/30/28
Forecast 08/12/19	06/30/29

Project Percent Complete: 1.4%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/12/19 A	N/A	TBD	12/31/27

Progress and Status:

This project will fund construction of Potable Emergency Firefighting Water System (PEFWS) pipelines in the next several years.

Issues and Challenges:

Overall project duration increased by 1 year due to extension of time needed to perform detailed design and construction.

Earthquake Resistant Ductile Iron Pipe with flexible joints (demonstrated) used for this project

10033818 - Town of Sunol Pipeline

Project Description: Since 2000 the SFPUC has replaced the majority of the Town of Sunol pipeline system through the Town of Sunol Fire Suppression project, except for two segments. This project will complete the replacement of the last two segments of the system, by replacing sections of the pipeline that crosses the Arroyo de Laguna Creek (Creek Crossing) and under Highway 680.The upstream section of pipeline that feeds the Town of Sunol is exposed under the creek and in danger of failing under Highway 680. Pipeline failure at either location has significant consequences, since all fire and potable water in the Town of Sunol is dependent on the rehabilitation of this 12-inch diameter line. This project will reduce maintenance from pipe breaks and have less main flushing which may lower impact on operating expenses.

Program: Water Transmission	**Project Status:** Design	**Environmental Status:** Active (MND)

Project Cost:

Approved	$ 6.66 M
Forecast	$ 8.01 M
Actual	$ 3.03 M

Project Schedule:

Approved 06/17/19	04/04/25
Forecast 06/17/19	05/30/25

Project Percent Complete: 47.1%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	02/01/23	07/12/23	03/13/24	12/09/24

Progress and Status:

During this reporting period the project team commenced the 95% design. The completed 95% design package is expected during the next quarter. The environmental team continued preparation of the CEQA Addendum. New permanent and temporary construction easements are being negotiated at the Sunol Glen School for the new pipeline alignment.

Issues and Challenges:

The budget variance is due to the new requirement of permitting agencies that the existing Town of Sunol Pipeline be removed from the creek and also to include higher escalation costs.

December Storms in Arroyo De La Laguna Creek

19063 - Local Water Conveyance/Distribution System

Project Description: This long-term program funds management of linear assets in San Francisco's potable water distribution system between transmission or storage and final customer service connection. The Linear Asset Management Program replaces and renews feeder and distribution mains for the 1,230 miles of pipe in San Francisco's drinking water distribution system. The FY22-23 approved budget will include the following: 1) replacement of distribution pipelines at $4.5M per mile; 2) replacement of 1 mile with seismically reliable pipelines at $6.0M per mile; and 3) Pipe relining at $3M per mile.

Program: Water Transmission	**Project Status:** Multi-Phases	**Environmental Status:** Active (Various)

Project Cost:

Approved	$ 1211.54 M
Forecast	$ 901.50 M
Actual	$ 457.17 M

Project Schedule:

Approved 07/01/10	06/30/32
Forecast 07/01/10	06/30/33

Project Percent Complete: 39.2%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	Various	Various	Various	Various

Progress and Status:

The Programmatic Project includes multiple active and upcoming construction contracts (refer to Section 7 for the active construction status). The forecast mileage for the main replacement program in FY23 as of Q2 is 8.2 miles. Projects under construction during the Q2 FY23 included the City streets of 17th Street, 19th Avenue, Vicente Street, Prospect Avenue, L-Taraval Segment B, and Diamond Street. The 17th Street project achieved substantial completion during Q2.

Issues and Challenges:

SFPUC's proposed 10-Year Capital Improvement Plan for FY24-33 has been updated with an overall main replacement budget decrease from $1.2B to $901M. The budget decrease is attributed to reallocation of funds within SFPUC's Water Enterprise Capital Improvement Plan due to other critical high priority projects.

Prospect Avenue Water Main Replacement

10015239 - Lake Merced Water Level Restoration

Project Description: The project consists of the following subprojects. (1) The City of Daly City is proposing and working in coordination with the SFPUC to implement the Vista Grande Drainage Basin Improvements project to address storm related flooding in the Vista Grande Watershed Drainage Basin while providing the benefit of restoring connection to the natural watershed of Lake Merced, (2) The SFPUC is evaluating diversion of highly treated recycled water from the new Westside Recycled Water facility into Lake Merced to increase ad stabilize lake levels.

Program: Local Water Supply	**Project Status:** Design	**Environmental Status:** Active (Various)

Project Cost:

Approved	$ 42.67 M
Forecast	$ 42.67 M
Actual	$ 4.82 M

Project Schedule:

Approved 06/16/03	03/03/27
Forecast 06/16/03	03/03/27

Project Percent Complete: 12.0%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	07/31/18 A	11/27/23	06/21/24	08/24/26
	B	11/10/16 A	N/A	06/13/17 A	07/07/17 A
	C	05/25/23	12/29/23	06/01/24	08/24/26

Progress and Status:

Project includes multiple construction contracts. (A) Vista Grande Drainage Basin Improvement managed by Daly City ; (B) Lake Merced Aeration Mixing System - Phase 1 (JOC Contract); and (C) Lake Merced Aeration Mixing System - Phase 3. Vista Grande Drainage Basin Improvement Project (Contract A): Daly City is currently working with staff at the California Coastal Commission to address concerns over construction of the outflow structure at Fort Funston. Daly City is negotiating with SF Public Works for a major encroachment permit for construction of the diversion structure for the approved flows to Lake Merced. This diversion structure would be constructed under John Muir Drive within the City's right of way. The Daly City staff working on this project have prepared an updated Lake Management Plan, which was reviewed by SFPUC and has been updated to address SFPUC comments. Daly City received approval for $62.8M in funding from the State Revolving Fund and continues to work on attaining remaining project funding. Lake Merced Recycled Water Diversion (Contract C): Preliminary design to divert recycled water from the new Westside Recycled Water Plant into Lake Merced to manage lake levels continued during the quarter. SFPUC completed a draft evaluation to further study project feasibility and is currently working on an alternatives analysis to evaluate the current design options and provide input to the 35% design documents.

Looking Northeast from Pedestrian Bridge across South Lake Merced

Issues and Challenges:

Daly City issued an alternative 100% Design package last quarter that had not previously been shared with SFPUC staff. Following review by SFPUC City Distribution Division, Engineering Management Bureau and Wastewater Engineering staff for potential utility conflicts, no additional issues have been identified. Real Estate Services work resumed during the quarter to confirm the assessed values of parcels identified to be needed by Daly City. SFPUC staff determined that Daly City intends to modify diversion criteria for the project; as a result, SFPUC staff are evaluating these changes to determine impacts the changes may have on lake resources.

10015240 - San Francisco Groundwater Supply

Project Description: This project consists of two phases, which combined will provide an annual average of 4 mgd of groundwater to San Francisco's municipal water supply, and improvements at the existing San Francisco Zoo Well No. 5. Phase 1 is divided in two separate contracts. Under Contract A work to build four new groundwater well stations in the western part of San Francisco is currently in the final construction phase. Contract B work to install buried piping to connect three of these well stations to the Sunset Reservoir was completed and accepted on December 21, 2015. Groundwater from the fourth well station was piped to the nearby Lake Merced Pump Station, where it was distributed to both the Sunset Reservoir and Sutro Reservoir. Phase 2 includes Contract C work to install buried piping and convert two existing irrigation well facilities in Golden Gate Park to groundwater supply wells; this contract is currently in the final construction phase, and would be implemented after completion of the CUW30201, San Francisco Westside Recycled Water Project. Improvements at the existing San Francisco Zoo Well No. 5 were completed and accepted on February 15, 2007.

Program: Local Water Supply	**Project Status:** Construction	**Environmental Status:** Completed (EIR)

Project Cost:

Approved	$ 66.55 M
Forecast	$ 66.90 M
Actual	$ 64.58 M

Project Schedule:

Approved 06/16/03	06/30/22
Forecast 06/16/03	06/30/23

Project Percent Complete: 98.6%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	12/19/13 A	05/01/14 A	03/16/15 A	03/31/21 A
	B		03/10/14 A	08/04/14 A	12/21/15 A
	C		08/17/16 A	08/07/17 A	12/30/22 A

Progress and Status:

This project includes multiple construction contracts: (A) San Francisco Groundwater Supply Well Stations Phase 1: Completed; (B) San Francisco Groundwater Supply Pipeline Phase 1: Completed; (C) San Francisco Groundwater Supply Phase 2: Final project completion was declared on December 30, 2022. The agenda item for Commission approval of contract closeout is being prepared to be included in the February 14, 2023 Commission meeting.

Issues and Challenges:

The schedule variance is to allow time to complete punch list items and closeout documents including as-builts and operational and maintenance manuals, to process remaining change orders, and to complete miscellaneous work. The miscellaneous work consists of performing pump inspection and repairs to address leakage and vibration, repairs to the fire alarm system at the Lake Merced Pump Station through a Job Order Contract (JOC), and evaluation of treatment options to address low concentration of detected volatile organic compounds in several wells. The miscellaneous work will be presented at the March 2023 Infrastructure Change Control Board for approval to be included in the project.

