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: November 19, 2024

TO: Commissioner Kate H. Stacy, President
Commissioner Joshua Arce, Vice President
Commissioner Avni Jamdar
Commissioner Steve Leveroni

FROM: Dennis J. Herrera, General Manager DJH

RE: Hetch Hetchy Capital Improvement Program Quarterly Report
Quarterly Report (1st Quarter / FY 2024-2025)

Enclosed please find the Hetch Hetchy Capital Improvement Program (HCIP) Quarterly Report for the 1st Quarter (Q1) of Fiscal Year (FY) 2024-2025. The primary intent of the report is to provide the Commission, stakeholders, and the public with a status summary of the HCIP based on data for the period of July 1, 2024 to September 30, 2024.

This quarterly report incorporates all the changes made to the Hetch Hetchy Water capital improvement projects according to the 10-Year Hetch Hetchy Enterprise Capital Plan for FY2024-25 to FY2033-34, presented to and approved by this Commission on February 13, 2024.

Attachment

OUR MISSION: To provide our customers with high-quality, efficient and reliable water, power and sewer services in a manner that values environmental and community interests and sustains the resources entrusted to our care.

This page is intentionally left blank.

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

QUARTERLY REPORT

Hetch Hetchy Capital Improvement Program

July 2024 – September 2024

Published: November 19, 2024

This page is intentionally left blank.

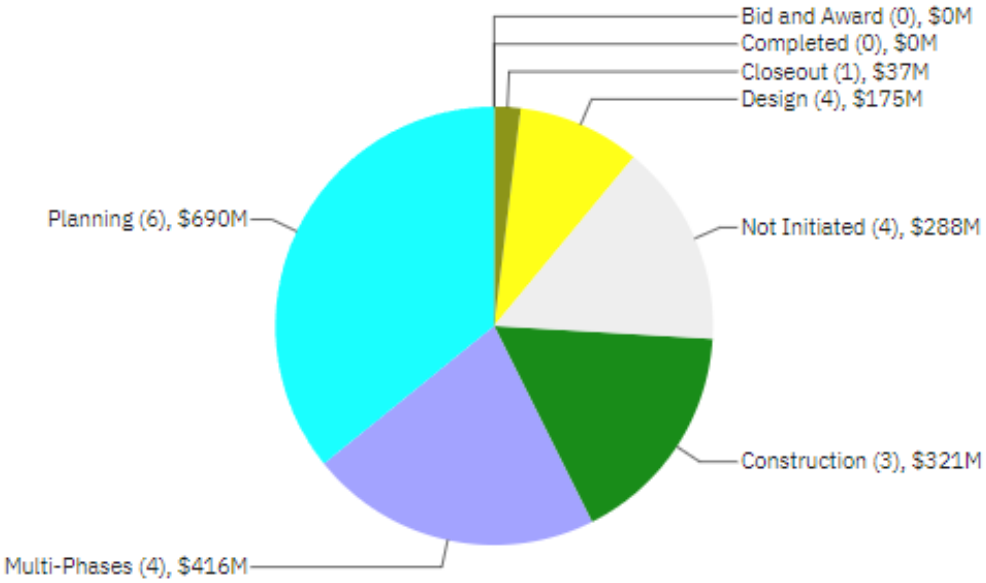
EXECUTIVE SUMMARY

This quarterly report provides a summary update on the Hetch Hetchy Capital Improvement Program (HCIP) that is part of the larger Hetch Hetchy Water Capital Improvement Program. The primary intent of the report is to provide the Commission, stakeholders, and the public with a status summary of the HCIP based on data for the period of July 1, 2024 to September 30, 2024.

This quarterly report includes all approved HCIP projects in the Hetch Hetchy Water Capital Improvement Program according to the 10-Year Capital Plan for FY2024-25 to FY2033-34, presented to and adopted by the Commission on February 13, 2024 (2024 HCIP). There are twenty-two (22) projects in the 2024 HCIP together with three (3) project development (PD) accounts for program-level expenditures for each of the Water, Power, and Joint Programs.

Program Current Status:

As of the end of the reporting period, the status of the 22 HCIP projects (excluding for these purposes the 3 PD accounts) is as follows: four (4) projects are not yet initiated; ten (10) projects in planning, design, or bid & award; three (3) projects in construction; four (4) projects that have subprojects in multiple phases including construction; and one (1) project in closeout.



Approved Budget for Projects in Each Phase

The following Tables provide a high-level summary of the cost and schedule status for this program (including the 3 PD accounts).

Table A shows the Current Approved Budget and Current Forecast Cost of $2,016.81M and $2,050.93M, respectively. Reasons for the cost variances are included in Section 7 of this report.

Table A. Program Cost Summary

Program	Expenditures To Date ($ Million) (A)	Current Approved Budget ($ Million) (B)	Q1/FY24-25 Forecast Costs ($ Million) (C)	Cost Variance ($ Million) (D = B - C)	Cost Variance Over Reporting Period * ($ Million) (E)
Program Total	**$378.78**	**$2,016.81**	**$2,050.93**	**($34.12)**	**($22.54)**

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

Table B shows the Approved and Forecast Completion Dates.

Table B. Current Approved vs. Current Forecast Schedule Dates

Program	Current Approved Project Start	Actual Start	Current Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Overall HCIP Program	**10/03/11**	**10/03/11 A***	**12/31/41**	**12/31/41**	**-**

** "A" is used after a date to represents an actual date as opposed to a forecast or approved date.*

Program Key Updates:

Some projects decreased in overall percentage completion compared to the last quarter due to scope/ budget/ schedule increases that were approved according to the last 10-year CIP.

The key updates for the HCIP include:

- The SJPL Valve and Safe Entry Improvements Phase 1B (contract HH-1006) contractor completed punchlist items and achieved final completion this quarter. Phase 2B/2C achieved 100% design in August.
- For the Moccasin Powerhouse Bypass Upgrades project, the 65% design package was received in September and is under review.
- For the Moccasin Powerhouse and Generator Step-Up (GSU) Rehabilitation project, during this quarter, the contractor for Subproject B (contract DB-121R2) worked to prepare Generator M1 for outage work in the next quarter. For Subproject C, the design team is addressing 65% design package comments and coordinating responses.
- For the Warnerville Substation Rehabilitation – Phase 2 project, the project team is preparing the contract for advertisement to bid in the next quarter.
- For the Moccasin Switchyard project, the project team and design consultant started the planning phase.

- For the Transmission Lines 7/8 Upgrades project, the contract achieved Final Completion in June 2024. All work has been completed and final project documentation and approvals are in process.
- For the Moccasin Penstock Rehabilitation project, the revised draft Alternative Analysis Report was developed and issued to the panelists to kick off the second round of evaluation exercise.
- For the Moccasin Engineering & Records Building project, the 50% Schematic design milestone was reached. The 100% Schematic Design Package is scheduled for completion in the next quarter.
- For the O'Shaughnessy Dam Outlet Works Phase 1 Subproject A (contract DB-135 for bulkheads rehabilitation), the new bulkheads are in fabrication and are on track to be delivered next quarter. For Subproject B (contract HH-1015 Drainage & Miscellaneous Dam Improvements), SFPUC Commission awarded Contract No. HH-1015 during this reporting quarter. For Subproject C (contract HH-1011 Instream Flow Release Valve Replacement), construction continues to make significant progress including successful demolition of the existing piping and valves, construction of the temporary crane, and relocation of the spiral staircase. For Subprojects D (Slide Gates) and E (Drum Gate), the draft Needs Assessment Report was issued for internal review.
- For the Moccasin Dam & Reservoir Long-Term Improvements project, the Conceptual Engineering Report was presented to and approved by the Technical Steering Committee. The project received approval to proceed to the design phase.
- For the Cherry Dam Spillway - Short Term Improvements project, the design phase started including a site visit with the planning department to assess the potential visual impact of the construction to the surrounding area.
- For the Mountain Tunnel Improvements Project, the contractor for Subproject A (contract HH-1000R) completed the foundations and began construction of the walls for the Flow Control Facility Building. The concrete invert slab within the New Priest Adit was completed. The large cut walls near Adit 8/9 and along Adit road 5/6 are nearing completion. Negotiations took place with the contractor for the removal of South Fork work and the remaining road improvements scope from the contract. A Request for Interest was released and responded to by the construction community regarding South Fork work, and the City is evaluating alternative delivery methods to complete the required improvements. For subproject B (contract HH-1013 Moccasin Water Treatment Plant), Notice-To-Proceed for the construction contract was issued.
- For the Moccasin Old Powerhouse Hazard Mitigation Project, progress on the Conceptual Engineering Report continued.
- For Transmission Line Clearance Mitigation – Moderate and Low Risk Project, progress on the Alternative Analysis Report continued.
- For the Moccasin Wastewater Treatment Plant Replacement (contract HH-1010) project, the contractor mobilized to the site.

This page is intentionally left blank.

Quarterly Report
Hetch Hetchy
Capital Improvement Program

TABLE OF CONTENTS

This page is intentionally left blank.

HETCH HETCHY WATER AND POWER (HHWP)–

WATER DIVISION CAPITAL IMPROVEMENT PROGRAMS

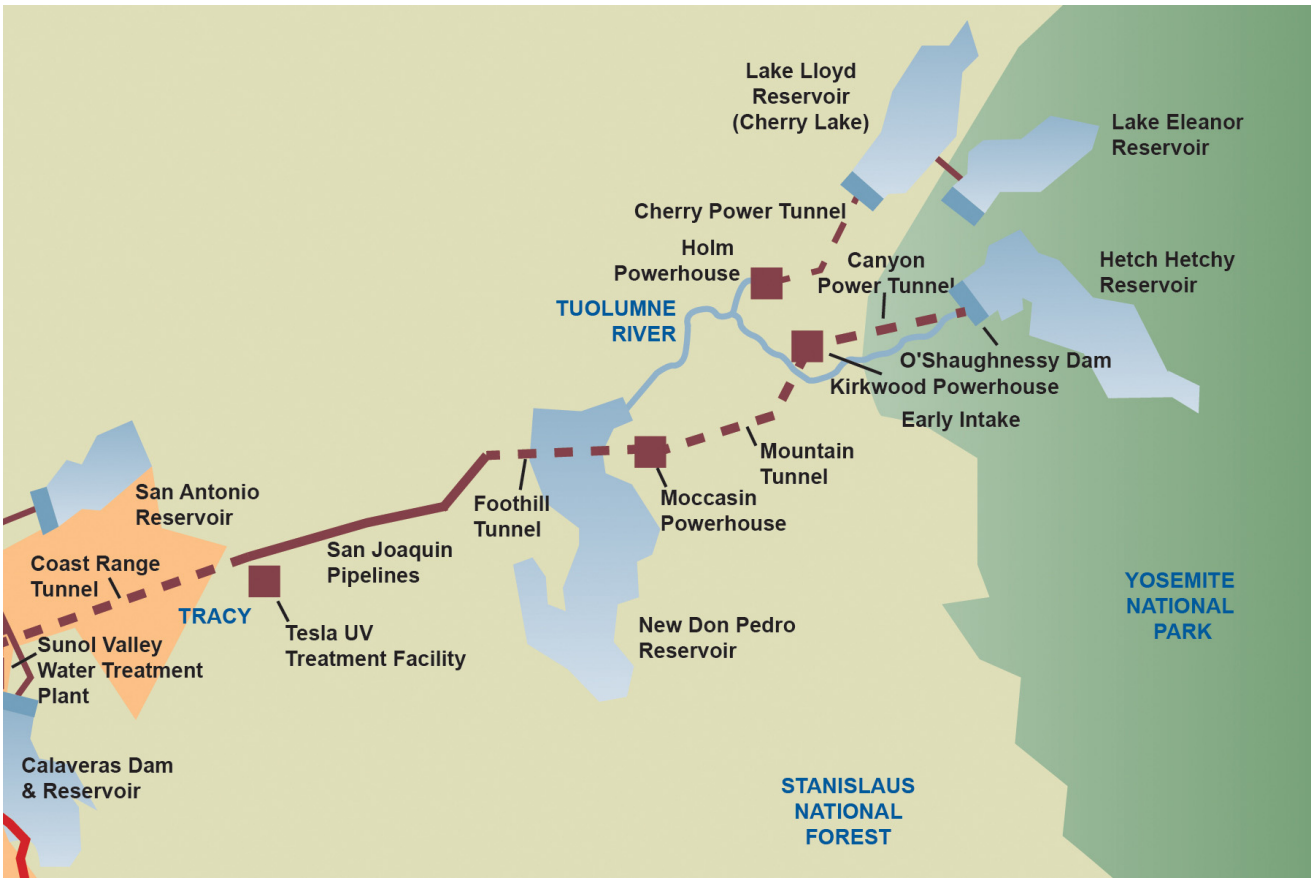
This page is intentionally left blank

INTRODUCTION

The Hetch Hetchy Water and Power (HHWP) Water Division is responsible for operating, managing, and maintaining the HHWP system and facilities. This includes water facilities that are part of the Regional Water System from Hetch Hetchy Reservoir, located in Yosemite National Park, to Alameda East Portal, located in Sunol Valley and power facilities located from Early Intake to Newark. The HHWP Water Division operates, manages, and maintains three impoundment reservoirs, three regulating reservoirs, four powerhouses, one switchyard, three substations, 170 miles of pipeline and tunnels, almost 50 miles of paved road, over 160 miles of transmission lines, watershed land, and right-of-way property. HHWP Water Division provides 85 percent of the San Francisco Public Utilities Commission (SFPUC) water supply for 2.7 million residential, commercial, and industrial customers in Alameda, Santa Clara, San Mateo, and San Francisco counties. On average, HHWP Water Division generates about 1,650 gigawatt hours (GWH) of clean hydro-generated power annually. A majority of HHWP staff is based in Moccasin, CA, which is 140 miles east of San Francisco.

