San Francisco
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September 1, 2021

Assembly Member Rudy Salas - Chair
Senator John Laird - Vice Chair
Joint Legislative Audit Committee
1020 N Street, Room 107
Sacramento, CA 95814

The Honorable Dr. Kit Miyamoto, Chairman
The Honorable Cindy Silva, Vice-Chair
Alfred E. Alquist Seismic Safety Commission
2945 Ramco Street, Suite 195
West Sacramento, CA 95691

Stefan Cajina, Chief
North Coastal Section, Division of Drinking Water
State Water Resources Control Board
850 Marina Bay Parkway, Bldg P, Second Floor
Richmond, CA 94804

Subject: **Fiscal Year (FY) 2020-21 Annual Report**
Water System Improvement Program
San Francisco Public Utilities Commission

Dear Assembly Member Salas, Senator Laird, Commissioners Miyamoto and Silva, and Mr. Cajina,

In accordance with Section 73502(c) of the California Water Code, the San Francisco Public Utilities Commission (SFPUC) is pleased to submit the enclosed Annual Report describing progress made on the implementation of the Water System Improvement Program (WSIP) during Fiscal Year (FY) 2020-2021.

The WSIP is a $4.8 billion, multi-year program to upgrade the SFPUC's Regional and Local Water Systems. The program is delivering capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water in an environmentally sustainable manner to its 26 wholesale customers and regional retail customers in Alameda, Santa Clara, and San Mateo Counties, and to 800,000 retail customers in the City and County of San Francisco. The WSIP is structured to cost-effectively meet water quality requirements, improve seismic and delivery reliability through the year 2030, and fulfill water supply objectives through the year 2018.

Section 1 of the enclosed report describes the overall progress made on the WSIP's Regional Program during FY 2020-21 (July 1, 2020 through June 30, 2021) and Section 2 focuses on the major programmatic initiatives undertaken during that time period. Section 3 summarizes the Level of Service (LOS) goals and objectives and addresses progress towards meeting those goals and objectives. Sections 4 and 5 include summaries of procedures used to track and control WSIP project schedules and budgets, and present current schedule and budget forecasts, respectively. Section 6 includes a summary of the achievements and challenges encountered while implementing the program during FY 2020-21. The WSIP Risk Management program and status of risk exposure for active construction projects is summarized in Section 7, and the program delivery strategy for the closeout phase is discussed in Section 8. Finally, Section 9 of the report highlights the current status of the specific projects mentioned in California Assembly Bill (AB) 1823.

Significant progress was made on the implementation of the WSIP during FY 2020-21. Between July 1, 2020 and June 30, 2021, the overall completion of the Regional Program increased from 98.6% to 98.9%. The focus of the program continued to be construction of several ongoing large projects and administrative closeout of projects that recently completed construction. During the reporting period, two projects achieved project completion. As of June 30, 2021, construction was in progress on five (5) Regional projects valued at $1,047 million, while construction had been completed on 45 Regional projects valued at $2,724 million. The largest project in the program, Calaveras Dam Replacement Project, is 99.9% complete; the main Calaveras Dam Replacement contract has completed final construction, and the sub-project Alameda Creek Diversion Dam is on track to be closed out in the first quarter of 2021.

The Alameda Creek Recapture Project completed final design and the construction contract was awarded during the reporting period; the Notice to Proceed for the construction contract was issued on June 21, 2021. Phase 1 of the Regional Groundwater Storage and Recovery Project made significant progress, including the start of the 7-week sustained performance tests for four of the wells. Construction work for Phase 2 of the Regional Groundwater Storage and Recovery Project has been separated into two contracts (Phase 2A and Phase 2B). The bid package for Phase 2A is being finalized while 100% design for Phase 2B is progressing.

The status of schedule forecasts and variances for all WSIP Regional Projects as of June 30, 2021 is provided in the report. As of June 30, 2021, the overall WSIP is forecast to be complete in May 2023, which is consistent with the current baseline schedule approved as part of the April 2020 Approved Baseline. The overall current approved WSIP completion date is driven by the approved final administrative closeout completion date for Alameda Creek Recapture Project, May 5, 2023.