North Lake Well Station

10015242 - San Francisco Westside Recycled Water

Project Description: This project includes all facilities to produce and deliver about 2 mgd of recycled water for irrigation use in the western end of San Francisco. The project includes a new recycled water treatment facility consisting of membrane filtration, reverse osmosis, and ultraviolet light disinfection; a 1.1 million gallon storage reservoir; distribution pumping facilities; and 5 to 6 miles of new pipelines.

Program: Local Water Supply	**Project Status:** Construction	**Environmental Status:** Completed (EIR)

Project Cost:

Approved	$ 213.32 M
Forecast	$ 213.32 M
Actual	$ 191.24 M

Project Schedule:

Approved 03/03/03	04/06/23
Forecast 03/03/03	05/20/26

Project Percent Complete: 90.1%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	09/03/15 A	12/29/16 A	10/18/17 A	10/31/23
	B		12/19/18 A	07/01/19 A	04/24/23
	C		07/15/16 A	02/21/17 A	08/19/18 A
	D		02/25/20 A	01/25/21 A	05/28/23
	E		09/23/24	05/21/25	11/20/25

Progress and Status:

This project includes multiple construction contracts. (A) Recycled Water Treatment Facilities; (B) Pump Station and Reservoir; (C) Pipeline; (D) Irrigation System Retrofit; (E) (proposed) Primary power facilities for Distribution Pump Station. Treatment Facility (Contract A): Miscellaneous mechanical, electrical and architectural finish work continued in Buildings 580 and 581. The System Integrator submitted the updated Process Control Narrative for review. Programming of the Oceanside Plant PI (process intelligence) system for the new recycled water facility data points was completed by Wastewater Enterprise staff. Work also continued on the development of the Operations Manual and Standard Operating Procedures (SOPs) for the new treatment facility. Distribution Pump Station and Reservoir (Contract B): Miscellaneous mechanical, and electrical work continued at the pump station. City staff reviewed the Draft Start-Up Testing Plan, and workshops were held with the Contractor to clarify comments. Pipeline (Contract C) is complete. Irrigation System Retrofit (Contract D): Punchlist walkthrough of the retrofit work continued. The connection work at the Lincoln Park Golf Course was completed in the previous quarter, but new challenges with the installation were identified and will be addressed in the next quarter. The cross-connection control testing of the Lincoln Park Golf Course was completed. Sections of Golden Gate Park will need to be retested in the next quarter. The SFPUC submitted the revised Notice of Intent (NOI) document for permitting coverage under the Recycled Water General Order in October 2022.

Exterior of Buildings 580 and 581

Issues and Challenges:

The schedule of the Westside Project has been increased for several reasons. The change that is driving the overall project schedule is the change to the power service to the new recycled water Distribution Pump Station (Contract B). PG&E has required that the service be changed to Primary instead of Secondary. This change will add new scope to the project to conduct design, environmental review, bid and award, and construction, and delay recycled water delivery to Lincoln Park Golf Course by several years. A fifth construction project (Contract E) is proposed to address these required power modifications. Other delays to the project have occurred. The Treatment Facility (Contract A) is delayed due to slow progress and supply-chain issues related to COVID-19, and issues identified with the control system that has required additional work and coordination.

10015223 - College Hill Reservoir Outlet

Project Description: This project provides funding for the design and construction of the College Hill Reservoir Outlet Structure and Pipeline Upgrade Project to address seismic, water quality, electrical, structural, and other deficiencies. This project includes installation of a new control valve vault; replacement of reservoir inlet and outlet piping; replacement of reservoir transmission pipelines up to Cortland Avenue; reservoir roof replacement; and miscellaneous piping, security, site access, electrical, instrumentation, and water quality improvements.

Program: Local Tanks/Reservoir Improvements	**Project Status:** Construction	**Environmental Status:** Completed (Cat Ex)

Project Cost:

Approved	$ 19.28 M
Forecast	$ 25.78 M
Actual	$ 9.71 M

Project Schedule:

Approved 01/24/13	04/24/24
Forecast 01/24/13	04/24/24

Project Percent Complete: 34.8%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/20/19 A	02/24/21 A	09/27/21 A	10/21/23

Progress and Status:

During the quarter, the contractor completed installation of the valve vault's reinforced concrete wall; installation of the reinforced concrete headwall within the reservoir; backfill of the jack-and-bore jacking and receiving pits; installation of the 36-inch diameter welded steel pipe from the valve control to Santa Maria; relocation of the 8-inch diameter ductile iron pipe on Santa Maria from Mission Street to Gladys; and demolition of the Chlorine Building's storage tank, electrical, piping, and water quality system in preparation for new water quality sampling equipment.

Issues and Challenges:

The project's cost forecast has increased to a variance of $6.5M over the approved budget for recommended replacement of the roof substructure based on findings during construction that were not observed during pre-construction inspections. The contractor is currently evaluating if delays associated with the access road, material procurement delays, and reservoir shutdown delays can be mitigated without a time extension.

Installation of 24-inch diameter Earthquake Resistant Ductile Iron Pipe reservoir inlet pipe

10015231 - Harding Park PS

Project Description: This project funds long term improvements to the Harding Park Pump Station to increase reliability and correct conditions that have led to the premature corrosion and failure of critical components. The current design places the pumping facility on top of the recycled water reservoir leading to high humidity levels within the facility. This project will seal the reservoir from the pump room, improve the HVAC system for humidity control, and relocate critical electrical panel and components out of the pump room. The project will also modify the current electrical feed to allow for the safe maintenance of the water pump electrical components while leaving the buildings lighting and auxiliary loads powered.

Program: Pump Stations	**Project Status:** Planning	**Environmental Status:** Not Initiated (TBD)

Project Cost:

Approved	$ 6.53 M
Forecast	$ 6.72 M
Actual	$ 0.53 M

Project Schedule:

Approved 05/12/21	04/03/26
Forecast 05/12/21	11/30/26

Project Percent Complete: 10.5%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/14/23	09/30/24	06/02/25	06/01/26

Progress and Status:

Architectural services were retained to develop concepts for new free-standing structures for the proposed relocation of electrical equipment. A preliminary draft of the alternatives analysis report (AAR) was prepared for internal review.

Issues and Challenges:

The forecasted extension of the project completion date is due to the additional time and resources needed to complete the planning phase work, delaying the overall project completion date.

Rendering of electrical equipment enclosure alternative

10037249 - New CDD Headquarters

Project Description: The City Distribution Division (CDD) Headquarters, currently located at 1990 Newcomb Avenue, San Francisco, was constructed in 1962. The majority of CDD's staff are located at Newcomb (approx. 260 people). Existing facilities include administrative offices, warehouse, shops, materials and equipment storage and vehicle fleet. CDD oversees the retail water distribution system with the City and County of San Francisco, responsible for the physical infrastructure of San Francisco's potable, auxiliary water system, groundwater, and recycled water systems. CDD's responsibilities include 24/7 emergency response to water main breaks and two-alarm or larger fires in addition to day-to-day operations and maintenance of over 1,250 miles of water main, 12 reservoirs, 9 pump stations, 7 hydro pneumatic stations, 6 tanks, the water meter program serving over 176,000 customers, and maintaining CDD's physical plant, equipment and vehicles and over 1,100 acres of grounds throughout the City.

Program: Buildings and Grounds	**Project Status:** Design	**Environmental Status:** Active (MND)

Project Cost:

Approved	$ 393.60 M
Forecast	$ 393.60 M
Actual	$ 4.81 M

Project Schedule:

Approved 02/01/20	06/28/28
Forecast 02/01/20	05/31/29

Project Percent Complete: 2.3%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	01/12/24	06/18/21 A	10/01/24	11/30/28

Progress and Status:

Proposals for the rebid of design services were received in October. Commission approval of the award of PRO.0264 to Mark Cavagnero Associates (MCA) is anticipated on January 10. The contract will go to the Board of Supervisors (BOS) for approval prior to award of the contract. The current forecasted schedule for award of the design contract and issuance of the Notice to Proceed is April 2023.

Issues and Challenges:

Delays in contracting design services has resulted in a variance in the project schedule.

Aerial Rendering of Campus

EFWS PL - EFWS Pipelines

Project Description: These projects include construction of various pipelines using ESER bond funds.

Program: Emergency Firefighting Water System	**Project Status:** Multi-Phases	**Environmental Status:** Completed (Various)

Project Cost:

Approved	$ 205.26 M
Forecast	$ 205.26 M
Actual	$ 57.11 M

Project Schedule:

Approved 04/04/11	12/29/28
Forecast 04/04/11	12/29/28

Project Percent Complete: 28.1%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	Various	Various	Various	Various

Progress and Status:

19th Avenue Pipeline: Construction continued. Construction completion expected in July 2023. Clarendon Supply: Construction continued. Construction completion expected in July 2023. Fireboat Manifolds: Construction of new pipeline and fireboat manifold near Fort Mason Pier 2 and Pier 35.5 for fire suppression. Planning in progress. Potable Emergency Firefighting Water System Pipeline: Planning continued. Vicente Potable EFWS Pipeline: Construction continued. Construction completion expected in July 2024.

Issues and Challenges:

None at this time.

Westside Potable EFWS Conceptual Alignment

EFWS PS - EFWS Pump Station

Project Description: These projects include construction of various pump stations using ESER bond funds.