The HHWP Water Division's capital improvement programs are divided into two programs: Hetch Hetchy Capital Improvement Program (HCIP) and Renewal and Replacement (R&R). This report provides a quarterly status update on the HCIP, a group of capital improvement projects that are greater than $5M in value and have been approved by the Commission as part of the SFPUC's 10-Year Capital Improvement Program. The status of the Hetch Hetchy R&R projects is reported annually in the Annual Report on Water Enterprise-Managed Capital Improvement Projects.

The map below shows the location of the assets and facilities associated with HHWP.



This page is intentionally left blank

HETCH HETCHY CAPITAL IMPROVEMENT PROGRAM (HCIP)

This page is intentionally left blank

1. PROGRAM DESCRIPTION

The Hetch Hetchy Capital Improvement Program (HCIP) is a group of multi-year capital projects to upgrade existing, aging infrastructure so that it will meet the challenges of today and the future. These projects will deliver improvements that enhance the SFPUC's ability to provide reliable, affordable, high-quality water to its 2.7 million customers in an environmentally sustainable manner. The goals are 1) to provide capital improvements needed to cost-effectively ensure that water quality, seismic reliability, delivery reliability, and water supply objectives established for the Regional Water System facilities managed by HHWP are met, and 2) to optimize the benefits of HHWP power facilities operations. Ongoing development of the HCIP will sustain the Regional Water System's status as an unfiltered water source and a gravity-driven system.

The scope of HCIP is divided into three major project types: Water, Power, and Joint. The Water sub-program includes only asset improvements benefiting the SFPUC's water customers. The Power sub-program includes only asset improvements used to generate environmentally friendly hydroelectric energy. The Joint sub-program includes projects for assets that are used for both water delivery and power generation. In addition, projects in each sub-program of the HCIP have been further organized by asset type consisting of the following:

Water Infrastructure

- Water Conveyance – projects to enhance the reliability of water delivery through pipelines and penstocks, allowing for both delivery of water to SFPUC customers and delivery of water to powerhouses for power generation.

Power Infrastructure

- Powerhouse – projects to improve facilities at the Holm, Kirkwood, and Moccasin powerhouses.
- Switchyard & Substations – projects to meet operational objectives for power, including reliability, regulatory compliance, and sustainability.
- Transmission Lines – projects to expand or improve power assets for electricity transmission.

Joint (Water and Power) Infrastructure

- Dams & Reservoirs – projects to improve assets used for storage and delivery of water to SFPUC customers, as well as for water storage for power generation.
- Mountain Tunnel – projects to address deficiencies with the Mountain Tunnel, a critical, non-redundant link in the Hetch Hetchy and Regional Water System that conveys water from Kirkwood Powerhouse to Priest Reservoir.
- Roads & Bridges – projects to replace or improve bridges that are utilized to access HHWP assets.
- Tunnels – projects to repair tunnels along the HHWP system (other than Mountain Tunnel).
- Utilities – projects to expand or improve utilities for asset and work locations such as water and wastewater treatment facilities.
- Buildings – projects to provide safe and code compliant workspaces.

2. PROGRAM STATUS

This Quarterly Report presents the progress made on HCIP between July 1, 2024 and September 30, 2024. This document serves as the first (1st) Quarterly Report in Fiscal Year 2024-2025 (FY25) published for the HCIP.

This quarterly report includes all HCIP projects in the Hetch Hetchy Water Capital Improvement Program according to the 10-Year Capital Plan for FY2024-25 to FY2033-34 (FY25-34 CIP), presented to and adopted by the Commission on February 13, 2024, under Resolution No. 24-0032 (2024 HCIP). The 10-Year Capital Plan for FY2024-25 to FY2033-34 is the new baseline for project scopes, schedules, and budgets starting in the first quarter (Q1) of FY2024-25. The 2024 HCIP is a subset of the Hetch Hetchy Water 10-Year CIP for FY2025-2034 and includes individual projects over $5 million that were then currently active or intended to be active by July 1, 2024 at the time proposed to the Commission on February 13, 2024.

This baseline for comparison will remain the same until adoption of a new 10-Year CIP; the baseline will be updated with the changes in the adopted CIP at the start of the new fiscal year following adoption.

There are twenty-two (22) projects in the 2024 HCIP, sixteen (16) of which remain from the previously approved program. One project had its scope transferred to other existing projects and thus it was removed from the program – Bridge Replacement (2 Bridges). Six (6) new projects were added to the program - SJPL Valve Remote Control and Monitoring, Transmission Lines Clearance Mitigation, Cherry Eleanor Pumps, Eleanor Dam Rehabilitation, O'Shaughnessy Dam Outlet Works Phase II, and Moccasin Warehouse Building. In addition to these 22 projects, there are three (3) project development (PD) accounts for program-level expenditures for each of the Water, Power, and Joint Programs. A description of each project and of each project development account is provided in the Appendix A of this report.

The accrued PD expenditures are included in the Cost Summary in Table 3 in order to give an accurate report of the overall HCIP cost performance.

Figure 2.1 shows the total Approved Budget for all twenty-two (22) projects in each phase of the program as of September 30, 2024 (PD accounts do not have phases and are not included in Figure 2.1). The number of projects currently in each phase is shown in parentheses.

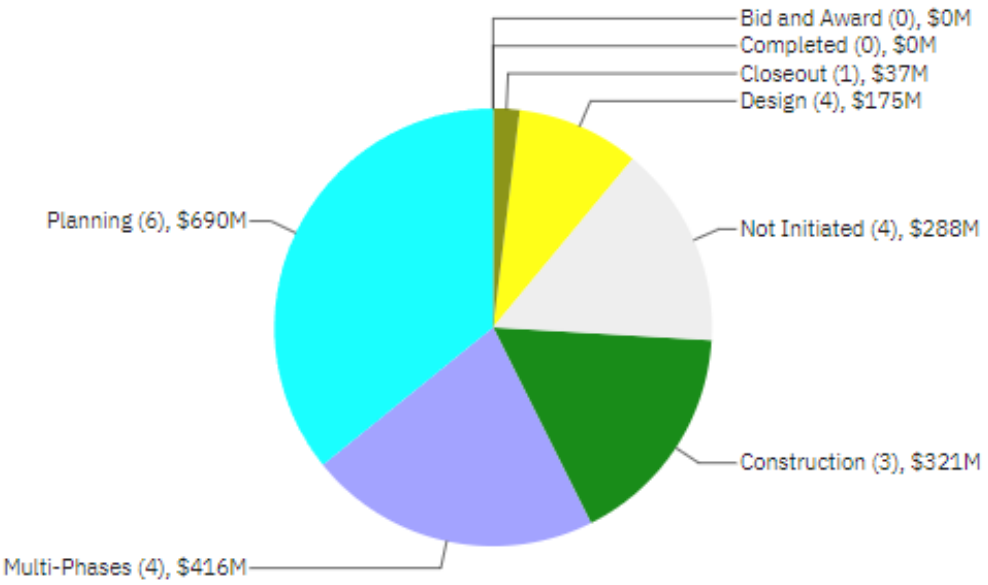


Figure 2.1 Approved Budget for Projects in Each Phase

Figure 2.2 shows the total number of projects in the following stages as of September 30, 2024: Pre-construction, Construction, and Post-construction.

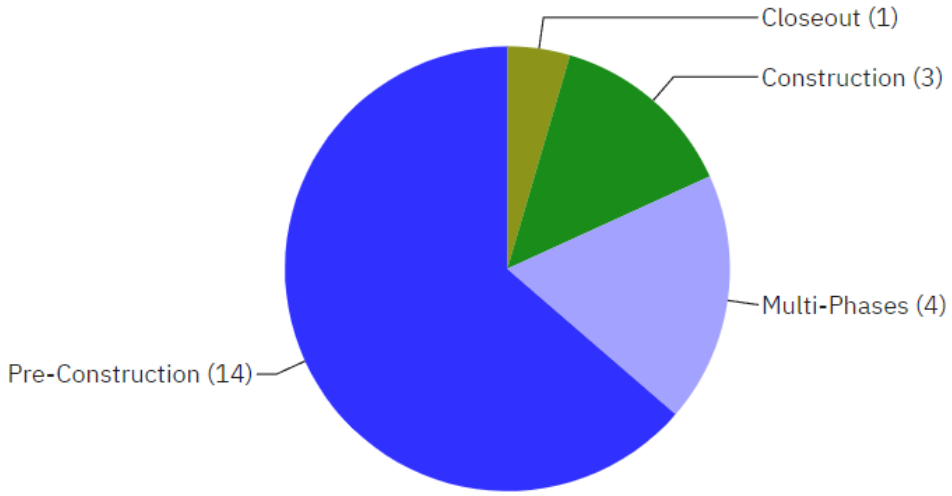


Figure 2.2 Number of Projects in Pre-construction, Construction, and Post-Construction

Figure 2.3 summarizes the environmental review status of the HCIP projects as of September 30, 2024. Environmental review is performed for projects under California Environmental Quality Act (CEQA).

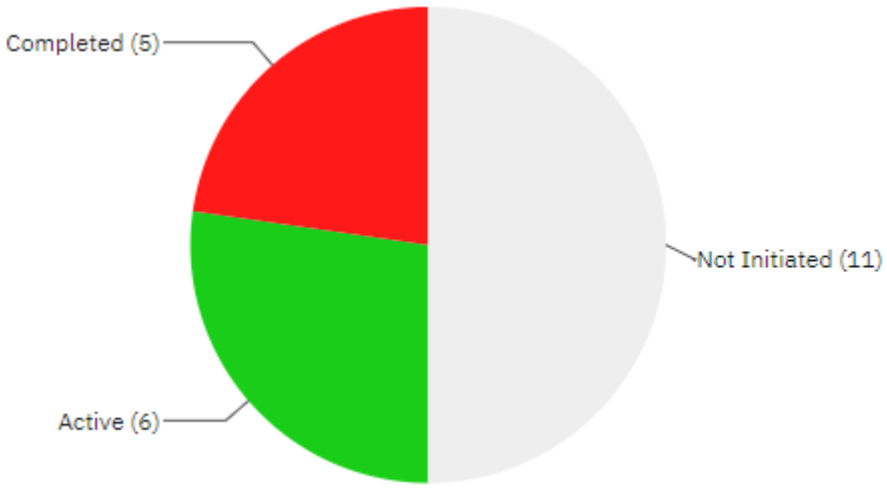


Figure 2.3 Program Environmental Review

3. PROGRAM COST SUMMARY

Table 3 provides an overall cost summary of the 22 HCIP projects and 3 HCIP PD accounts at the end of the quarter. It shows the Expenditures to Date, Current Approved Budget, Current Forecast Cost, the Cost Variance between the Approved and Forecast Costs, and the Cost Variance Over the Reporting Period (difference between cost forecasts reported in Q4/FY2023-24 and in Q1/FY2024-25). The Current Approved Budget and Forecast Cost for the HCIP are $2,016.81 million and $2,050.93 million, respectively.

The overall 2024 HCIP negative Cost Variance of $34.12 million in Table 3 can be attributed to the following projects and their variances are provided below: the reasons for the project variances are reported in section 7:

- The 10014086 Moccasin Powerhouse and GSU Rehabilitation $13.48M negative variance is a continuation from Q4 of FY23/24.
- The 10035721 Transmission Lines 7/8 Upgrades $1.90M positive variance is a continuation from Q4 of FY23/24 but was reduced from $2.50M in Q4 due to the reduction of the current approved budget by $0.60M.
- The 10037351 Moccasin Dam & Reservoir Long-Term Improvements forecasted cost increased by $22.54M during the quarter.