Program: Emergency Firefighting Water System	**Project Status:** Multi-Phases	**Environmental Status:** Completed (Various)

Project Cost:

Approved	$ 45.24 M
Forecast	$ 45.24 M
Actual	$ 44.43 M

Project Schedule:

Approved 04/04/11	12/29/28
Forecast 04/04/11	12/29/28

Project Percent Complete: 95.8%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	Various	Various	Various	Various

Progress and Status:

Pump Station #2: Construction continued. Additional efforts are needed to resolve interlocking the new fire suppression system to the existing diesel engine pumps. Construction completion is now expected by June 2023. PEFWS PS - Lake Merced: It is anticipated that the conceptual engineering phase for the pump station at Lake Merced will be completed in early 2024.

Issues and Challenges:

None at this time.

Roof installation of Pump Station No. 2

8. ON-GOING CONSTRUCTION*

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Percent Complete
	NTP Date	Approved Construction Final Completion**	Current Forecasted Construction Final Completion	Approved Contract Cost	Current Forecasted Cost**	Schedule (Cal Days)	Cost	
Local Tanks/Reservoir Improvements								
10015223 - WD-2717 COLLEGE HILL/PROSPECT/SANTA MARIA	09/27/21	10/21/23	10/21/23	$12,180,497	$12,180,497	0	$0	44.4%
Local Water Supply								
10015242 - WD-2776 Westside Recycled Water Treatment Facility	10/16/17	07/29/22	10/31/23	$94,637,405	$94,637,405	(459)	$0	97.0%
10015242 - WD-2797 SFWRW Pump Station and Reservoir	03/08/21	06/30/22	04/24/23	$18,413,260	$18,413,260	(298)	$0	98.0%
10015242 - WD-2852R Westside Recycled Irrigation Retrofits and Improvements	01/25/21	07/29/22	05/28/23	$2,517,778	$2,517,778	(303)	$0	89.0%
Emergency Firefighting Water System								
10029709/10030778 - WD-2687R Pump Station # 2	12/12/17	11/16/22	11/15/22	$20,623,887	$21,773,887	1	($1,150,000)	94.8%
10029724/10029695 - WD-2861 Clarendon Supply	02/01/21	07/29/22	07/29/22	$2,706,081	$2,706,081	0	$0	60.4%
Local Water Conveyance/Distribution System								
19063 - WD-2718 PROSPECT/CORTLAND/FAIR AVE	01/03/22	11/23/23	09/23/23	$5,902,021	$6,495,059	61	($593,038)	52.1%
19063 - WD-2775 19TH AVE/VICENTE/LINCOLN	10/19/20	06/14/23	06/14/23	$6,734,177	$6,781,058	0	($46,881)	36.0%
19063 - WD-2806 VICENTE 19TH TO 25TH AVE	07/26/21	04/07/24	02/11/24	$6,267,815	$6,458,657	56	($190,842)	67.4%
19063 - WD-2811 17TH STREET/CLAYTON/ORD	05/26/20	09/24/22	01/02/23	$6,797,965	$7,380,208	(100)	($582,243)	75.0%

Note: * This table reflects Active Construction Contracts with an original contract amount greater than $1M.

** The Forecasted Cost includes all approved, pending, and potential change orders; and Final Completion includes all approved, pending, and potential change orders, and trends.

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Percent Complete
	NTP Date	Approved Construction Final Completion**	Current Forecasted Construction Final Completion	Approved Contract Cost	Current Forecasted Cost**	Schedule (Cal Days)	Cost	
19063 - WD-2843 Diamond street (27th to Diamond Heights)	07/25/22	05/17/24	05/17/24	$8,802,037	$9,342,037	0	($540,000)	10.9%
19063 - WD-2859 L-TARAVAL SEGMENT B	12/02/21	09/17/24	09/17/24	$11,996,247	$12,092,247	0	($96,000)	14.6%

	Approved Contract Cost	Current Forecast Cost	Variance	
			Cost	Percent
Program Total for On-Going Construction	**$197,579,170**	**$200,778,174**	**($3,199,004)**	**(1.6%)**

Note: * This table reflects Active Construction Contracts with an original contract amount greater than $1M.

** The Forecasted Cost includes all approved, pending, and potential change orders; and Final Completion includes all approved, pending, and potential change orders, and trends.

9. PROJECTS IN CLOSEOUT

There are no active projects currently in closeout phase.

10. COMPLETED PROJECTS

There are no completed projects.

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APPENDICES

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APPENDIX A. PROJECT DESCRIPTION

WATER REGIONAL

Water Treatment

10033123 SVWTP Ozone (CUW27202)

In recent years, SFPUC's Sunol Valley Water Treatment Plant (SVWTP) has experienced more frequent taste and odor (T&O) events from seasonal algal blooms than had occurred historically. This project's objective is to install ozone treatment facilities as a long-term solution to control T&O events encountered in the raw water supply from both the San Antonio and Calaveras Reservoir sources. This project will improve the reliability to meet water quality goals especially during warm months and during Hetch Hetchy shutdowns. The scope of this project is to install a raw water ozonation system at SVWTP including the following major components: • 10-inch through 66-inch diameter piping, elbows and valves • Concrete valve vaults • Ozone Generator Building (approx. 10,000 sq. ft. concrete structure) • Electrical Building (approx. 1250 sq. ft. concrete structure) • Loop Cooling Water Systems (approx. 375 sq. ft. concrete pad, skid system, pumps, valves, piping) • Cryogenic Oxygen Tank Systems (approx. 2300 sq. ft. foundation, liquid oxygen system equipment, stainless steel piping, valves, fittings and controls) • Liquid Oxygen Vaporizer Systems (equipment, piping, valves, fittings and controls) • Ozone Generators (generators, piping, valves, fittings and controls) • Ozone Injector Systems (approx. 3200 sq. ft. concrete structure, stainless steel injector units and piping, quenching chemical injection system, 66-inch diameter piping and manifold, valves, pumps and controls) • Ozone Contact Basin (approx. 12,000 sq. ft. concrete structure) • Ozone Destruct Systems (equipment, piping, valves, fittings and controls) • Pre-chloramination Facilities for Bromate Control • Instrumentation & Controls • Shop Space • Solar Panels; Standby Power Systems; High Voltage & Low Voltage Electrical Eq. & Distribution Systems • Minor Calaveras Substation Upgrades to support the Ozone facility power needs • Underground Utilities; Site Improvements.

10015064 SVWTP Short Term Improvements

The primary objective of the SVWTP Short Term Improvements project is to improve regional delivery reliability by addressing various conditions and deficiencies of the Sunol Valley Water Treatment Plant (SVWTP). Upgrades were identified through condition assessments and operations staff observations, review of level of service, subsequent feasibility studies, and alternative analyses. The construction scope of work will include the following: • Structural and HVAC improvements at the Administration Building. • Water Quality Lab remodel at the Administration Building including cabinet, countertop, sink, plumbing and flooring replacement and mold remediation work. • Repair concrete spalling in the sedimentation basins. • Upgrade wash water tank and access system and install valve actuator. • Upgrade sludge system piping, valves, and monitoring system. • Upgrade chemical piping system. • Remediate leakage at expansion joint around settled water pipes from sedimentation basin. • Replace flocculator variable frequency drives (VFDs) for the flocculation basins. • Replace leaking wash water drain valves. • Replace corroded air scour piping and chlorine contact tank piping. • Install new flowmeters for the wash water backwash system and chlorine contact tank. • Install new fixed washdown system at sedimentation basin. • Install new lighting and plant intercom and paging systems. • Install new server room fire suppression system. • Install plate settler washdown piping system.

10037628 SVWTP Polymer Feed Facility

At the Sunol Valley Water Treatment Plant (SVWTP), the new flocculation/sedimentation basin built in 2013 as well as the other 4 existing basins that are each rated at a capacity of 40 million gallons per day (mgd) were not able to achieve their capacity under all operating and water quality scenarios. A basin optimization plan was prepared to address the performance; it recommended adding a flocculant aid

polymer system. The project will build a polymer feed facility that will serve all five sedimentation basins to optimize plant water production. The funding for the project is provided under WECIP and WSIP. The WSIP funding for this project, $2.19M, is included with other Sunol Valley closeout projects and was completed in the Planning phase and a portion of the Design phase. The remaining funding for the project is provided under Water Enterprise 10-year CIP, $19,046,104. The scope of this project includes installation of a new polymer feed facility for SVWTP Basins 1 through 5. The flocculant aid polymer system will consist of the following: • Polymer Feed Building with polymer totes and tote storage area. • Polymer blending units. • Batch tanks. • Tank and tote mixers. • Batch tanks polymer transfer pump. • Polymer feed pumps. • Piping and valving. • Site improvements.

10037349 HTWTP Filter Underdrain Replacement

Over twenty projects have been identified to improve the performance and reliability of the Harry Tracy Water Treatment Plant (HTWTP). However, underdrains in two filters in a bank of six have failed since 2019 and replacement of the underdrains is being prioritized to restore the plant's treatment capacity and reliability. The remaining projects will be deferred to future CIP Planning. The scope of work includes the following: • Remove and dispose existing filter media and provide new filter media, • Procure and install new stainless steel filter underdrains for 6 filters, • Modify air distribution piping beneath filter underdrains, • Clean and recoat main air distribution piping, • Demolition work, and • Concrete work.