Table 3. Cost Summary

Subprograms	Expenditures To Date ($ Million) (A)	Current Approved Budget ($ Million) (B)	Q1/FY2024-25 Forecast Costs ($ Million) (C)	Cost Variance ($ Million) (D = B - C)	Cost Variance Over Reporting Period * ($ Million) (E)
Water Infrastructure	**$50.45**	**$209.41**	**$209.41**	**-**	**-**
Water Conveyance (Water)	$44.95	$196.49	$196.49	-	-
Water Infrastructure Project Development	$5.50	$12.91	$12.91	-	-
Power Infrastructure	**$126.50**	**$376.41**	**$387.99**	**($11.58)**	**-**
Dams & Reservoir (Power)	$0.00	$38.80	$38.80	-	-
Powerhouse	$47.57	$141.61	$155.09	($13.48)	-
Switchyard & Substations (Power)	$26.91	$57.12	$57.12	-	-
Transmission Lines	$47.38	$121.01	$119.11	$1.90	-
Power Infrastructure Project Development	$4.64	$17.87	$17.87	-	-
Joint Infrastructure	**$201.83**	**$1,431.00**	**$1,453.54**	**($22.54)**	**($22.54)**
Water Conveyance (Joint)	$8.52	$331.17	$331.17	-	-
Buildings (Joint)	$1.30	$115.02	$115.02	-	-
Dams & Reservoirs (Joint)	$26.91	$598.86	$621.40	($22.54)	($22.54)
Mountain Tunnel	$149.56	$268.67	$268.67	-	-
Powerhouse (Joint)	$0.77	$13.47	$13.47	-	-
Tunnels (Joint)	$2.26	$30.14	$30.14	-	-
Utilities (Joint)	$2.32	$15.38	$15.38	-	-
Joint Infrastructure Project Development	$10.17	$58.29	$58.29	-	-
Overall Program Total	**$378.78**	**$2,016.81**	**$2,050.93**	**($34.12)**	**($22.54)**

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

4. PROGRAM SCHEDULE SUMMARY

Figure 4 and Table 4 compare the FY2025–2034 CIP Approved Schedule and the Current Forecast Schedule for the HCIP. As shown in Table 4, the HCIP approved and forecast schedule is December 2041.

Figure 4. Program Schedule Summary

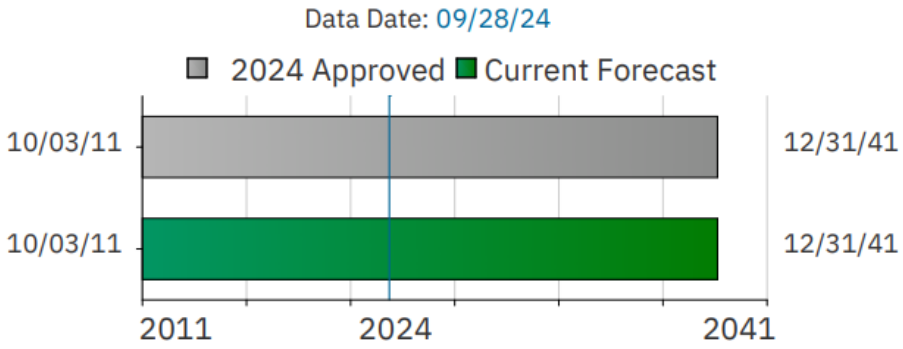


Table 4. FY2025-2034 CIP Approved vs. Current Forecast Schedule Dates

Sub-Program	CIP Approved Project Start	Actual Start	CIP Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Water Infrastructure	03/26/12	03/26/12 A*	06/30/34	06/30/34	-
Power Infrastructure	05/29/12	05/29/12 A*	06/30/34	06/30/34	-
Joint Infrastructure	10/03/11	10/03/11 A*	12/31/41	12/31/41	-
Overall HCIP Projects	**10/03/11**	**10/03/11 A***	**12/31/41**	**12/31/41**	**-**

** "A" is used after a date to reference an actual date as opposed to a forecast or approved date.*

5. BUDGET AND SCHEDULE TREND SUMMARY

This Table 5 contains all approved HCIP projects that are active and in any of the planning, design, bid and award, or construction phases. The table excludes all Project Development accounts, as well as any projects that are either not-initiated, on-hold, in closeout, or completed.

During this Quarter (Q1 FY2024-25), the following major project milestones were achieved:

- Construction Final Completion was achieved for SJPL Valve and Safe Entry Improvement Phase 1B.
- Construction contract Notice-to-Proceed was issued for Mountain Tunnel Improvement Project Subproject B (HH-1013).

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
Water Infrastructure														
10035575 - SJPL Valve and Safe Entry Improvement	FY2025-34		07/01/19		04/16/21		03/03/21 (Phase 1A), 05/28/21 (Phase 1B), 08/19/22 (Phase 2) & 12/30/21 (Phase 3)		07/14/21 (Phase 1A), 10/29/21 (Phase 1B), 06/08/23 (Phase 2A), 05/21/24 (Phase 2B/2C) & 03/31/23 (Phase 3)		03/08/22 (Phase 1A), 08/23/22 (Phase 1B), 02/27/24 (Phase 2A), 03/24/25 (Phase 2B/2C) & 01/09/24 (Phase 3)		Q1 - FY2024-25	
Phase 1A Phase 1B Phase 2A Phase 2B/2C Phase 3	$157.8	02/28/29	$95.3	07/01/25	$95.3	07/01/25	$98.9	03/13/28	$157.8	02/28/29	$157.8	02/28/29	$157.8	02/28/29
Power Infrastructure														
10036809 - Moccasin Powerhouse Bypass Upgrades	FY2025-34		09/18/20		03/31/23		03/13/24		11/27/24		06/30/25		Q1 - FY2024-25	
	$41.1	12/01/27	$15.0	12/01/27	$40.7	12/01/27	$41.1	12/01/27	$41.1	12/01/27	TBD	TBD	$41.1	12/01/27
10014086 - Moccasin Powerhouse and GSU Rehabilitation	FY2025-34		09/18/20		05/14/21		07/29/19 (Phase 1), 10/01/19 (Phase 2) & 12/29/23 (Phase 3)		09/09/20 (Phase 1), 05/11/22 (Phase 2) & 10/31/24 (Phase 3)		04/13/21 (Phase 1), 05/11/21 (Phase 2) & 10/31/25 (Phase 3)		Q1 - FY2024-25	
Phase 1 Phase 2 Phase 3	$100.6	12/31/28	$18.0	10/03/18	$66.7	04/13/27	$100.6	12/31/28	$66.7	12/03/27	$66.7	12/03/27	$114.0	12/31/28
10014089 - Transmission Line Clearance Mitigation	FY2025-34		07/01/17		12/16/24		12/31/25		06/30/26		08/31/25		Q1 - FY2024-25	
	$83.7	06/30/29	$83.7	06/30/29	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$83.7	06/30/29
10014087 - Warnerville Substation Rehabilitation	FY2025-34		09/01/15 (Phase A), 01/01/21 (Phase B)		02/29/16 (Phase A), 04/28/23 (Phase B)		04/01/16 (Phase A), 06/30/23 (Phase B)		12/24/16 (Phase A), 03/20/24 (Phase B)		5/23/17 (Phase A), 04/30/25 (Phase B)		Q1 - FY2024-25	
Phase A - DB-127R Phase B - Contingency Plan Phase C - HH-1008	$37.4	11/25/26	$27.2	11/25/26	$34.2	11/25/26	$34.2	11/25/26	$37.4	11/25/26	$37.4	01/03/29	$37.4	11/25/26
10039568 - Moccasin Switchyard Rehabilitation	FY2025-34		11/01/22		03/13/26		08/17/26		07/19/27		04/20/28		Q1 - FY2024-25	
	$19.7	01/31/30	$9.7	11/30/28	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$19.7	01/31/30
Joint Infrastructure														
10014088 - Moccasin Penstock Rehabilitation	FY2025-34		02/03/14		09/03/26		03/05/27		03/02/29		03/06/31		Q1 - FY2024-25	
	$331.2	12/08/34	$13.2	12/31/24	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$331.2	12/08/34
10039680 - Moccasin Engineering and Records Building[4]	FY2025-34		12/14/22		05/31/24		10/31/24		06/30/26		09/21/26		Q1 - FY2024-25	
	$88.7	05/31/29	$60.7	06/30/31	$88.7	05/31/29	TBD	TBD	TBD	TBD	TBD	TBD	$88.7	05/31/29

Table 5. Budget and Schedule Trend Summary (continued)

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
Water Infrastructure														
10032903 - O'Shaughnessy Dam Outlet Works Phase I[2]	FY2025-34		02/01/18		09/30/21 (Subproject A), Complete (Subproject B), 09/30/22 (Subproject C), N/A (Subproject D) & N/A (Subproject E)		01/12/24 (Subproject A)[5], N/A (Subproject B) & 11/16/22 (Subproject C)		03/18/24 (Subproject A)[5], N/A (Subproject B) & 12/23/22 (Subproject C)		06/13/23 (Subproject A), 11/12/24 (Subproject B) & 06/13/23 (Subproject C)		Q1 - FY2024-25	
Subproject A Subproject B Subproject C Subproject D (Planning Only) Subproject E (Planning Only)	$43.7	12/31/25	$17.2	12/31/24	$47.9	09/16/25	$48.0	09/16/25	$48.0	09/16/25	$48.0	09/16/25	$43.7	06/30/26
10037351 - Moccasin Dam & Reservoir Long-Term Improvements	FY2025-34		05/03/21		09/30/24		03/06/26		03/06/28		12/04/29		Q1 - FY2024-25	
	$142.2	12/31/34	$83.2	07/01/27	$164.7	12/31/34	TBD	TBD	TBD	TBD	TBD	TBD	$164.7	12/31/34
10014115 - Cherry Dam Spillway - Short Term Improvements	FY2025-34		03/01/21		06/28/24		11/22/24		05/16/25		12/31/25		Q1 - FY2024-25	
	$14.9	06/30/27	$11.9	07/01/27	$14.9	06/30/27	TBD	TBD	TBD	TBD	TBD	TBD	$14.9	06/30/27
10039119 - Early Intake Dam – Long Term	FY2025-34		07/01/23		07/31/25		01/31/27		01/31/29		01/31/31		Q1 - FY2024-25	
	$100.1	12/31/35	$88.7	06/30/31	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$100.1	12/31/35
10030759 - Eleanor Dam Rehabilitation	FY2025-34		06/01/20		09/04/24 06/30/27		11/27/24 06/30/28		05/30/25 06/28/30		02/28/26 09/30/33		Q1 - FY2024-25	
Subproject A Subproject B	$113.9	12/31/38	$113.9	12/31/38	$113.9	12/31/38	TBD	TBD	TBD	TBD	TBD	TBD	$113.9	12/31/38
10014114 - Mountain Tunnel Improvement Project	FY2025-34		10/03/11		12/29/17		05/15/18		07/31/19		10/13/20		Q1 - FY2024-25	
	$268.7	06/03/27	$114.0	12/30/21	$246.1	12/31/26	$238.2	12/31/26	$238.2	12/31/26	$238.2	06/03/27	$268.7	06/03/27
10037077 - Moccasin Old Powerhouse Hazard Mitigation	FY2025-34		01/01/21		12/31/24		03/04/29		11/06/29		06/17/30		Q1 - FY2024-25	
	$13.5	07/01/32	$12.2	01/31/25	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$13.5	07/01/32
10014108 - Canyon Tunnel - Hetchy Adit Rehab & OSH Bridge	FY2025-34		02/03/14		03/17/23		03/30/16		10/31/24		02/16/27		Q1 - FY2024-25	
	$30.1	12/31/30	$0.5	06/30/16	$15.0	12/30/26	$8.0	06/30/18	TBD	TBD	TBD	TBD	$30.1	12/31/30
10014110 - Moccasin Wastewater Treatment Plant[3]	FY2025-34		01/03/22		-		04/29/22		03/23/23		02/27/24		Q1 - FY2024-25	
	$15.4	02/20/28	$8.8	04/07/26	-	-	$8.8	04/07/26	$12.0	04/07/26	$15.4	02/20/28	$15.4	02/20/28

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 Infrastructure											
Water Conveyance (Water)											
10035575 SJPL Valve and Safe Entry Improvement	MP	$157,752	$157,752	$157,752	$44,949	$0	0%	02/28/29	02/28/29	02/28/29	0
Power Infrastructure											
Powerhouse											
10036809 Moccasin Powerhouse Bypass Upgrades	DS	$41,056	$41,056	$41,056	$2,204	$0	0%	12/01/27	12/01/27	12/01/27	0
10014086 Moccasin Powerhouse and GSU Rehabilitation	MP	$100,556	$100,556	$114,035	$45,370	($13,479)	(13%)	12/31/28	12/31/28	12/31/28	0
Transmission Lines											
10014089 Transmission Lines Clearance Mitigation	PL	$83,681	$83,681	$83,681	$14,902	$0	0%	06/30/29	06/30/29	06/30/29	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 Multi-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY25-34.