10037350 Regional Groundwater Treatment Improvement

The purpose of this project is to improve the performance of the Regional Groundwater Wells and treatment systems in the South Westside Basin for reliable use during dry years. In normal and wet years, the SFPUC will supply treated surface water to Daly City, San Bruno, and Cal Water to be used in place of their typical groundwater supply, thereby increasing the volume of groundwater in storage that can be pumped as supplemental water in dry years. This project will address emerging well water quality issues that require treatment, will provide additional reliability for treatment systems at the wells, and will evaluate the potential for a consolidated treatment facility (through Alternatives Analysis only). If a centralized treatment alternative is selected, the estimated project cost could potentially be $250 million, which includes construction of approximately 14 miles of 8" to 24" diameter pipeline, a pump station, storage tanks, treatment facilities, and other ancillary facilities. This project will build auxiliary water treatment facilities as well as other enhancements to increase the reliability and efficiency for maintenance and operation of the well stations. While an evaluation for providing centralized treatment is included in the project, the current budget only includes design and construction of facilities at individual well sites, including the following: • Install ammonia analyzer (1 site) • Construct manganese enclosure (2 sites) • Construct building, filtration and ammonia analyzer (1 site) • Upsize pedestal & tank for 2-week storage for sodium hydroxide (5 sites) • Upsize pedestal & tank for 2-week storage for liquid ammonium sulfate (7 sites) • Upsize pedestal and tank for 2-week storage for sodium hypochlorite (1 site) • Install detention (contact) tank to address high levels of ammonia w/o enclosure (1 site) • Upsize pedestal, tank and overall chemical system for change in chemical concentration from 50% to 25% concentration (5 sites) • Install chlorine detention (contact) tank to address high levels of ammonia • Install venturi meter or mag meter with dismantling joint inside concrete vault (6 sites) • Remove bucket elevator for sodium fluoride (7 sites) • Study to compare liquid vs powder fluoride • Study reverse flow (lockout study for minimum shutdown time) • Reimburse Cal Water for supporting the project design & construction for SSF Main well.

10038328 SVWTP Long Term Improvements

The primary objective of the SVWTP Long Term Improvements project is to improve regional delivery reliability by addressing various conditions and deficiencies of the Sunol Valley Water Treatment Plant (SVWTP). Upgrades were identified through condition assessments and operations staff observations,

review of level of service, subsequent feasibility studies, and alternative analyses. The construction scope of work will include the following: • Emergency Eyewash station installation at chlorine contact tank. • Repair bird netting deficiencies at Flocculation/Sedimentation Basins and filters. • Install new bird netting for fluoride storage and chemical delivery dock; • Replace Main Switchboards 1 and 2, remove ATS-1, ATS-2 and ATS-3 and incorporate functionality into new switchgear. • Add redundant 2MW standby generator with active particulate air filters. • Replace all GE Power Circuit Breakers (not all are ARC flash rated). • Repair concrete pad and coating at Caustic Tank farm. • Cat-C polymer feed system re-configuration. • Install wash water pumps soft starter system. • Install air monitors for aqua ammonia tanks. • Roadway and site improvements.

Water Transmission

10034578 CSPL2 Reach 5 Lining Replacement

Crystal Springs Pipeline No. 2 (CSPL2) runs from Crystal Springs Pump Station to University Mound Reservoir. It delivers potable and emergency water supply to San Francisco and to several cities along the Peninsula. Reach 5 of CSPL2, 60" in diameter, from Millbrae Yard to Baden Pump Station (approximately 3.8 miles) in the cities of South San Francisco and San Bruno is over 80 years old and has extensive lining failures.

This project would replace approximately 3.8 miles of coal tar lining with cement mortar lining (CML), upgrade 34 appurtenances to meet current standards, and improve access and shutdown flexibility for maintenance by installing 5 manway structures and one 60" diameter valve on CSPL2 and one 48" diameter valve on San Andreas Pipeline No. 1 (SAPL1) near Baden Pump Station. In addition, a recent corrosion investigation found a segment of the CSPL2 to be severely corroded across from the Baden Pump Station due to a gas pipeline crossing and will need to be replaced. Since the Sunset Supply Pipeline, San Andreas Pipeline No. 2, and San Andreas Pipeline No. 3, run parallel to the CSPL2 and are crossed by the gas pipeline, a corrosion investigation will be performed to determine if corrosion has occurred on these pipelines and if any repairs are needed. The scope of work includes the following: • Complete removal of coal tar lining • Installation of cement mortar lining • Installation of manway structures • Procurement and installation of isolation valves • Upgrade of appurtenances such as blow-offs, air release valves, etc. to meet current standards • Replacement of pipeline segments • Traffic control • Pavement restoration work.

10035029 As-Needed Pipeline Repairs

Water Supply and Treatment Division's (WSTD) maintenance and inspection program inspects the regional pipeline system on an ongoing basis. However, when repairs are identified to be needed following inspections and when emergency repairs are needed, a contractor is not readily available to perform the repairs. This project will increase system reliability by reducing the duration and number of outages since a prequalified, as-needed contractor will be available to complete repairs immediately following inspections or in emergencies. This project will repair/replace regional pipeline segments that will be inspected over the next five years, in addition to any emergency repairs that may be needed. The initial construction contract will be 3 years and combined with Project 10036840, BDPL1-4 Lining Repair to provide a sufficient guaranteed scope. Subsequent construction contract(s) will be issued to parallel WSTD's inspection program. The scope of work for the initial construction contract is as follows: • Pipeline replacement by open trench • Pipeline repair work • Protecting sensitive (wetland and creek) areas • Protecting utilities and infrastructure • Traffic control • Site/vegetation restoration • Paving restoration • Dewatering and providing temporary safe entry.

10036839 BDPL4 PCCP Repair

Historically, when pre-stressed concrete cylinder pipe (PCCP) fails due to breaks in the spirally wound

wire, the high-pressure failure can have catastrophic consequences. Some segments of the Regional Water System are constructed of PCCP. From recent inspections of Bay Division Pipeline No. 4 (BDPL4) Segment D, constructed of PCCP, a large number of wire breaks and circumferential cracks were found in the last 1.25 miles of pipeline that parallels Edgewood Road in Redwood City. In addition, several leaks have surfaced at circumferential cracks and where the pipeline transitions from PCCP to steel. Segments where wire breaks are concentrated will need to be repaired/replaced to prevent catastrophic failure and circumferential cracks and leaks will also be repaired. The first phase of this project will be to repair segments where there are high concentrations of wire breaks, wide circumferential cracks and active leaks. This first phase will include planning, design and construction of repairs. The second phase of the project will be to address the remaining 1.25 miles of pipeline, which includes planning, design and partial encumbrance of a construction contract. The project budget will be reevaluated following completion of the Alternatives Analysis for the second phase. The first construction contract will increase system reliability by rehabilitating approximately 650 feet of 84-inch diameter BDPL4 PCCP in Redwood City and includes the following work: • Excavation, shoring, backfilling, and compaction • Demolition of PCCP • Replacement of approximately 530 feet of pipeline by open trench • Slip lining approximately 120 feet of pipeline • Protecting sensitive (wetland and creek) areas and utilities/infrastructure • Traffic control and • Site/vegetation and paving restoration.

10036840 BDPL 1-4 Lining Repair

Water Supply and Treatment Division's (WSTD) ongoing pipeline inspection program has identified segments of the BDPL 1-4 and other regional pipelines that require lining repairs. In addition, this project will retain an as-needed contractor to repair linings identified to be deficient by WSTD over the next 5-years. This project will repair the lining in segments of the BDPL 1-4 and other regional pipelines over the next 5 years. The initial construction contract for this project will be 3 years and combined with Project 10035029, As-Needed Pipeline Repair to provide a sufficient guaranteed scope. Subsequent construction contract(s) will be issued to parallel WSTD's inspection program. The scope of work entails the following: • Cement mortar lining (CML) repair including removal, handling and disposal of existing coal tar lining • Dielectric lining repair • Dewatering and providing temporary safe entry measures, such as line stops, blind flanging, roll out spool pieces, welding bulkheads, etc.

10015071 Corrosion Control

This project will implement the corrosion protection and control program as recommended in the Corrosion Control Master Plan completed in August 2010. Sites identified with the worst levels of corrosion were bundled up in the master plan in three phases. Each phase will take several years to implementation. The scope for all phases will be similar, but the number of sites will vary at each phase. Phase 1 construction work for ten sites was completed and accepted on August 27, 2019. Phase 2 has eleven sites and is currently in the design phase. Phase 3 is anticipated to include up to twenty sites depending on the funding.

This project description is for all three phases. Scope of work includes the following: • Furnish and install cathodic protection (CP) systems. • Install rectifiers and anodes at a depth of approximately 300 feet • Install testing station for pipelines. • Install specialized galvanic and impressed current CP systems • Install remote monitoring units. • Install isolation protection systems. • Install transformers/switchgears under Phase 3 only.

10015076 San Antonio Pump Station MCC Upgrades

The San Antonio Pump Station (SAPS) is one of the key facilities in the Sunol Valley and was constructed in 1965 and modified in 1990. The existing motor control centers (MCC) MCC-A, MCC-B, and MCC-C have been in service since the 1960's and they are approaching the end of their useful life. In order to maintain

reliable operation at SAPS, the existing MCCs are being replaced and facility walls are being seismically retrofitted. In order to accommodate the retrofit work, the communications system is being relocated to an adjacent room and the HVAC will be replaced in affected rooms. In addition, a new propane generator will replace the existing diesel generator to serve as reliable backup power to the facility. The scope of work or construction will include the following: •Replace existing diesel generator with new 150KW propane generator •Install new fire suppression system •Replace existing lighting system •Replace existing HVAC system •Architectural design to accommodate clean agent fire suppression •Seismic Retrofit of walls •Replace existing MCC •Replace existing underground power and control conductors •Install new RTU with UPS •Replace existing communication system for Control and SCADA room.

10015081 CSPL2 Reaches 2 and 3 Rehabilitation

Crystal Springs Pipeline No. 2 (CSPL2) spans from Crystal Springs Pump Station to University Mound Reservoir. It delivers potable water supply to San Francisco and several cities along the Peninsula, Reaches 2 and 3 of CSPL2 in the Town of Hillsborough, unincorporated areas of San Mateo County, the City of San Mateo, and the City of Burlingame are over 80 years old and have deteriorated, with Reach 2 located on eroding slopes with difficult access and Reach 3 containing extensive lining failures. This project will relocate approximately 1.5 miles of 60-inch diameter CSPL2 (portion of Reaches 2 and 3 that traverses through steep terrain with a narrow access road) into Crystal Springs Road by removing the abandoned-in-place 48-inch diameter CSPL1, reline approximately 2.2 miles of CSPL2 (remaining portion of Reach 3) with cement mortar lining, and upgrade appurtenances to meet current standards. The scope of work includes the following: • Removal of approximately 2.2 miles coal tar lining • Installation of approximately 2.2 miles of cement mortar lining • Removal of 1.5 miles of existing CSPL1 • Pipeline installation work by open trench • Upgrade of appurtenances such as blow-offs, air release valves, etc. to meet current standards • Traffic control • Pavement restoration work.

Water Supply & Storage

10015232 Merced Manor Reservoir Facilities Repairs

The Merced Manor Reservoir was upgraded in 2004 to seismically strengthen and repair the roof structure and foundations. After the completion of the upgrade, spalling of concrete at various locations on the roof structure was observed over the years due to the constant temperature gradient experienced in the roof structure. The design of the seismic retrofit of Merced Manor Reservoir was done without the benefit of the lessons learned from later roof retrofits and construction at Sunset North Basin and University Mound North Basin where the effect of temperature load on the roof due to expansion and contraction was analyzed and designed to accommodate the temperature loading. The scope of this project includes performing structural analysis of the effect of temperature gradient on the existing roof structure design; developing design modifications of the roof structure to accommodate the expansion and contraction loads; and construction of the roof modifications and repair of the spalled concrete.

10036998 Turner Dam and Reservoir Improvements

Turner Dam is a 195-foot-high earth embankment dam that was completed in 1965 and impounds San Antonio Reservoir in the East Bay. The dam is regulated by the California Division of Safety of Dams (DSOD). This project is to investigate the seismic stability and hydraulic performance of the Turner Dam and San Antonio Reservoir facilities and to perform necessary upgrades identified during the Planning Phase.

10015091 Pilarcitos Dam Improvements

The Pilarcitos Dam is an earthen embankment dam that was built in 1866 and raised in 1874; it is the

SFPUC's oldest dam regulated by the California Division of Safety of Dams (DSOD). This project will investigate the seismic stability and hydraulic performance of the Pilarcitos Dam and Reservoir facilities and perform necessary upgrades identified during the Planning Phase. The scope of work will be confirmed following the completion of the Condition and Needs Assessments, and Alternative Analysis for the dam and forebay outlet structure, spillway, outlet tunnel, and outlet pipeline.

10015092 San Andreas Dam Facility Improvements

The San Andreas dam is a 105 foot high earthen embankment dam that was built in 1870; it impounds San Andreas Reservoir that is the raw water source for the Harry Tracy Water Treatment Plant, and it is regulated by the California Division of Safety of Dams (DSOD). This project will investigate the seismic stability and hydraulic performance of the San Andreas Dam and Reservoir facilities and perform necessary upgrades identified during the Planning Phase. The objectives are to perform Condition and Needs Assessments and Alternatives Analyses of the dam, spillway, emergency outlet, and ancillary facilities; to develop retrofit options if required; and to implement the selected alternatives.

Watershed & Lands Management

10015110 EBRPD WATER SYSTEM

As a mitigation for the Calaveras Dam Replacement Project, the SFPUC agreed to construct new potable water distribution facilities for the Sunol Regional Wilderness Park (SRP), managed by the East Bay Regional Park District (EBRPD). The EBRPD owns and maintains a water system located at SRP Headquarters which previously supplied potable water to four park facilities, as well as drinking water fountains and picnic areas interspersed throughout the park. Currently, the water system serves non potable water for use by EBRPD employees only. Since the system stopped producing potable water due to supply and sanitary deficiencies, EBRPD has been supplying park visitors with bottled water trucked in by a contracted vendor. The project purpose is to provide a reliable water supply for potable use at the EBRPD facilities and to provide potable uses at the SRP.

10015108 Sneath Lane Gate/North San Andreas

The 2001 Peninsula Watershed Management Plan identified the need for a new trail connection between San Mateo County's Crystal Springs Regional Trail (North San Andreas) to Golden Gate National Recreation Area's (GGNRA) Sweeney Ridge property at the Sneath Lane Gate. The trail is a critical connection among existing regional trails at the north end of the Peninsula watershed, that will serve hikers, bikers and equestrians.

10015113 Southern Skyline Blvd Ridge Trail Extension

The Bay Area Ridge Trail project was started in 1987 by the Bay Area Ridge Trail Council to create an approximately 550-mile long continuous trail for hikers, mountain bicyclists, and equestrians along the ridgelines overlooking San Francisco Bay. The objective of the project is to provide access to the Peninsula watershed, to enhance educational opportunities, and to ensure watershed protection. South of Highway 92, this proposed extension project would construct a 6-mile-long trail on the Peninsula Watershed in San Mateo County between Highway 92 and the Golden Gate National Recreation Area's (GGNRA) Phleger Estate. The project consists of a 6' foot wide, all-weather surface trails; retaining structures to stabilize cut and/or fill slopes; drainage facilities; a 15,000-square-foot parking lot accommodating up to 14 cars; two pre-fabricated restrooms along the trail; site security features; and landscape restoration. North of Highway 92, the project includes construction of a trail segment adjacent to the Fifield Cahill Trail that is compliant with the Americans with Disabilities Act, a 16,000-square foot parking lot, and one pre-fabricated restroom. In addition, the project includes the following related construction: • Removal of 160

trees • 9.3 miles of wildlife friendly security fencing • Grading and drainage work • 2000 LF soldier pile retaining walls • Paving of two trailheads parking areas with educational signage • Protecting sensitive habitat • Traffic control • Site/vegetation restoration.

10030771 SA-1 Service Road/Ingoing Road

The SFPUC has identified landslide and erosion damage that have destabilized service roads (East Shore Service Road and West Shore Service Road) and adjacent areas in three locations on San Francisco Peninsula Watershed lands situated along the San Andreas Reservoir in San Mateo County. The project is to evaluate and repair the damage, and to implement long term solutions for SFPUC staff and contractors to continue to use the roads to access, operate, and maintain SFPUC facilities and watershed lands. Construction for these locations can be done through phases to accommodate budget cash flow.

Buildings and Grounds

10033555 Rollins Road Building Renovations (CUW27703)

The SFPUC purchased a property that was previously leased long term on Rollins Road in Burlingame, San Mateo County, in September 2017, securing ownership of an additional 10,000 square feet of office space for the SFPUC Water Enterprise (WE). A capital project was initiated in 2018 for tenant improvements. In June 2020, the project scope for the 1657 Rollins Road was decreased significantly, and the scope of the Millbrae Yard Lab & Shop Project was increased. The program for Rollins Road Building Renovation Project will be achieved at the Millbrae Yard by adding two additional floors to the laboratory building as part of its Phase 1 project. The expanded laboratory building will accommodate the Rollins Road building staff. As a result of the scope change, personnel at 1657 Rollins Road will relocate to Millbrae Yard campus following the completion of the Millbrae Yard Lab & Shops Project.

10034526 Millbrae Warehouse Settlement & Admin. Bldg. HVAC

This project will construct improvements for two buildings located at the Millbrae Yard facility, the Millbrae Warehouse and the Administration Building. The Millbrae Warehouse Settlement project will provide a long term repair for the displacement (settlement) of the slab between the loading dock and the offices. The slab settlement resulted from expansive clay layers located seven feet below the top of the existing concrete slab. For the Millbrae Administration Building HVAC Upgrades, this project will provide long term reliable and economical improvements to heating and cooling systems. Two separate construction contracts will be used for the Millbrae Warehouse Settlement repairs and the Administration Building HVAC Upgrades. Construction for the Millbrae Warehouse loading dock repair is forecasted to begin in 2021 whereas the Millbrae Administration Building HVAC Upgrades construction is forecasted to begin in 2022.