(++) **Current Approved Budget and Schedule:** The budget and schedule approved as part of 10-year CIP for FY25-34, 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) (+++)
Switchyard & Substations (Power)											
10014087 Warnerville Substation Rehabilitation	CN	$37,407	$37,407	$37,407	$26,611	$0	0%	11/25/26	11/25/26	11/25/26	0
10039568 Moccasin Switchyard Rehabilitation	PL	$19,708	$19,708	$19,708	$297	$0	0%	01/31/30	01/31/30	01/31/30	0
Joint Infrastructure											
Water Conveyance (Joint)											
10014088 Moccasin Penstock Rehabilitation	PL	$331,172	$331,172	$331,172	$8,518	$0	0%	12/08/34	12/08/34	12/08/34	0
Buildings (Joint)											
10039680 Moccasin Engineering and Records Building	DS	$88,734	$88,734	$88,734	$1,305	$0	0%	05/31/29	05/31/29	05/31/29	0
Dams & Reservoirs (Joint)											

* 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 Multi-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY25-34.

(++) **Current Approved Budget and Schedule:** The budget and schedule approved as part of 10-year CIP for FY25-34, 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) (+++)
10032903 O'Shaughnessy Dam Outlet Works Phase 1	MP	$43,731	$43,731	$43,731	$18,742	$0	0%	12/31/25	12/31/25	06/30/26	(181)
10037351 Moccasin Dam & Reservoir Long-Term Improvements	PL	$142,188	$142,188	$164,728	$4,912	($22,540)	(16%)	12/31/34	12/31/34	12/31/34	0
10014115 Cherry Dam Spillway - Short Term Improvements	DS	$14,886	$14,886	$14,886	$2,264	$0	0%	06/30/27	06/30/27	06/30/27	0
10039119 Early Intake Dam - Long Term	PL	$100,072	$100,072	$100,072	$560	$0	0%	12/31/35	12/31/35	12/31/35	0
10030759 Eleanor Dam Rehabilitation	MP	$113,874	$113,874	$113,874	$434	$0	0%	12/31/38	12/31/38	12/31/38	0
Mountain Tunnel											
10014114 Mountain Tunnel Improvement Project	CN	$268,669	$268,669	$268,669	$149,561	$0	0%	06/03/27	06/03/27	06/03/27	0
Powerhouse (Joint)											

* 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 Multi-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY25-34.

(++) **Current Approved Budget and Schedule:** The budget and schedule approved as part of 10-year CIP for FY25-34, 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) (+++)
10037077 Moccasin Old Powerhouse Hazard Mitigation	PL	$13,475	$13,475	$13,475	$773	$0	0%	07/01/32	07/01/32	07/01/32	0
Tunnels (Joint)											
10014108 Canyon Tunnel - Hetchy Adit Rehab & OSH Bridge	DS	$30,138	$30,138	$30,138	$2,262	$0	0%	12/31/30	12/31/30	12/31/30	0
Utilities (Joint)											
10014110 Moccasin Wastewater Treatment Plant	CN	$15,377	$15,377	$15,377	$2,323	$0	0%	02/20/28	02/20/28	02/20/28	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 Multi-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY25-34.

(++) **Current Approved Budget and Schedule:** The budget and schedule approved as part of 10-year CIP for FY25-34, 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

10035575 - SJPL Valve and Safe Entry Improvement

Project Description: San Joaquin Pipeline (SJPL) Nos. 1, 2, and 3 consist of three parallel transmission pipelines (completed in 1932, 1953, and 1968, respectively) that cross the San Joaquin Valley from the east of Foothill Tunnel at Oakdale Portal to the west of Coast Range Tunnel at Tesla Portal, a distance of approximately 48 miles. A fourth partial pipeline (SJPL 4 completed in 2012) consists of a 6.4-mile segment of pipe downstream of Oakdale and another 11-mile segment upstream of Tesla Portal. SJPLs deliver Tuolumne River water to the San Francisco Bay Area. They have been in service ranging from 11 to 91 years. SFPUC staff members and contractors need to enter the pipelines regularly to perform condition assessment, maintenance, and repair work. A recent hydraulic study shows that several of the existing valves in the SJPLs may be under-rated for the potential surge pressures that could be triggered from an unplanned closure of the valves at the downstream Tesla Ultraviolet Treatment Facility. For safety reasons, the SFPUC initiated this capital project to increase the pressure rating of the valves, provide safe pipeline isolations for personnel entry into the pipelines, and allow shutdown of any section of the SJPLs without a complete system shutdown.

Program: Water Infrastructure	**Project Status:** Multi-Phases	**Environmental Status:** Completed (Various)

Project Cost:

Approved	$ 157.75 M
Forecast	$ 157.75 M
Actual	$ 44.95 M

Project Schedule:

Approved 07/01/19	02/28/29
Forecast 07/01/19	02/28/29

Project Percent Complete: 32.2%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	01/27/22 A	12/25/21 A	05/16/22 A	03/14/25
	B	01/27/22 A	04/21/22 A	11/07/22 A	09/11/24 A
	C	01/27/22 A	11/28/23 A	05/13/24 A	07/07/25
	D	01/27/22 A	10/30/24	06/03/25	08/30/28
	E	08/10/22 A	09/21/23 A	02/26/24 A	05/22/25

Progress and Status:
This project is divided into five (5) sub-projects, (A) Phase 1A – Pipeline 2 Tesla & Oakdale Entry Improvements – HH-1005; (B) Phase 1B – Pipelines 3&4 Tesla & Oakdale Entry Improvements - HH-1006; (C) Phase 2A – Crossover Valve Improvement pipelines 2&3 – HH-1012; (D) Phase 2B/2C – Crossover P4J Removable Spool Piece and Valve Improvements - HH-1016; and (E) Phase 3 - Tesla Surge Tower – HH-1009. For Phase 1A, SFPUC team visited the factory and witnessed the tests on the 42-inch diameter knife gate valves. Two out of six valves have passed the tests so far. The valves which pass the acceptance tests will be installed in the upcoming full system outage that begins later this year. For Phase 1B, the contractor completed the punch list items and achieved Final Completion in September 2024. For Phase 2A, the contractor continues to work on work plans and submittals. For Phases 2B & 2C, 100% design was achieved, and the construction contract will be advertised next quarter. In the meantime, the project is also working on pre-purchasing the valves for Phase 2B to meet the outage schedule in FY2025-2026. For Phase 3, the contractor started laying the 60-inch diameter pipes and demolishing the existing spillway.

60-inch Pipes Being Laid at Tesla Surge Tower Site

Issues and Challenges:
None at this time.

10036809 - Moccasin Powerhouse Bypass Upgrades

Project Description: Provide a reliable hydraulic bypass and energy dissipation system, conveying water around the turbines to the Moccasin Powerhouse Tailrace. Upgrade/replace high-pressure energy-dissipating valves, control systems, and associated structures to absorb 1,147 feet per second flow without damage.

Program: Power Infrastructure	**Project Status:** Design	**Environmental Status:** Active (Cat Ex)

Project Cost:

Approved	$ 41.06 M
Forecast	$ 41.06 M
Actual	$ 2.20 M

Project Schedule:

Approved 09/18/20	12/01/27
Forecast 09/18/20	12/01/27

Project Percent Complete: 7.0%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/31/24	01/02/25	09/01/25	08/31/27

Progress and Status:
The 65% design package was delivered in September and review is in progress. The design team is working on the 65% cost estimate and constructability technical memorandum.

Issues and Challenges:
None at this time.

Axial Control Valve Similar to what is Planned for Use in the Moccasin Powerhouse Bypass Upgrade Project

10014086 - Moccasin Powerhouse and GSU Rehabilitation

Project Description: The project is broken down into three components: 1) Generator Rehabilitation – replace the entire generator and associated equipment, including new stator cores and coils, rotor poles, relays, and rotor rim; 2) GSU Replacement – replace two of the three existing generator step-up transformers (GSUs), new foundations and oil containment, and relay upgrades; and 3) Power Plant Systems Upgrades – replace the 480 V switchgear, 13.8 kV switchgear, motor control centers, main control boards, protective relays, cooling water piping, and improving oil containment systems.

Program: Power Infrastructure	**Project Status:** Multi-Phases	**Environmental Status:** Active (Various)

Project Cost:

Approved	$ 100.56 M
Forecast	$ 114.03 M
Actual	$ 45.37 M

Project Schedule:

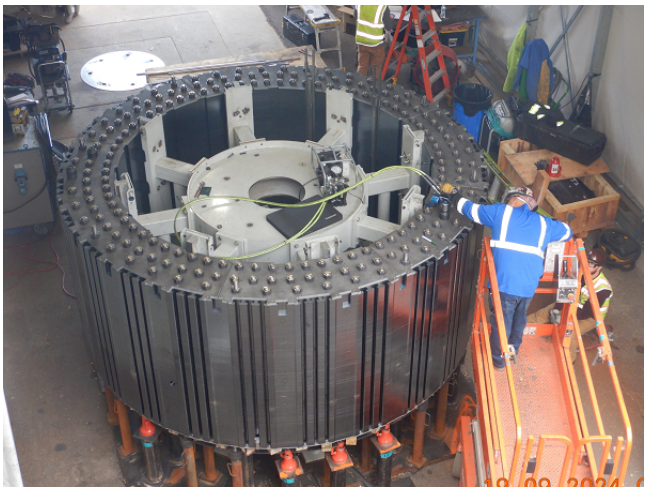
Approved 09/18/20	12/31/28
Forecast 09/18/20	12/31/28

Project Percent Complete: 52.1%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	09/28/20 A	11/20/20 A	06/07/21 A	06/26/23 A
	B	09/28/20 A	10/30/20 A	08/15/22 A	06/17/25
	C	04/30/25	05/01/25	01/01/26	06/30/28

Progress and Status:
For Subproject A - Moccasin Powerhouse Generator Step-Up (GSU's) Transformers, contract HH-1003R is currently in closeout. For Subproject B - Moccasin Powerhouse Generators Rewind, contract DB-121R2, the contractor progressed on stacking the stator and rotor of the new Generator M1 for installation later this year. For Subproject C - Moccasin Powerhouse Systems Upgrade, the 65% design package comments were received in August and are being incorporated into the design. The project team is working on the 95% design and the construction sequencing analysis.

Issues and Challenges:
As previously reported, the variance between the approved budget and forecasted cost is due to forecasted cost increases in Subproject C – Systems Upgrade, where higher design costs are anticipated from scope refinement, higher construction and procurement costs, and additional construction management and support resource requirements. The cost estimate will be refined at 95% design to reflect any new or updated information.



Checking Rotor Bolt Elongation after Torquing

10014089 - Transmission Lines Clearance Mitigation

Project Description: This project will provide funding to implement mitigation measures to resolve clearance discrepancies. Mitigation options include but are not limited to new towers/tubular poles, new intervening poles, tower raises, ground lowering, and other structural improvements to the lattice towers.

Program: Power Infrastructure	**Project Status:** Planning	**Environmental Status:** Not Initiated (MND)

Project Cost:

Approved	$ 83.68 M
Forecast	$ 83.68 M
Actual	$ 14.90 M

Project Schedule:

Approved 07/01/17	06/30/29
Forecast 07/01/17	06/30/29

Project Percent Complete: 19.8%

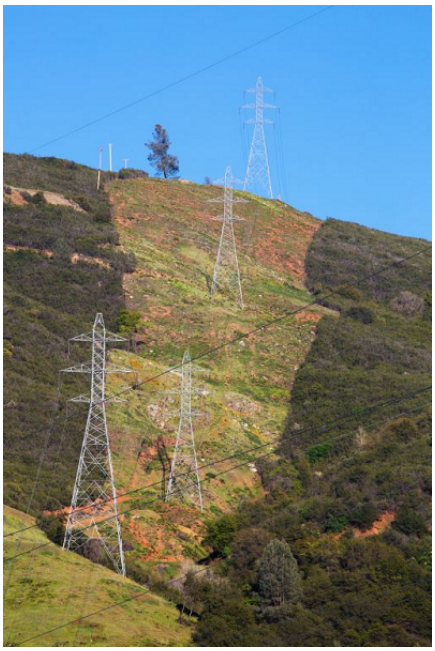
Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/02/26	03/14/25	10/08/26	12/29/28

Progress and Status:

The project team reviewed the draft Alternative Analysis Report and provided comments. The General Manager has signed the staff-recommended project delivery method memorandum to proceed with a Progressive Design-Build contract. The draft Project Description has been submitted and is in review with the Environmental Management Group. Environmental surveys for biological resource assessments have been completed for the year and will continue in the spring of 2025.