10015124 Sunol Long Term Improvements

The project includes redevelopment of the existing Sunol Yard and construction of a Watershed Center near the Sunol Water Temple. Most of the existing structures at the Sunol Yard date back to 1930 and were converted from the original purpose, residence and barn, to office and shop spaces. The structures contain lead-based paint, asbestos, bats, and bat guano, and did not meet current building, health, or safety codes. The project will demolish six existing dilapidated structures at the Sunol Yard and construct a LEED Gold administration building, shops, fuel station, backup generator system, truck wash station, paving and site restoration. Additional scope was requested for the Watershed Center that was not included as part of the construction contract. The scope is under review by Water Enterprise for consideration and budget. The scope includes backup generator to power the facility, 100 space parking lot, History terrace exhibit, picnic area restoration and fixtures, composing toilets, convert temporary construction areas to permanent areas for WSTD and NRD use and revisions to the interior exhibits. The scope of Center (Phase B) will consist of

the following: • Construction of a one-story LEED Gold facility that will include an interpretive display exhibit area, a freshwater stream profile aquarium, history display alcoves, a watershed discovery lab classroom, a community multi-purpose room, restrooms, an entry plaza, a reception area, patios, and administrative offices. • Construction of a 2.5-acre discovery trail area with native plant landscaping, irrigation, meandering trails, seating areas and water and landscape features. • Site restoration of the Temple area forecourt. • Construction of new stairs and ramps to the picnic area. • Installation of underground utilities. • Site restoration and paving.

10015128 Millbrae Yard Laboratory and Shop Improvements

SFPUC has determined that the existing Millbrae Administration Building must remain operational following a major earthquake, and therefore needs to be retrofitted or replaced to meet essential facility requirements. SFPUC also wants to expand the existing Millbrae Administration Building to merge and house the Water Enterprise staff and equipment from the Rollins Road Facility. This project is necessary to provide Water Enterprise personnel a long term and sustainable campus, and allow the consolidation of work groups for increased staff efficiency. This project will also alleviate shortage of program space, increase efficiency of operations, improve employee working environment with improved heating, ventilation, and air conditioning, improve employee health and safety, and enhance site and building security. A recent planning study has identified several alternatives to meet the project goals. The selected alternative for the Millbrae Yard campus improvements will be implemented in three phases. Phase 1 includes a new laboratory office and new south shop building to alleviate Water Enterprise undersized and outdated workspaces and desire to relocate mission-critical functions to code-compliant structures. This project will provide additional space in the laboratory building by constructing two additional floors on top of it to accommodate the relocation of all personnel from Rollins Road Facility. Phase 2 includes demolition of the existing Administration Building and construction of a new consolidated Administration Building adjacent to the new laboratory building to accommodate other Water Enterprise staff. Phase 3 includes new covered storage for materials and equipment. Only the scope of work for Phase 1 will be implemented under this project to meet near-term needs, minimize disruptions to operations, and allow gradual buildout of the master plan to stay within the 10-year CIP budget. The Phase 1 scope includes the following: • Construct a new 50,000 square foot 3-story laboratory building • Construction a new 12,800 square foot shop building • Renovate an existing 7,440 square foot warehouse • Perform site improvements such as driveways, hardscape, landscape, and parking (approximately 400 spaces).

APPENDIX A. PROJECT DESCRIPTION

WATER LOCAL

Water Transmission

10033816 Potable Emergency Firefighting Water System

This project provides funding for the design and construction of about 2 to 3 miles of large diameter earthquake resistant pipeline to improve the fire water and potable supply reliability in the western area of San Francisco, particularly in the Sunset and Richmond Districts. This project is part of a larger effort to construct approximately 14 miles of the Potable Emergency Firefighting Water System (PEFWS), which also includes two planned pump stations. Current funding will fund the aforementioned 2 to 3 miles of pipeline and design work for a Lake Merced Pump Station. The pipeline will be designed as a potable AWSS pipeline, meaning it will convey low pressure potable water with connections to the distribution system during normal operations but can be isolated with motorized valves and operate under high pressure for firefighting after a major seismic event or emergency conditions by activating associated pumps. This funding will provide planning and design through FY 22-23 with construction funding in FY24 and 25. Additional funding will be provided by existing Earthquake Safety & Emergency Response (ESER) general obligation bond funds, with additional funding possibly approved in the March 2020 ESER referendum. The total Local Water funding commitment to this project is $55M with $12M carryover from FY 18-19 and FY19-20 budgets.

10033818 Town of Sunol Pipeline

Since 2000 the SFPUC has replaced the majority of the Town of Sunol pipeline system through the Town of Sunol Fire Suppression project, except for two segments. This project will complete the replacement of the last two segments of the system, by replacing sections of the pipeline that crosses the Arroyo de Laguna Creek (Creek Crossing) and under Highway 680. The upstream section of pipeline that feeds both the potable line and fire suppression line to the Town of Sunol is exposed under the creek and in danger of failing under Highway 680. Pipeline failure at either location has significant consequences, since all fire and potable water in the Town of Sunol is dependent on the rehabilitation of this 12" line. This project will reduce maintenance from pipe breaks and have less main flushing which may lower impact on operating expenses. This project is broken up into two portions and the scope of work will include the following: Creek Crossing: •Replace approximately 550 feet of 12" diameter pipeline crossing Arroyo de Laguna Creek with 12" diameter Ductile Iron Pipe (DIP) class 53 •Open cut trench across the creek •New tie in points with gate valves •Creek restoration and tree removal in pipeline alignment Highway 680 Crossing: •MOU agreement with Alameda County Transportation Commission (ACTC) to replace existing 12" diameter Town of Sunol pipelines under Highway 680 for $1.3M.

19063 Local Water Conveyance/Distribution System

This long-term program funds management of linear assets in the potable water distribution system between transmission or storage and final customer service connection. 1. Main Replacement Program: replaces and renews feeder and distribution mains for the 1,230 miles of pipe distribution system. Improvements include replacement, rehabilitation, relining, and cathodic protection of all pipe size categories to extend or renew pipeline useful life. Coordination with construction projects by other City agencies, especially SFPUC Sewer and DPW Paving, is emphasized to optimize efficiencies and minimize customer disruptions. Starting in FY21-22, a new L-Taraval Transit Project has been created to provide separate funding for the main replacement project along this major transit corridor, where street improvement projects by other agencies (CalTrans, SFMTA, SFCTA, DPW) and are more expensive to implement due to their complexity, traffic and transit impacts, and multi-agency coordination. The L-

Taraval Project will provide separate project funding for the 4 miles of main replacement at a cost of $6.0M per mile. Additionally, in FY21-22, a new Better Market Street Project has been created to provide separate funding for the water main replacement along the Market Street Corridor to be constructed over a period of 7 years with the assumption of 0.5 miles per year. The proposed budget will include the following: 1) replacement of distribution pipelines at $4.5M per mile; 2) replacement of 1 mile with seismically reliable pipelines at $6.0M per mile; and 3) Pipe relining at $3M per mile. FY20 budget will be allocated from existing budget balance.

Local Water Supply

10015239 Lake Merced Water Level Restoration

The project consists of the following subprojects. (1) The City of Daly City is proposing and working in coordination with the SFPUC to implement the Vista Grande Drainage Basin Improvements project to address storm related flooding in the Vista Grande Watershed Drainage Basin while providing the benefit of restoring connection to the natural watershed of Lake Merced, (2) The SFPUC is evaluating diversion of highly treated recycled water from the new Westside Recycled Water facility into Lake Merced to increase ad stabilize lake levels.

10015240 San Francisco Groundwater Supply

This project consists of two phases, which combined will provide an annual average of 4 mgd of groundwater to San Francisco's municipal water supply, and improvements at the existing San Francisco Zoo Well No. 5. Phase 1 is divided in two separate contracts, which are Contracts A & B. Contract A work for building four new groundwater well stations in the western part of San Francisco is currently in the final construction phase. Contract B work for installing buried piping to connect three of these well stations to the Sunset Reservoir was completed and accepted on December 21, 2015. Groundwater from the fourth well station was piped to the nearby Lake Merced Pump Station, where it was distributed to both the Sunset Reservoir and Sutro Reservoir. Phase 2 has Contract C work for installing buried piping and converting two existing irrigation well facilities in Golden Gate Park to groundwater supply wells is currently in the final construction phase, and would be implemented after completion of the CUW30201, San Francisco Westside Recycled Water Project. Improvements at the existing San Francisco Zoo Well No. 5 were completed and accepted on February 15, 2007.

10015242 San Francisco Westside Recycled Water

This project includes all facilities to produce and deliver about 2 mgd of recycled water for irrigation use in the western end of San Francisco. The project includes a new recycled water treatment facility consisting of membrane filtration, reverse osmosis, and ultraviolet light disinfection; a 1.1 million gallon storage reservoir; distribution pumping facilities; and 5 to 6 miles of new pipelines.