Issues and Challenges:

None at this time.



Transmission Lines 5 & 6 in Moccasin

10014087 - Warnerville Substation Rehabilitation

Project Description: The additional funding request is to cover the remaining work for Warnerville Substation Rehabilitation Project. Under Design Build Contract #DB-127R, installation of some 230 kV equipment was deleted from the contract but procured, including circuit breakers, switches, insulators, and current voltage transformers. Remaining work includes the replacement of four oil circuit breakers, bushings, surge arrestors, disconnect switches, current voltage transformer, insulators, relay protection, and other ancillary equipment.

Program: Power Infrastructure	**Project Status:** Construction	**Environmental Status:** Active (Cat Ex)

Project Cost:

Approved	$ 37.41 M
Forecast	$ 37.41 M
Actual	$ 26.61 M

Project Schedule:

Approved 09/01/15	11/25/26
Forecast 09/01/15	11/25/26

Project Percent Complete: 71.0%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	03/31/16 A	01/10/17 A	11/26/18 A	12/31/24
	B	11/01/24	12/04/24	05/01/25	02/28/26

Progress and Status:

This project is divided into 2 subprojects. For Subproject A Warnerville Substation Rehabilitation Phase 1 – DB-127R, the project team continues to coordinate with the City Attorney's office to close out the construction contract. For Subproject B Warnerville Substation Rehabilitation Phase 2, the project team continued to coordinate with the stakeholders including Pacific Gas and Electric Company (PG&E) to finalize the design.

Issues and Challenges:

None at this time.

Warnerville Substation Rehabilitation - Phase 2 South Yard PG&E Tie-in

10039568 - Moccasin Switchyard Rehabilitation

Project Description: Replace 115 kV disconnect switches, replace 115 kV bus configuration, replace 230 kV disconnect switches, change 230 kV bus configuration, replace 115 kV circuit breakers, add surge arresters, perform a fault study, perform a grounding study, improve switchyard grading, and replace fencing.

Program: Power Infrastructure	Project Status: Planning	Environmental Status: Not Initiated (TBD)

Project Cost:

Approved	$ 19.71 M
Forecast	$ 19.71 M
Actual	$ 0.30 M

Project Schedule:

Approved 11/01/22	01/31/30
Forecast 11/01/22	01/31/30

Project Percent Complete: 6.9%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	09/21/27	01/20/28	05/21/28	07/31/29

Progress and Status:

The project team kicked off the planning phase of the project this quarter. Main activities included review of the as-built information, reconfirmation of scope, and coordination of site visits.

Issues and Challenges:

None at this time.

Existing Moccasin Switchyard

10014088 - Moccasin Penstock Rehabilitation

Project Description: In order to meet the established level of service, mitigate potential risks, and avoid potential consequences of failure, SFPUC is considering replacing the penstocks so that the life of the asset will be extended for a minimum 75 years. Based on a preliminary study, a combination of a drop shaft, a tunnel and above grade pipes appears to be a favorable alternative. SFPUC will continue the study before determining the most appropriate alternative solution. For capital planning purposes, SFPUC assumes the alternative will include: 1) a drop shaft; 2) a new tunnel penstock; and 3) two above-grade penstocks.

Program: Joint Infrastructure	**Project Status:** Planning	**Environmental Status:** Not Initiated (EIR)

Project Cost:

Approved	$ 331.17 M
Forecast	$ 331.17 M
Actual	$ 8.52 M

Project Schedule:

Approved 02/03/14	12/08/34
Forecast 02/03/14	12/08/34

Project Percent Complete: 3.0%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	09/04/29	09/06/30	05/07/31	05/07/34

Progress and Status:

For the Moccasin Penstock Rehabilitation project, the revised draft Alternative Analysis Report was developed and issued to the panelists to kick off the second round of the evaluation exercise. The descriptions of different alternatives were updated and also issued to the panelists. The cost evaluation exercise was held this quarter and the remaining evaluation workshops will be held in the next quarter.

Issues and Challenges:

None at this time.

Scaffolding Setup to Conduct Phased Array Ultrasonic Testing

10039680 - Moccasin Engineering and Records Building

Project Description: HHWP Project operations and administration is located in Moccasin, California, with facilities including buildings, office trailers, warehouses, shops, laboratories, and sheds. Many existing facilities are deteriorating, do not meet current building codes, and are incurring increased maintenance costs. HHWP needs to invest in new facilities to meet all applicable codes and standards; reduce maintenance costs; increase employee interconnectivity and productivity; properly store all staff, materials, records, and equipment; and meet energy-efficiency standards. HHWP prepared a report titled "Moccasin Facilities Upgrade Project – Alternatives Analysis and Evaluation Report Update". The report identified long-term needs for creating adequate office space for current staff in Moccasin. In addition, the report evaluated the needs for new, dedicated materials storage space, new records and archives space with offices, new space for servers, and parking space for staff. The Moccasin Engineering and Records Building project will address the need for permanent office space by constructing a new two-story building. Hetch Hetchy and Infrastructure staff are currently located in temporary trailers that have exceeded their useful life. The new building will provide office space for Hetch Hetchy Engineering, Records, Energy Services, Infrastructure, and ITS staff. The scope also includes a secure server room, parking lot, and archive/records storage. The budget and schedule for the project will be modified to provide permanent office space for both Hetch Hetchy and Infrastructure staff and to address escalation since the completion of the 2020 Alternatives Analysis Report estimate.

Program: Joint Infrastructure	**Project Status:** Design	**Environmental Status:** Not Initiated (Cat Ex)

Project Cost:

Approved	$ 88.73 M
Forecast	$ 88.73 M
Actual	$ 1.30 M

Project Schedule:

Approved 12/14/22	05/31/29
Forecast 12/14/22	05/31/29

Project Percent Complete: 2.4%

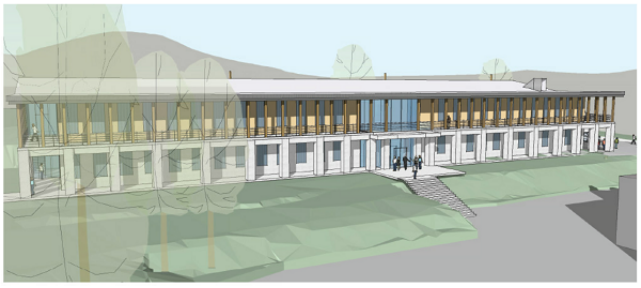
Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/31/25	07/01/26	02/01/27	11/30/28

Progress and Status:

The 50% Schematic design milestone was reached in September 2024. The 100% Schematic Design Package is scheduled for completion at the end of October.

Issues and Challenges:

None at this time.



Concept Design for Moccasin Engineering and Archive Building

10032903 - O'Shaughnessy Dam Outlet Works Phase 1

Project Description: O'Shaughnessy Dam was completed in 1923 and raised in 1938. A condition assessment of the dam outlet works revealed the need for improvements to the existing outlet works, including gates and valves (1923 construction), to ensure safe and reliable operation. Based on engineering studies and prioritization of asset condition, needs, and risks, improvements to the existing outlet works will be implemented in two phases. Funding for this project will include work under Phase 1. Phase 2 of the O'Shaughnessy Dam Outlet Improvement Project begins in 2025. Work under Phase 1 will include: (1) replacement of two existing instream flow release valves; (2) improvements to access and drainage in the dam gallery and stairs; (3) installation of new bulkheads for the outlet intake; and (4) a planning phase and scoping for the slide gates and drum gates improvements.

Program: Joint Infrastructure	**Project Status:** Multi-Phases	**Environmental Status:** Completed (Cat Ex)

Project Cost:

Approved	$ 43.73 M
Forecast	$ 43.73 M
Actual	$ 18.74 M

Project Schedule:

Approved 02/01/18	12/31/25
Forecast 02/01/18	06/30/26

Project Percent Complete: 46.8%

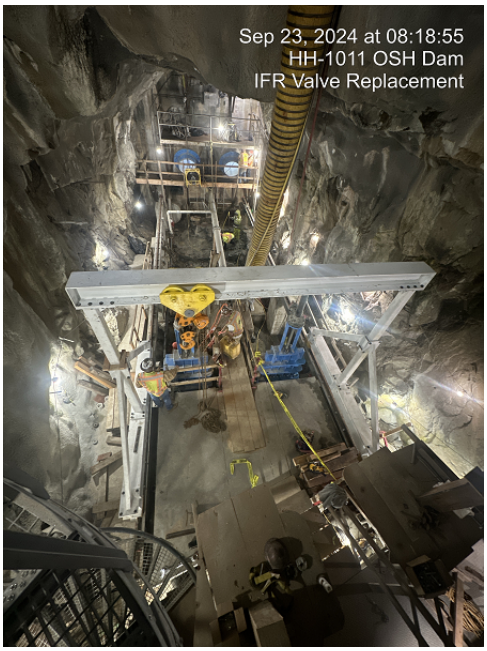
Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	12/02/22 A	01/13/23 A	05/24/24 A	07/01/25
	B	12/02/22 A	05/03/24 A	01/01/25	12/31/25
	C	12/02/22 A	03/13/23 A	08/28/23 A	05/24/25

Progress and Status:

Subproject A (Bulkheads): The new bulkheads are in fabrication and are on track to be delivered next quarter. Subproject B (Drainage & Miscellaneous Dam Improvements): SFPUC Commission awarded Contract No. HH-1015 during this reporting quarter. Subproject C (Instream Flow Release Valve Replacement): Construction under HH-1011 contract continues to make significant progress including successful demolition of the existing piping and valves, construction of the temporary crane, and relocation of the spiral staircase. Subprojects D (Slide Gate) and E (Drum Gate): The draft Needs Assessment Report was issued for internal review.

Issues and Challenges:

As reported previously, the variance between the approved and forecast project finish date is due to longer than expected duration to coordinate the proposed construction water treatment and discharge requirements for the Drainage & Miscellaneous Improvement (Subproject B) contract.



Subproject C (IFR) HH-1011 Temporary Crane Constructed within Diversion Tunnel in Preparation for New Valves and Piping

10037351 - Moccasin Dam & Reservoir Long-Term Improvements

Project Description: A heavy storm event in 2018 caused significant damage to the auxiliary spillway, upstream trash rack and diversion, and downstream area. Subsequent engineering studies concluded that improvements are needed to increase the spillway capacity to safely pass the updated design flood without overtopping the existing embankment dam. This project is needed for dam safety. This project will construct a new concrete spillway with adequate flow capacity along the alignment of the existing auxiliary spillway and additional flood protection to the Moccasin project facilities.

Program: Joint Infrastructure	**Project Status:** Planning	**Environmental Status:** Active (TBD)

Project Cost:

Approved	$ 142.19 M
Forecast	$ 164.73 M
Actual	$ 4.91 M

Project Schedule:

Approved 05/03/21	12/31/34
Forecast 05/03/21	12/31/34

Project Percent Complete: 5.1%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/29/29	07/02/29	03/30/30	12/31/33

Progress and Status:
The Conceptual Engineering Report was presented to the Technical Steering Committee (TSC) in August. The project received approval and concurrence from the TSC to proceed to the design phase. Subsequently, the design phase, environmental phase, and right-of-way phase have been initiated.

Issues and Challenges:
The variance between the forecast cost and the approved budget was primarily due to the recent escalation of concrete and steel costs which, in turn, increased the construction cost estimate at the Conceptual Engineering Report phase.

Physical Model of the Moccasin Dam Spillway Conceptual Design

10014115 - Cherry Dam Spillway - Short Term Improvements

Project Description: Cherry Dam Spillway is a 334 foot-wide ogee-type concrete weir that discharges into an unlined adjacent channel. The spillway capacity is designed for 52,000 cfs. A spill of 1,500 cfs in 2010 resulted in significant erosion damage to the unlined spill channel, large-scale erosion along the western segment of Cherry Dam, and flooding of Cherry Power Tunnel Adit and a campground downstream. Engineering studies showed that remedial measures and erosion protection for the spill channel are needed to ensure that spill flows from Cherry Valley Dam spillway can be contained without erosion damage to the existing embankment dam and downstream area. Studies also found that long-term improvement to the spillway is needed to increase the hydraulic capacity of the spillway to safely pass the design flood. This project is a short-term interim solution until the long-term spillway improvements are implemented. This project will reestablish containment for the breached spill channel section from the 2010 spill and install armoring to protect the upper spill channel section against erosion from spillway releases of up to 2,000 cubic feet per second.