Local Tanks/Reservoir Improvements

10015223 College Hill Reservoir Outlet

This project provides funding for the design and construction of the College Hill Reservoir Outlet Structure and Pipeline Upgrade Project to address seismic, water quality, electrical, structural, and other deficiencies. This project includes installation of a new control valve vault; replacement of reservoir inlet and outlet piping; replacement of reservoir transmission pipelines up to Cortland Avenue; reservoir roof replacement; and miscellaneous piping, security, site access, electrical, instrumentation, and water quality improvements. This project is currently in final design phase with a 24-month construction duration starting in 2020. The estimated budget is $18 million with $14M in funding provided for FY1920 and additional $3M provided for FY2021 and $1M FY2021 for roof replacement.

Pump Stations

10015231 Harding Park PS

This project funds long term improvements to the Harding Park Pump Station to increase reliability and correct conditions that have led to the premature corrosion and failure of critical components. The current design places the pumping facility on top of the recycled water reservoir leading to high humidity levels within the facility. This project will seal the reservoir from the pump room, improve the HVAC system for humidity control, and relocate critical electrical panel and components out of the pump room. The project will also modify the current electrical feed to allow for the safe maintenance of the water pump electrical components while leaving the buildings lighting and auxiliary loads powered.

Buildings and Grounds

10037249 New CDD Headquarters

The City Distribution Division (CDD) Headquarters, currently located at 1990 Newcomb Avenue, San Francisco, was constructed in 1962. The majority of CDD's staff are located at Newcomb (approx. 260 people). Existing facilities include administrative offices, warehouse, shops, materials and equipment storage and vehicle fleet. CDD oversees the retail water distribution system with the City and County of San Francisco, responsible for the physical infrastructure of San Francisco's potable, auxiliary water system, groundwater, and recycled water systems. CDD's responsibilities include 24/7 emergency response to water main breaks and two-alarm or larger fires in addition to day-to-day operations and maintenance of over 1,250 miles of water main, 12 reservoirs, 9 pump stations, 7 hydro pneumatic stations, 6 tanks, the water meter program serving over 176,000 customers, and maintaining CDD's physical plant, equipment and vehicles and over 1,100 acres of grounds throughout the City.

Emergency Firefighting Water System

EFWS-PL EFWS PL - EFWS Pipelines

The Emergency Firefighting Water System(EFWS) includes several methods of delivering water to suppress fires during emergency situations. EFWS is vital for protecting against the loss of life, homes, and businesses from fire following an earthquake and non-earthquake multiple-alarm fires. One EFWS component is a high-pressure fire-suppression water system, formerly known as Auxiliary Water Supply System (AWSS), which was originally built in the decade following the catastrophic 1906 San Francisco earthquake. It consists of a resilient 135-mile high-pressure pipeline network, a high elevation reservoir, two large capacity tanks, two high-pressure seawater pumping stations, and manifolds that allow fireboats to inject Bay water into the City’s pipelines. The Potable Emergency Firefighting Water System (PEFWS) will bring a seismically resilient high-pressure firefighting water system to the western neighborhoods of San Francisco, while also creating a seismically resilient pipeline that supplies drinking water to the west side during non fire situations. The proposed overall project will install over 14 miles of seismically resilient pipelines in multiple phases as funding is provided. The system will be capable of providing water to the SFFD firefighters at the high pressure needed to combat large fires after a seismic event. The proposed pipelines will be fed by pump stations delivering 30,000 gallons per minute with services to the Richmond and Sunset Districts. Fireboat manifolds allow fire boats to pump seawater from the bay into the EFWS. Existing fireboat manifolds at Fort Mason and Pier 33 ½ are located on piers of unknown condition and are likely susceptible to seismically induced failures. Rehabilitation of manifolds and connector pipelines is required at Fort Mason and Pier 33 ½ to provide adequate access for firefighters.

EFWS-PS EFWS PS - EFWS Pump Station

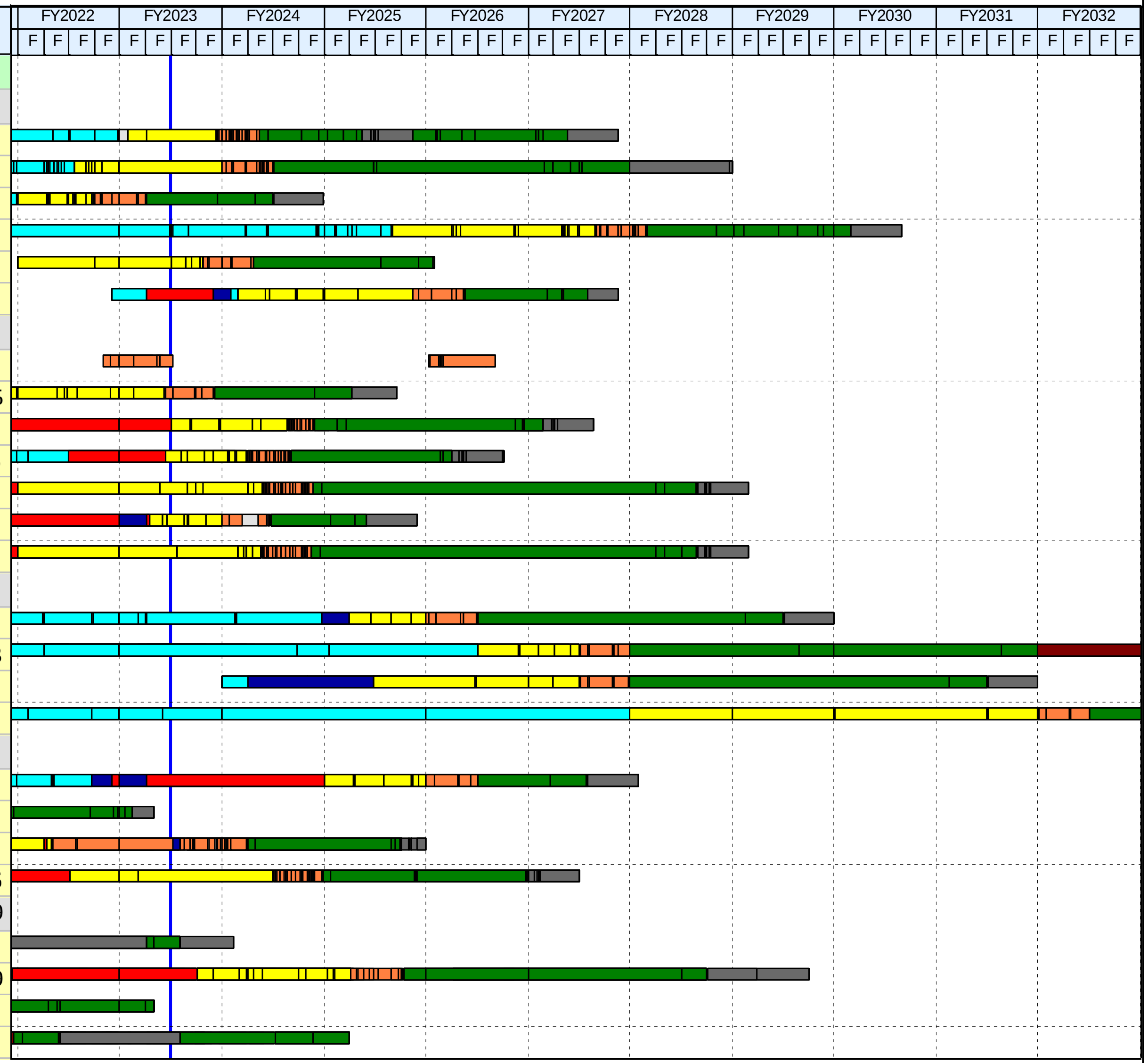
The Emergency Firefighting Water System (EFWS) includes several methods of delivering water to

suppress fires during emergency situations. EFWS is vital for protecting against the loss of life, homes, and businesses from fire following an earthquake and non-earthquake multiple-alarm fires. One EFWS component is a high-pressure fire-suppression water system, formerly known as Auxiliary Water Supply System (AWSS), which was originally built in the decade following the catastrophic 1906 San Francisco earthquake. It consists of a resilient 135-mile high-pressure pipeline network, a high elevation reservoir, two large capacity tanks, two high-pressure seawater pumping stations, and manifolds that allow fireboats to inject Bay water into the City's pipelines.

The Potable Emergency Firefighting Water System (PEFWS) will bring a seismically resilient high-pressure firefighting water system to the western neighborhoods of San Francisco, while also creating a seismically resilient pipeline that can supply drinking water to the west side during non-fire situations. The proposed overall project will install over 14 miles of seismically resilient pipelines in multiple phases as funding is provided. The system will be capable of providing water to the SFFD firefighters at the high pressure needed to combat large fires after a seismic event. The proposed pipelines will be fed by pump stations delivering 30,000 gallons per minute with services to the Richmond and Sunset Districts.

Appendix B. Water Enterprise Approved Project-Level Schedules Regional Programs

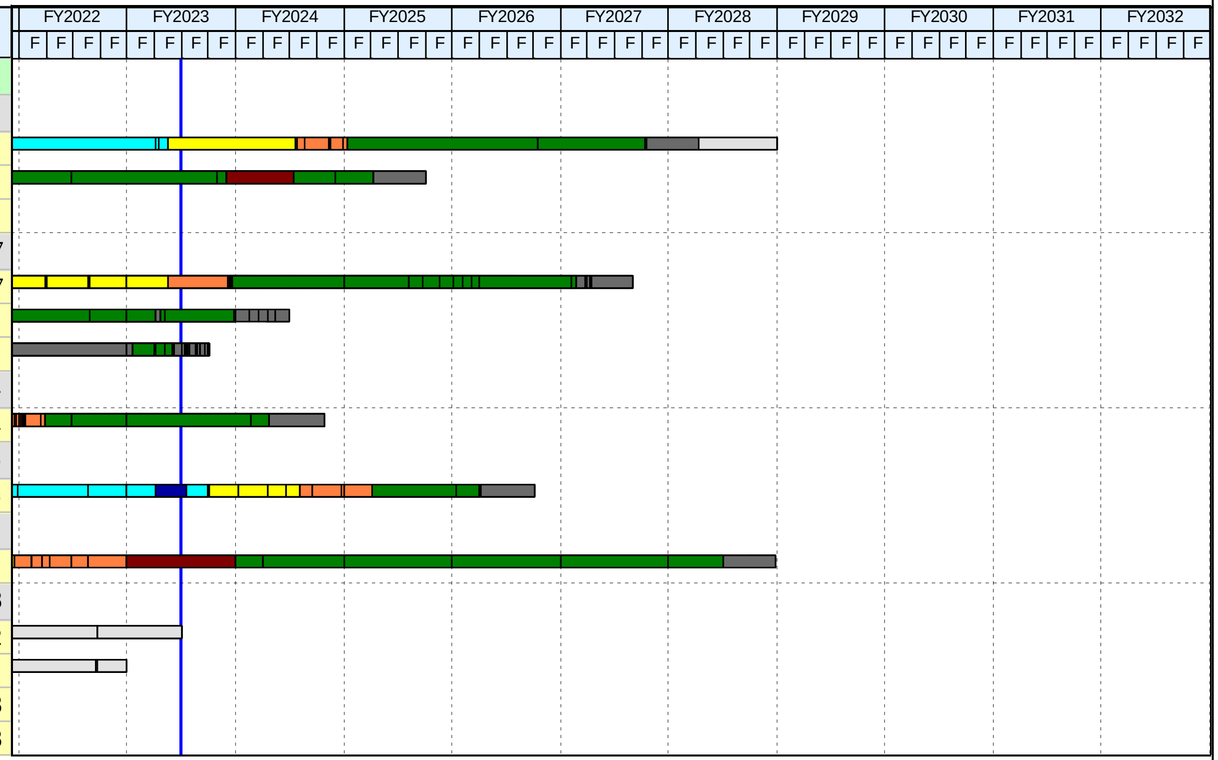
Project Name	Start	Finish
Water Regional Improvement Projects	01-Jan-09	29-Jun-35
Water Treatment	03-Mar-14	26-Feb-30
10015064 SVWTP Short Term Improvements	03-Mar-14	17-May-2
10033123 SVWTP Ozone (CUW27202)	27-Jun-17	30-Jun-28
10037349 HTWTP Improvements Capital	02-Nov-20	28-Jun-24
10037350 Regional Groundwater Treatment Improve	13-Aug-20	26-Feb-30
10037628 SVWTP Polymer Feed Facility	01-Jul-21	01-Aug-2
10038328 SVWTP Long Term Improvements	06-Jun-22	17-May-2
Water Transmission	01-Jan-16	25-Aug-2
10015071 Corrosion Control	01-Jan-16	31-Jan-28
10015076 San Antonio Pump Station MCC Upgrade	12-May-16	19-Mar-25
10015081 CSPL2 Reaches 2 and 3 Rehabilitation	12-Sep-16	18-Feb-27
10034578 CSPL2 Reach 5 Lining Replacement	25-Feb-19	07-Apr-26
10035029 As-Needed Pipeline Repair	01-Jul-20	25-Aug-2
10036839 Pre-Stressed Concrete Cylinder Pipe (PCC	01-May-20	28-May-2
10036840 BDPL 1-4 Lining Repair	12-Sep-16	25-Aug-2
Water Supply & Storage	11-Dec-13	29-Jun-35
10015091 Pilarcitos Dam Improvements	07-Apr-14	29-Jun-29
10015092 San Andreas Dam Facility Improvements	11-Dec-13	30-Dec-33
10015232 Merced Manor Reservoir Facilities Repair	03-Jul-23	30-Jun-31
10036998 Turner Dam and Reservoir Improvements	01-Oct-20	29-Jun-35
Watershed and Lands Management	31-Oct-12	02-Aug-2
10015108 Sneath Lane Gate/North San Andreas	01-Feb-21	02-Aug-2
10015110 EBRPD Water System	02-Jun-14	31-Oct-22
10015113 Southern Skyline Blvd Ridge Trail Extens	31-Oct-12	02-Feb-24
10030771 San Andreas Service Road Upgrades	30-Jun-16	31-Dec-26
Buildings and Grounds	01-Jan-09	30-Mar-29
10015124 Sunol Long Term Improvements	01-Jan-09	14-Aug-2
10015128 Millbrae Yard Laboratory and Shop Impro	02-Nov-15	30-Mar-29
10033555 Rollins Road Building Renovations (CUW	01-Mar-18	30-Jun-22
10034526 Millbrae Warehouse Settlement & Admin.	03-Jan-17	30-Sep-24



Project Management	Design	Construction Mgmt
Planning	Right-of-Way	Construction
Environmental	Bid & Award	Closeout

Appendix B. Water Enterprise Approved Project-Level Schedules Local Programs

Project Name	Start	Finish
Water Local Improvement Projects	03-Mar-03	30-Jun-32
Local Water Conveyance / Distribution System	01-Jul-10	30-Jun-32
10033816 Potable Emergency Firefighting Water Sys	12-Aug-19	30-Jun-28
10033818 Town of Sunol Pipeline	17-Jun-19	04-Apr-25
19063 Local Water Conveyance/Distribution System	01-Jul-10	30-Jun-32
Local Water Supply	03-Mar-03	03-Mar-27
10015239 Lake Merced Water Level Restoration	16-Jun-03	03-Mar-27
10015240 San Francisco Groundwater Supply	16-Jun-03	30-Jun-22
10015242 San Francisco Westside Recycled Water	03-Mar-03	06-Apr-23
Local Tanks/Reservoir Improvements	24-Jan-13	24-Apr-24
10015223 College Hill Reservoir Outlet	24-Jan-13	24-Apr-24
Pump Stations	12-May-21	03-Apr-26
10015231 Harding Park PS	12-May-21	03-Apr-26
Buildings and Grounds	01-Feb-20	28-Jun-28
10037249 New CDD Headquarters	01-Feb-20	28-Jun-28
Emergency Firefighting Water System (EFWS)	01-Apr-11	29-Dec-28
10015480 2014 AUXILIARY WATER SUPPLY SYS	06-Nov-14	30-Dec-22
10015482 AUXILIARY WATER SUPPLY SYSTEM	01-Apr-11	30-Jun-22
EFWSPS EFWS Pump Stations	04-Apr-11	29-Dec-28
EFWSPL EFWS Pipelines	04-Apr-11	29-Dec-28



- Project Management
- Planning
- Environmental
- Design
- Right-of-Way
- Bid & Award
- Construction Mgmt
- Construction
- Closeout

APPENDIX C. LIST OF ACRONYMS

AWSS	Auxiliary Water Supply System
BDPL	Bay Division Pipeline
BDPL 1 - 4	Bay Division Pipeline Numbers 1 - 4
CalTrans	California Department of Transportation
CATEX	Categorical Exemption
CDD	City Distribution Division
CEQA	California Environmental Quality Act
CER	Conceptual Engineering Report
CIP	Capital Improvement Program
CM	Construction Management
CM/GC	Construction Manager/General Contractor
CSPL2	Crystal Springs Pipeline Number 2
DIP	Ductile Iron Pipe
DSOD	Division of Safety of Dams (State of California)
EBRPD	East Bay Regional Park District
EFWS	Emergency Firefighting Water System
EIR	Environmental Impact Report
ESER	Earthquake Safety and Emergency Response
FY	Fiscal Year
GGNRA	Golden Gate National Recreation Area
HTWTP	Harry Tracy Water Treatment Plant
HVAC	Heating, Ventilation, and Air Conditioning
JOC	Job Order Contract
LEED	Leadership in Energy and Environmental Design
MCC	Motor Control Centers
MGD	Million Gallons per Day
MND	Mitigated Negative Declaration
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NRD	Natural Resources Division
NTP	Notice to Proceed
PEFWS	Potable Emergency Firefighting Water System
PS	Pump Station
PUC	Public Utilities Commission
RFP	Request for Proposal
ROW	Right-of-Way
SAPL1	San Antonio Pipeline Number 1
SAPL2	San Antonio Pipeline Number 2
SAPS	San Antonio Pump Station
SCADA	Supervisory Control and Data Acquisition
SF	San Francisco
SFPUC	San Francisco Public Utilities Commission
SFPW	San Francisco Public Works (formerly SFDPW)
SVWTP	Sunol Valley Water Treatment Plant
T&O	Taste and Odor
TBD	To be determined
WE	Water Enterprise
WECIP	Water Enterprise Capital Improvement Program
WSIP	Water System Improvement Program
WSTD	Water Supply and Treatment Division

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