Program: Joint Infrastructure	**Project Status:** Design	**Environmental Status:** Active (MND)

Project Cost:

Approved	$ 14.89 M
Forecast	$ 14.89 M
Actual	$ 2.26 M

Project Schedule:

Approved 03/01/21	06/30/27
Forecast 03/01/21	06/30/27

Project Percent Complete: 19.0%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/31/25 A	07/14/25	02/28/26	12/31/26

Progress and Status:

The design phase started in July. A site visit with the planning department occurred in August to assess the potential visual impact of the construction to the surrounding area.

Issues and Challenges:

None at this time.

Erosional Channel in the Project Area, Facing North

10030759 - Eleanor Dam Rehabilitation

Project Description: Mitigation alternatives will include improvements to increase spill capacity to safely pass the design flood, installation of a liner on the upstream face of the dam, concrete repairs, valve replacement, and installation of concrete lining and riprap for foundation armoring, and replacement of the existing bridge.

Program: Joint Infrastructure	**Project Status:** Multi-Phases	**Environmental Status:** Not Initiated (TBD)

Project Cost:

Approved	$ 113.87 M
Forecast	$ 113.87 M
Actual	$ 0.43 M

Project Schedule:

Approved 06/01/20	12/31/38
Forecast 06/01/20	12/31/38

Project Percent Complete: 0.6%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	06/30/25	07/01/25	03/01/26	12/31/26
	B	12/31/32	01/01/33	10/01/33	12/31/37

Progress and Status:

This project is divided into 2 subprojects, (A) the Eleanor Dam - Interim Bridge Repairs; and (B) the Eleanor Dam and Bridge Long-Term Rehabilitation. For subproject A, the design for the interim bridge repairs began in September. For subproject B, the project team started working on a Needs Assessment Review Memo for the dam rehabilitation.

Issues and Challenges:

None at this time.

Lake Eleanor Dam - A Multiple Arch Reinforced Concrete Dam

10039119 - Early Intake Dam - Long Term

Project Description: Remove the existing deteriorated dam and construct a new concrete diversion structure and conveyance system within the existing Raker Act boundary to divert flows from Cherry Creek and Tuolumne River upstream of Kirkwood Powerhouse into Mountain Tunnel for SFPUC customers during emergencies.

Program: Joint Infrastructure	**Project Status:** Planning	**Environmental Status:** Not Initiated (TBD)

Project Cost:

Approved	$ 100.07 M
Forecast	$ 100.07 M
Actual	$ 0.56 M

Project Schedule:

Approved 07/01/23	12/31/35
Forecast 07/01/23	12/31/35

Project Percent Complete: 1.7%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/28/30	07/01/30	04/01/31	12/31/34

Progress and Status:

The project team continued to work on development of the alternatives analysis and to review the findings of biological and topographic surveys.

Issues and Challenges:

None at this time.

Birds-Eye View of the Early Intake Dam

10014114 - Mountain Tunnel Improvement Project

Project Description: Constructed between 1917 and 1925, Mountain Tunnel (MT) is a critical, nonredundant link in the Hetch Hetchy Regional Water System, conveying SFPUC water supply from Kirkwood Powerhouse to Priest Reservoir. Due to the tunnel's 90 years of operation, deferred maintenance, and construction deficiencies from the early 1900s, sections of the tunnel have deteriorated, some more extensively than others. The Mountain Tunnel Inspection and Repairs Project provided a tunnel inspection in 2017 to update the Condition Assessment conducted in 2008. Short-term repairs were also made in 2017 and 2018 to reduce the risk of failures in the concrete lining prior to implementation of the long-term project. The Mountain Tunnel Improvements (Rehabilitation)Project was selected for the design and construction of the preferred engineering alternative that will keep this vital component of the Hetch Hetchy Regional Water System in reliable service for years to come. The budget and schedule are based on the Mountain Tunnel Improvements Project construction phase, which is anticipated to take place between 2021 and 2027. This is the water funded portion of the Mountain Tunnel projects. For the Mountain Tunnel Improvements Project, the water portion will rehabilitate the inside of the tunnel and extend the siphon at South Fork, along with related safety improvements to the roadways that access the Mountain Tunnel.

Program: Joint Infrastructure	**Project Status:** Construction	**Environmental Status:** Completed

Project Cost:

Approved	$ 268.67 M
Forecast	$ 268.67 M
Actual	$ 149.56 M

Project Schedule:

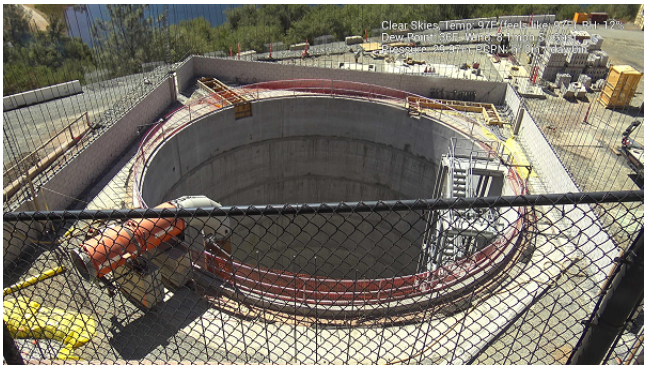
Approved 10/03/11	06/03/27
Forecast 10/03/11	06/03/27

Project Percent Complete: 62.2%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	01/14/20 A	11/13/19 A	01/29/21 A	12/03/26
	B	N/A	12/11/23 A	09/23/24 A	09/03/25

Progress and Status:

Subproject A (HH-1000R) Mountain Tunnel Improvement Contract: the contractor completed the foundations and began construction of the walls for the Flow Control Facility Building along with miscellaneous mechanical work at the bottom of the shaft. Some potential construction defects were discovered in the building foundations and walls. Work has been suspended to conduct further investigations to determine if these defects can be repaired or if the completed construction must be demolished and rebuilt. For the New Priest Adit the concrete invert slab was completed. The large cut walls near Adit 8/9 and along Adit Road 5/6 are nearing completion. Negotiations took place with the contractor for the removal of work scope at the South Fork site and the remaining road improvements for Adit roads 5/6 and 8/9. A Request for Interest was released and responded to by the construction community regarding a new contract for the work at South Fork, and the City is evaluating alternative delivery methods to complete the required improvements. Subproject B (HH-1013) Moccasin Water System Filtration Plant: Notice-To-Proceed for the construction contract was issued in September for the Moccasin Water Treatment Plant.



Flow Control Building Construction Around Shaft

Issues and Challenges:

None at this time.

10037077 - Moccasin Old Powerhouse Hazard Mitigation

Project Description: Design and install mitigation measures to prevent the building from collapsing and to prevent hazardous materials (such as lead-based paint and asbestos) from contaminating Moccasin Reservoir.

Program: Joint Infrastructure	**Project Status:** Planning	**Environmental Status:** Not Initiated (EIR)

Project Cost:

Approved	$ 13.47 M
Forecast	$ 13.47 M
Actual	$ 0.77 M

Project Schedule:

Approved 01/01/21	07/01/32
Forecast 01/01/21	07/01/32

Project Percent Complete: 8.0%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/31/28	01/01/30	08/01/30	08/01/31

Progress and Status:

The project team continues to work on the Conceptual Engineering Report for the highest ranked alternative, which is to demolish the existing structure to mitigate the hazards.

Issues and Challenges:

None at this time.

Existing Moccasin Old Powerhouse

10014108 - Canyon Tunnel - Hetchy Adit Rehab & OSH Bridge

Project Description: The project is to install a new reinforced concrete plug downstream of the existing plug in Hetchy Adit and rehabilitate O'Shaughnessy Adit Access Bridge including sub-structure retrofit and super structure replacement.

Program: Joint Infrastructure	**Project Status:** Design	**Environmental Status:** Active (EIR)

Project Cost:

Approved	$ 30.14 M
Forecast	$ 30.14 M
Actual	$ 2.26 M

Project Schedule:

Approved 02/03/14	12/31/30
Forecast 02/03/14	12/31/30

Project Percent Complete: 16.3%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/31/26	09/01/26	05/01/27	05/01/30

Progress and Status:

The independent technical review of the 95% design package of the Canyon Tunnel scope of work was completed. The 65% design package was developed for the O'Shaughnessy Adit access bridge in September. The comprehensive 95% design package will be issued in the next quarter. Environmental field surveys were completed and the California Environmental Quality Act determination of project requirements is pending consultation with regulatory agencies.

Issues and Challenges:

None at this time.

Canyon Tunnel - Hetchy Adit Bulkhead

10014110 - Moccasin Wastewater Treatment Plant

Project Description: This project will replace the existing plant with a package two-train sequencing batch reactor (SBR) plant with grit removal and screening facilities, upgraded electrical and flow monitoring systems, flow equalization, SCADA instrumentation and automation features, and related site improvements.

Program: Joint Infrastructure	**Project Status:** Construction	**Environmental Status:** Completed (Cat Ex)

Project Cost:

Approved	$ 15.38 M
Forecast	$ 15.38 M
Actual	$ 2.32 M

Project Schedule:

Approved 01/03/22	02/20/28
Forecast 01/03/22	02/20/28

Project Percent Complete: 22.0%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	02/22/23 A	10/12/23 A	06/03/24 A	12/29/26

Progress and Status:

The contractor mobilized to the site in August and performed potholing to verify existing underground utilities.

Issues and Challenges:

None at this time.

Contractor Mobilized to the Site (August 2024)

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	
Water Infrastructure								
10035575 - SJPL Valve & Safe Entry Improvement - (Contract A, HH-1005)	05/16/22	09/13/24	03/14/25	$15,218,603	$15,218,603	(182)	$0	71.9%
10035575 - SJPL Valve & Safe Entry Improvement - (Contract B, HH-1006)	11/07/22	09/11/24	09/11/24	$11,465,716	$11,465,716	0	$0	99.7%
10035575 - SJPL Valve & Safe Entry Improvement - (Contract C, HH-1012)	05/13/24	07/07/25	07/07/25	$5,614,348	$5,614,348	0	$0	0.0%
10035575 - SJPL Valve & Safe Entry Improvement - (Contract E, HH-1009)	02/26/24	05/22/25	05/22/25	$11,160,222	$11,160,222	0	$0	37.0%
Power Infrastructure								
10014086 - Moccasin Powerhouse Generator Rehab - (Contract B, DB-121R2)	08/15/22	06/17/25	06/17/25	$27,976,714	$27,976,714	0	$0	76.9%
10014087 - Warnerville Substation - (DB-127R)	11/26/18	03/31/24	12/31/24	$14,591,450	$14,591,450	(275)	$0	95.0%
Joint Infrastructure								
10032903 - O'Shaughnessy Dam Outlet Works Phase 1 - Instream Flow Release (Contract C, HH-1011)	08/28/23	05/24/25	05/24/25	$6,003,427	$6,402,427	0	($399,000)	66.4%
10032903 - O'Shaughnessy Dam Outlet Works Phase 1 - Bulkhead (Contract C, DB-135)	05/24/24	07/01/25	07/01/25	$6,780,000	$6,780,000	0	$0	0.0%
10014114 - Mountain Tunnel Improvement - (HH-1000R)	01/29/21	12/03/26	12/03/26	$147,103,296	$148,668,296	0	($1,565,000)	60.4%
10014110 - Moccasin Wastewater Treatment Plant - (HH-1010)	06/03/24	12/29/26	12/29/26	$7,507,640	$7,507,640	0	$0	0.0%

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 Forecast Final Completion includes all approved, pending, and potential change orders, and trends.

8. ON-GOING CONSTRUCTION (continued)

	Approved Contract Cost	Current Forecast Cost	Variance	
			Cost	Percent
Program Total for On-Going Construction	**$253,421,415**	**$255,385,415**	**($1,964,000)**	**(0.8%)**

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 Forecast 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
Power Infrastructure				
Transmission Lines				
10035721 - Transmission Lines 7/8 Upgrades	06/05/24	06/05/24	$27,146,308	$24,197,640
TOTAL			**$27,146,308**	**$24,197,640**

10. COMPLETED PROJECTS

There are no completed projects.

This page is intentionally left blank.

APPENDICES

This page is intentionally left blank.

APPENDIX A. PROJECT DESCRIPTIONS

WATER INFRASTRUCTURE

Water Conveyance (Water)

10035575 SJPL Valve and Safe Entry Improvement

San Joaquin Pipeline (SJPL) Nos. 1, 2, and 3 consist of three parallel transmission pipelines (completed in 1932, 1953, and 1968, respectively) that cross the San Joaquin Valley from the east of Foothill Tunnel at Oakdale Portal to the west of Coast Range Tunnel at Tesla Portal, a distance of approximately 48 miles. A fourth partial pipeline (SJPL 4 completed in 2012) consists of a 6.4-mile segment of pipe downstream of Oakdale and another 11-mile segment upstream of Tesla Portal. SJPLs deliver Tuolumne River water to the San Francisco Bay Area. They have been in service ranging from 11 to 91 years. SFPUC staff members and contractors need to enter the pipelines regularly to perform condition assessment, maintenance, and repair work. A recent hydraulic study shows that several of the existing valves in the SJPLs may be under-rated for the potential surge pressures that could be triggered from an unplanned closure of the valves at the downstream Tesla Ultraviolet Treatment Facility. For safety reasons, the SFPUC initiated this capital project to increase the pressure rating of the valves, provide safe pipeline isolations for personnel entry into the pipelines, and allow shutdown of any section of the SJPLs without a complete system shutdown.

SJPL Valve Remote Control and Monitoring

Design, procure, and construct new SJPL remote supervisory controls that would enable remote operation from Moccasin to remotely operate valve actuators. The project includes data telemetry improvements, Remote Terminal Unit (RTU) installation/replacement, trans-valley communication system upgrades, power system upgrades, security improvements, and access improvements.

Water Infrastructure Project Development

10014072 WATER ONLY/PROJ DEV

The Project Development (PD) Account captures Program-level expenditures. The project provides programmatic support for Water funded capital projects. The following charges are allocated to the PD Account: 1) task orders for overall program management and project prioritization tasks, where the costs should be distributed over all CIP Projects; 2) infrastructure and Hetch Hetchy staff performing program-level tasks, including capital plan development, budget management (including fund management and cost reallocations), and unifier and quarterly report generation tasks, where the costs should be distributed over all CIP Projects; 3) portal support for the existing SharePoint Portal (including document management and project dashboard reporting); 4) work outreach program; and 5) City Attorney charges for contract development.

APPENDIX A. PROJECT DESCRIPTIONS

POWER INFRASTRUCTURE

Powerhouse

10036809 Moccasin Powerhouse Bypass Upgrades

Provide a reliable hydraulic bypass and energy dissipation system, conveying water around the turbines to the Moccasin Powerhouse Tailrace. Upgrade/replace high-pressure energy-dissipating valves, control systems, and associated structures to absorb 1,147 feet of pressure head and 430 cubic feet per second flow without damage.

10014086 Moccasin Powerhouse and GSU Rehabilitation

The project is broken down into three components: 1) Generator Rehabilitation – replace the entire generator and associated equipment, including new stator cores and coils, rotor poles, relays, and rotor rim; 2) GSU Replacement – replace two of the three existing generator step-up transformers (GSUs), new foundations and oil containment, and relay upgrades; and 3) Power Plant Systems Upgrades – replace the 480 V switchgear, 13.8 kV switchgear, motor control centers, main control boards, protective relays, cooling water piping, and improving oil containment systems.

Transmission Lines

10014089 Transmission Lines Clearance Mitigation

This project will provide funding to implement mitigation measures to resolve clearance discrepancies. Mitigation options include but are not limited to new towers/tubular poles, new intervening poles, tower raises, ground lowering, and other structural improvements to the lattice towers.

10035721 Transmission Lines 7/8 Upgrades

This project develops the scope of work, design, and contract documents necessary to bid, award, and manage the reconductoring contract. Reconductoring will include replacement of the existing 115 kV conductors on Lines 7/8 from Warnerville to Standiford substations, resulting in increased capacity and resolving clearance detections.

Switchyard & Substations (Power)

10014087 Warnerville Substation Rehabilitation

The additional funding request is to cover the remaining work for Warnerville Substation Rehabilitation Project. Under Design Build Contract #DB-127R, installation of some 230 kV equipment was deleted from the contract but procured, including circuit breakers, switches, insulators, and current voltage transformers. Remaining work includes the replacement of four oil circuit breakers, bushings, surge arrestors, disconnect switches, current voltage transformer, insulators, relay protection, and other ancillary equipment.

10039568 Moccasin Switchyard Rehabilitation

Replace 115 kV disconnect switches, replace 115 kV bus configuration, replace 230 kV disconnect switches, change 230 kV bus configuration, replace 115 kV circuit breakers, add surge arresters, perform a fault study, perform a grounding study, improve switchyard grading, and replace fencing.

Dams & Reservoirs (Power)

10014079 Cherry-Eleanor Pumps

Replace and upgrade pumps in Cherry Pump Station with units that work with current operating strategies. The scope of work includes: 1) replacement of pumps, transformer, and pump motor starters; 2) installation of Programmable Logic controller (PLC), SCADA system, and fiber optics; and 3) improvement of the existing motor control center (MCC) building.

Power Infrastructure Project Development

10014092 POWER ONLY/PROJ DEVELP

The Project Development (PD) Account captures program-level expenditures. The project provides programmatic support for Power funded capital projects. The following charges are allocated to the PD Account: 1) task orders for overall program management and project prioritization tasks, where the costs should be distributed over all CIP Projects; 2) infrastructure and Hetch Hetchy staff performing program-level tasks, including capital plan development, budget management (including fund management and cost reallocations), and unifier and quarterly report generation tasks, where the costs should be distributed over all CIP Projects; 3) portal support for the existing SharePoint Portal (including document management and project dashboard reporting); 4) work outreach program; and 5) City Attorney charges for contract development.

APPENDIX A. PROJECT DESCRIPTIONS

JOINT INFRASTRUCTURE

Water Conveyance (Joint)

10014088 Moccasin Penstock Rehabilitation

In order to meet the established level of service, mitigate potential risks, and avoid potential consequences of failure, SFPUC is considering replacing the penstocks so that the life of the asset will be extended for another 75 to 100 years. Based on a preliminary study, a combination of a drop shaft, a tunnel and above grade pipes appears to be a favorable alternative. SFPUC will continue the study before determining the most appropriate alternative solution. For capital planning purposes, SFPUC assumes the alternative will include the following major elements: • A drop shaft of about 850 feet deep, • A new tunnel penstock of about 3,100 feet, and • A two 72 in. above-grade penstocks with a total length of 3,000 feet

Buildings (Joint)

10039680 Moccasin Engineering and Records Building

HHWP Project operations and administration is located in Moccasin, California, with facilities including buildings, office trailers, warehouses, shops, laboratories, and sheds. Many existing facilities are deteriorating, do not meet current building codes, and are incurring increased maintenance costs. HHWP needs to invest in new facilities to meet all applicable codes and standards; reduce maintenance costs; increase employee interconnectivity and productivity; properly store all staff, materials, records, and equipment; and meet energy-efficiency standards. HHWP prepared a report titled "Moccasin Facilities Upgrade Project – Alternatives Analysis and Evaluation Report Update". The report identified long-term needs for creating adequate office space for current staff in Moccasin. In addition, the report evaluated the needs for new, dedicated materials storage space, new records and archives space with offices, new space for servers, and parking space for staff. The Moccasin Engineering and Records Building project will address the need for permanent office space by constructing a new two-story building. Hetch Hetchy and Infrastructure staff are currently located in temporary trailers that have exceeded their useful life. The new building will provide office space for Hetch Hetchy Engineering, Records, Energy Services, Infrastructure, and ITS staff. The scope also includes a secure server room, parking lot, and archive/records storage. The budget and schedule for the project will be modified to provide permanent office space for both Hetch Hetchy and Infrastructure staff and to address escalation since the completion of the 2020 Alternatives Analysis Report estimate.

10041727 Moccasin Warehouse Building

The Moccasin Old Powerhouse was constructed in 1926 and abandoned in the 1960s. The building has multiple structural and nonstructural issues, including cracks, spalling of structural concrete, water intrusion, broken windows, settlement, hazardous materials, and seismic deficiencies. The building is currently used for storage of large equipment and critical spares for the Hetch Hetchy Water and Power system. As a result of the multiple issues, it was determined to demolish the building. A new warehouse is therefore necessary for the storage of the large equipment and critical spares for the Hetch Hetchy Water and Power system that was previously stored in the Moccasin Old Powerhouse. This project includes a construction of a new 9,000-square-foot warehouse within the Moccasin campus to store large equipment and critical spare components for the Hetch Hetchy Water and Power System. The building will include office space for warehouse staff including records retention for warehouse and materials documentation.

Dams & Reservoirs (Joint)

10032903

O'Shaughnessy Dam Outlet Works Phase 1

O'Shaughnessy Dam was completed in 1923 and raised in 1938. A condition assessment of the dam outlet works revealed the need for improvements to the existing outlet works, including gates and valves (1923 construction), to ensure safe and reliable operation. Based on engineering studies and prioritization of asset condition, needs, and risks, improvements to the existing outlet works will be implemented in two phases. Funding for this project will include work under Phase 1. Phase 2 of the O'Shaughnessy Dam Outlet Improvement Project begins in 2025. Work under Phase 1 will include: (1) replacement of two existing instream flow release valves; (2) improvements to access and drainage in the dam gallery and stairs; (3) installation of new bulkheads for the outlet intake; and (4) a planning phase and scoping for the slide gates and drum gates improvements.

10037351 Moccasin Dam & Reservoir Long-Term Improvements

A heavy storm event in 2018 caused significant damage to the auxiliary spillway, upstream trash rack and diversion, and downstream area. Subsequent engineering studies concluded that improvements are needed to increase the spillway capacity to safely pass the updated design flood without overtopping the existing embankment dam. This project is needed for dam safety. This project will construct a new concrete spillway with adequate flow capacity along the alignment of the existing auxiliary spillway and additional flood protection to the Moccasin project facilities.

10014115 Cherry Dam Spillway - Short Term Improvements

Cherry Dam Spillway is a 334 foot-wide ogee-type concrete weir that discharges into an unlined adjacent channel. The spillway capacity is designed for 52,000 cfs. A spill of 1,500 cfs in 2010 resulted in significant erosion damage to the unlined spill channel, large-scale erosion along the western segment of Cherry Dam, and flooding of Cherry Power Tunnel Adit and a campground downstream. Engineering studies showed that remedial measures and erosion protection for the spill channel are needed to ensure that spill flows from Cherry Valley Dam spillway can be contained without erosion damage to the existing embankment dam and downstream area. Studies also found that long-term improvement to the spillway is needed to increase the hydraulic capacity of the spillway to safely pass the design flood. This project is a short-term interim solution until the long-term spillway improvements are implemented. This project will reestablish containment for the breached spill channel section from the 2010 spill and install armoring to protect the upper spill channel section against erosion from spillway releases of up to 2,000 cubic feet per second.

10030759 Eleanor Dam Rehabilitation

Mitigation alternatives will include improvements to increase spill capacity to safely pass the design flood, installation of a liner on the upstream face of the dam, concrete repairs, valve replacement, and installation of concrete lining and riprap for foundation armoring, and replacement of the existing bridge.

10039119 Early Intake Dam - Long Term

Remove the existing deteriorated dam and construct a new concrete diversion structure and conveyance system within the existing Raker Act boundary to divert flows from Cherry Creek and Tuolumne River upstream of Kirkwood Powerhouse into Mountain Tunnel for SFPUC customers during emergencies.

O'Shaughnessy Dam Outlet Works Phase 2

O'Shaughnessy Dam was completed in 1923 and raised in 1938. A condition assessment of the dam outlet works revealed the need for improvements to the existing outlet works, including gates and valves (1923 construction), to ensure safe and reliable operation. Based on engineering studies and prioritization of asset condition, needs, and risks, improvements to the existing outlet works will be implemented in two

phases. The O'Shaughnessy Dam Outlet Works Phase 1 Project is described under Project Number 10032903 and is currently in the design and construction phases. Phase 2 of the O'Shaughnessy Dam Outlet Improvement Project will begin in 2025 and will include replacement and/or refurbishment of eight discharge valves, rehabilitation of three drum gates, refurbishment of twelve slide gates, installation of a new diversion pipe isolation valve, and improvements for the diversion tunnel. The project will include: (1) replacement of six 60-inch and one 72-inch discharge needle valves; (2) refurbishment of one 72-inch discharge butterfly valve; (3) rehabilitation of three drum gates; (4) refurbishment of twelve slide gates; (5) installation of a new diversion pipe isolation valve; and (6) improvements for the diversion tunnel.

Mountain Tunnel

10014114 Mountain Tunnel Improvement Project

Constructed between 1917 and 1925, Mountain Tunnel (MT) is a critical, nonredundant link in the Hetch Hetchy Regional Water System, conveying SFPUC water supply from Kirkwood Powerhouse to Priest Reservoir. Due to the tunnel's 90 years of operation, deferred maintenance, and construction deficiencies from the early 1900s, sections of the tunnel have deteriorated, some more extensively than others. The Mountain Tunnel Inspection and Repairs Project provided a tunnel inspection in 2017 to update the Condition Assessment conducted in 2008. Short-term repairs were also made in 2017 and 2018 to reduce the risk of failures in the concrete lining prior to implementation of the long-term project. The Mountain Tunnel Improvements (Rehabilitation)Project was selected for the design and construction of the preferred engineering alternative that will keep this vital component of the Hetch Hetchy Regional Water System in reliable service for years to come. The budget and schedule are based on the Mountain Tunnel Improvements Project construction phase, which is anticipated to take place between 2021 and 2027. This is the water funded portion of the Mountain Tunnel projects. For the Mountain Tunnel Improvements Project, the water portion will rehabilitate the inside of the tunnel and extend the siphon at South Fork, along with related safety improvements to the roadways that access the Mountain Tunnel.

Powerhouse (Joint)

10037077 Moccasin Old Powerhouse Hazard Mitigation

Design and install mitigation measures to prevent the building from collapsing and to prevent hazardous materials (such as lead-based paint and asbestos) from contaminating Moccasin Reservoir.

Tunnels (Joint)

10014108 Canyon Tunnel - Hetchy Adit Rehab & OSH Bridge

The project is to install a new reinforced concrete plug downstream of the existing plug in Hetchy Adit and rehabilitate O'Shaughnessy Adit Access Bridge including sub-structure retrofit and super structure replacement.

Utilities (Joint)

10014110 Moccasin Wastewater Treatment Plant

This project will replace the existing plant with a package two-train sequencing batch reactor (SBR) plant with grit removal and screening facilities, upgraded electrical and flow monitoring systems, flow equalization, SCADA instrumentation and automation features, and related site improvements.

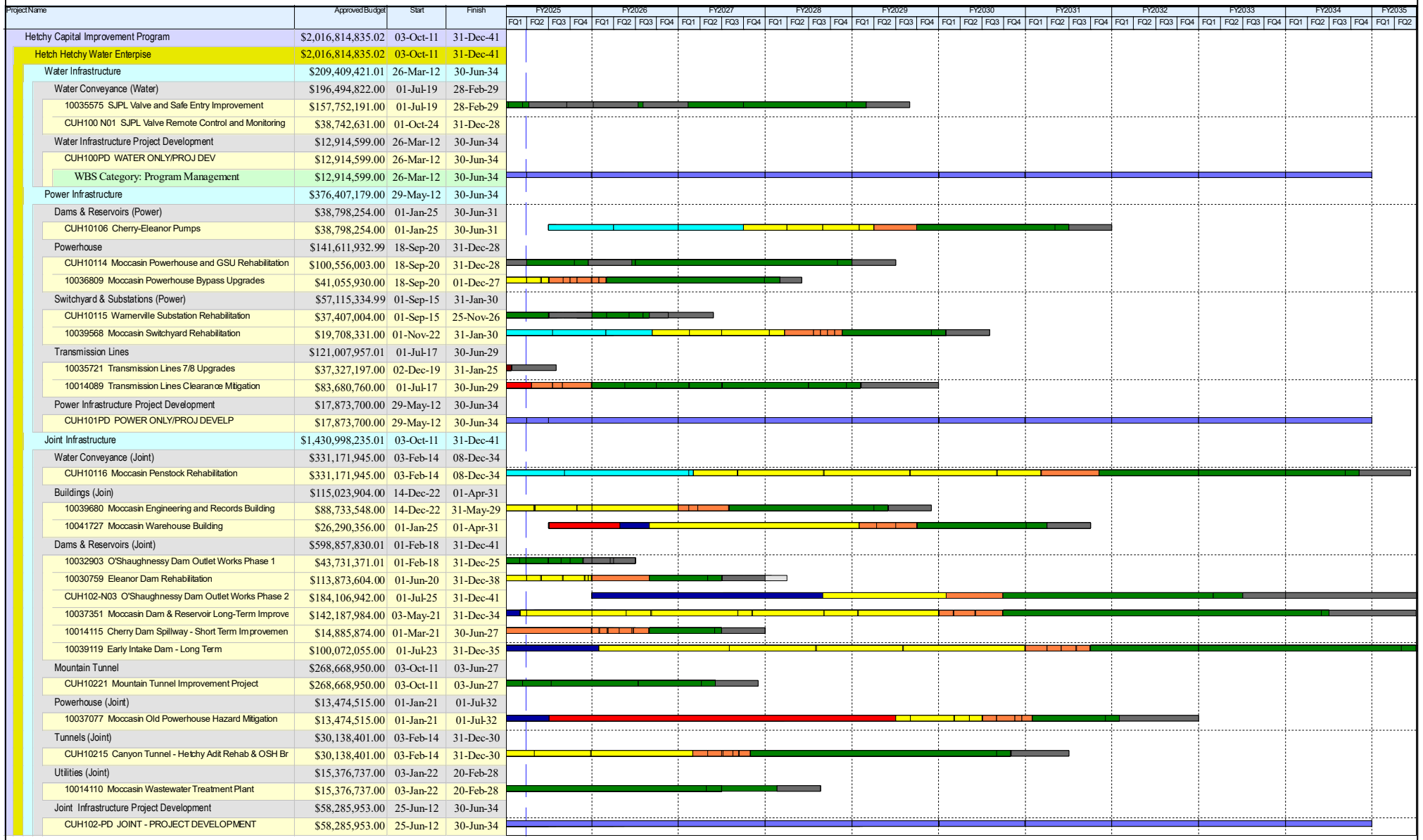
Joint Infrastructure Project Development

10014116 JOINT - PROJECT DEVELOPMENT

The Project Development (PD) Account captures program-level expenditures. The following charges are allocated to the joint funded PD Account: 1) task orders for overall program management and project prioritization tasks, where the costs should be distributed over all CIP Projects; 2) infrastructure and HHWP staff performing program-level tasks, including capital plan development, budget management (including fund management, and cost reallocations), and unifier and quarterly report generation tasks, where the costs should be distributed over all CIP projects; 3) portal support for the existing SharePoint portal (including document management and project dashboard reporting); 4) work outreach program; and 5) City Attorney contract development charges.

APPENDIX B. Hetch Hetchy Capital Improvement Program Approved Project Level Budgets/Schedules

Project Name	Approved Budget	Start	Finish
Hetchy Capital Improvement Program	$2,016,814,835.02	03-Oct-11	31-Dec-41
Hetch Hetchy Water Enterpise	$2,016,814,835.02	03-Oct-11	31-Dec-41
Water Infrastructure	$209,409,421.01	26-Mar-12	30-Jun-34
Water Conveyance (Water)	$196,494,822.00	01-Jul-19	28-Feb-29
10035575 SJPL Valve and Safe Entry Improvement	$157,752,191.00	01-Jul-19	28-Feb-29
CUH100 N01 SJPL Valve Remote Control and Monitoring	$38,742,631.00	01-Oct-24	31-Dec-28
Water Infrastructure Project Development	$12,914,599.00	26-Mar-12	30-Jun-34
CUH100PD WATER ONLY/PROJ DEV	$12,914,599.00	26-Mar-12	30-Jun-34
WBS Category: Program Management	$12,914,599.00	26-Mar-12	30-Jun-34
Power Infrastructure	$376,407,179.00	29-May-12	30-Jun-34
Dams & Reservoirs (Power)	$38,798,254.00	01-Jan-25	30-Jun-31
CUH10106 Cherry-Eleanor Pumps	$38,798,254.00	01-Jan-25	30-Jun-31
Powerhouse	$141,611,932.99	18-Sep-20	31-Dec-28
CUH10114 Moccasin Powerhouse and GSU Rehabilitation	$100,556,003.00	18-Sep-20	31-Dec-28
10036809 Moccasin Powerhouse Bypass Upgrades	$41,055,930.00	18-Sep-20	01-Dec-27
Switchyard & Substations (Power)	$57,115,334.99	01-Sep-15	31-Jan-30
CUH10115 Warnerville Substation Rehabilitation	$37,407,004.00	01-Sep-15	25-Nov-26
10039568 Moccasin Switchyard Rehabilitation	$19,708,331.00	01-Nov-22	31-Jan-30
Transmission Lines	$121,007,957.01	01-Jul-17	30-Jun-29
10035721 Transmission Lines 7/8 Upgrades	$37,327,197.00	02-Dec-19	31-Jan-25
10014089 Transmission Lines Clearance Mitigation	$83,680,760.00	01-Jul-17	30-Jun-29
Power Infrastructure Project Development	$17,873,700.00	29-May-12	30-Jun-34
CUH101PD POWER ONLY/PROJ DEVELP	$17,873,700.00	29-May-12	30-Jun-34
Joint Infrastructure	$1,430,998,235.01	03-Oct-11	31-Dec-41
Water Conveyance (Joint)	$331,171,945.00	03-Feb-14	08-Dec-34
CUH10116 Moccasin Penstock Rehabilitation	$331,171,945.00	03-Feb-14	08-Dec-34
Buildings (Join)	$115,023,904.00	14-Dec-22	01-Apr-31
10039680 Moccasin Engineering and Records Building	$88,733,548.00	14-Dec-22	31-May-29
10041727 Moccasin Warehouse Building	$26,290,356.00	01-Jan-25	01-Apr-31
Dams & Reservoirs (Joint)	$598,857,830.01	01-Feb-18	31-Dec-41
10032903 O'Shaughnessy Dam Outlet Works Phase 1	$43,731,371.01	01-Feb-18	31-Dec-25
10030759 Eleanor Dam Rehabilitation	$113,873,604.00	01-Jun-20	31-Dec-38
CUH102-N03 O'Shaughnessy Dam Outlet Works Phase 2	$184,106,942.00	01-Jul-25	31-Dec-41
10037351 Moccasin Dam & Reservoir Long-Term Improve	$142,187,984.00	03-May-21	31-Dec-34
10014115 Cherry Dam Spillway - Short Term Improvemen	$14,885,874.00	01-Mar-21	30-Jun-27
10039119 Early Intake Dam - Long Term	$100,072,055.00	01-Jul-23	31-Dec-35
Mountain Tunnel	$268,668,950.00	03-Oct-11	03-Jun-27
CUH10221 Mountain Tunnel Improvement Project	$268,668,950.00	03-Oct-11	03-Jun-27
Powerhouse (Joint)	$13,474,515.00	01-Jan-21	01-Jul-32
10037077 Moccasin Old Powerhouse Hazard Mitigation	$13,474,515.00	01-Jan-21	01-Jul-32
Tunnels (Joint)	$30,138,401.00	03-Feb-14	31-Dec-30
CUH10215 Canyon Tunnel - Hetchy Adit Rehab & OSH Br	$30,138,401.00	03-Feb-14	31-Dec-30
Utilities (Joint)	$15,376,737.00	03-Jan-22	20-Feb-28
10014110 Moccasin Wastewater Treatment Plant	$15,376,737.00	03-Jan-22	20-Feb-28
Joint Infrastructure Project Development	$58,285,953.00	25-Jun-12	30-Jun-34
CUH102-PD JOINT - PROJECT DEVELOPMENT	$58,285,953.00	25-Jun-12	30-Jun-34



APPENDIX C. LIST OF ACRONYMS

AAR	Alternative Analysis Report
Cat Ex	Categorical Exemption
CEQA	California Environmental Quality Act
CER	Conceptual Engineering Report
CIP	Capital Improvement Program
CM/GC	Construction Manager/General Contractor
CFS	Cubic Feet Per Second
DB	Design-Build
EIR	Environmental Impact Report
FY	Fiscal Year
GSU	Generator Step-Up
GWH	Gigawatt Hours
HCIP	Hetch Hetchy Capital Improvement Program
HH	Hetch Hetchy
HHWP	Hetch Hetchy Water and Power
kV	Kilovolts
MCC	Motor Control Center
MND	Mitigated Negative Declaration
MT	Mountain Tunnel
NTP	Notice to Proceed
OSH	O'Shaughnessy Dam
PD	Project Development
PLC	Programmable Logic Controller
R&R	Renewal and Replacement
SBR	Sequence Batch Reactor
SCADA	Supervisory Control and Data Acquisition
SFPUC	San Francisco Public Utilities Commission
SJPL	San Joaquin Pipeline
TBD	To Be Determined
TSC	Technical Steering Committee

This page is intentionally left blank.