The current approved WSIP scope is sufficiently funded to complete within the current approved baseline budget (April 2020 Approved Baseline) with over 80% confidence, based on the current understanding of trends and remaining risks in the program.

SFPUC remains committed to work collaboratively with its Regional Wholesale and Retail customers and all program stakeholders and partners to ensure the

successful delivery of the WSIP. Please do not hesitate to contact me at (415) 554-1600 if you have questions or need additional information.

Sincerely,

Michael Carlin
Acting General Manager
San Francisco Public Utilities Commission

Enclosure

cc: The Honorable Sophie Maxwell, President, SFPUC Commission

The Honorable Anson Moran, Vice President, SFPUC Commission

The Honorable Tim Paulson, Commissioner, SFPUC Commission

The Honorable, Ed Harrington, Commissioner, SFPUC Commission

The Honorable, Newsha Ajami, Commissioner, SFPUC Commission

Nicole Sandkulla, Chief Executive Officer and General Manager, Bay Area Water Supply & Conservation Agency

Thomas (Tom) Francis, Water Resources Manager, Bay Area Water Supply & Conservation Agency

Vlad Rakhamimov, Staff Engineer, North Coastal Section, Division of Drinking Water, State Water Resources Control Board

Marco Pacheco – San Francisco District Engineer, State Water Resources Control Board

Darrin Polhemus, Deputy Director, Division of Drinking Water, State Water Resources Control Board

Daniel Newton, Assistant Deputy Director, Northern California Drinking Water Field Operations Branch, State Water Resources Control Board

Richard (Dick) McCarthy - Executive Director, Alfred E. Alquist Seismic Safety Commission

Fred Turner, Structural Engineer, Alfred E. Alquist Seismic Safety Commission

Gustav Larson , Chair, BAWSCA (without encl.)

Thomas (Tom) Chambers, Vice-Chair, BAWSCA (without encl.)

BAWSCA Member Agencies (without encl., distributed by BAWSCA)

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HETCH HETCHY
WATER SYSTEM
IMPROVEMENT
PROGRAM

2020-21

Annual Report

Water System Improvement Program

Rebuilding Today For A Better Tomorrow

September 1, 2021

Hetch Hetchy
Regional
Water
System

Services of the San Francisco Public Utilities Commission

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FY 2020-21 ANNUAL REPORT
WATER SYSTEM IMPROVEMENT PROGRAM

EXECUTIVE SUMMARY

Pursuant to the reporting requirements of the Wholesale Regional Water System Security and Reliability Act, the San Francisco Public Utilities Commission (SFPUC) submits this report documenting the progress achieved on the Water System Improvement Program (WSIP) during Fiscal Year (FY) 2020-21 (July 1, 2020 through June 30, 2021). This report addresses only the WSIP Regional projects (referred to as the Regional Program). These are the projects that benefit both San Francisco retail customers and the SFPUC's suburban wholesale customers. The Wholesale Regional Water System Security and Reliability Act does not require the SFPUC to report on the WSIP Local projects (referred to as the Local Program), which primarily benefit San Francisco retail customers.

The WSIP is a $4.8 billion-dollar, multi-year program to upgrade the SFPUC's Regional and Local Water Systems. The program is delivering capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water in an environmentally sustainable manner to its 26 wholesale customers and regional retail customers in Alameda, Santa Clara and San Mateo Counties, and to 800,000 retail customers in the City and County of San Francisco. The WSIP is structured to cost-effectively meet water quality requirements, improve seismic and delivery reliability goals through the year 2030, and fulfill water supply objectives through the year 2018.

Progress was made on the implementation of the WSIP during FY 2020-21. Between July 1, 2020 and June 30, 2021, the overall completion of the Regional Program increased from 98.6% to 98.9%. As of the end of the reporting period, planning, environmental, design, and construction phases were 100.0%, 100.0%, 100.0%, and 99.0% complete, respectively. The focus of the program continued to be construction of several ongoing large projects and administrative closeout of projects that recently completed construction. During the reporting period, two projects achieved final construction phase completion. As of June 30, 2021, construction was in progress on five (5) Regional projects valued at $1,047 million, while construction was in close-out or had been completed on 45 Regional projects valued at $2,724 million. There are no projects remaining in pre-construction.

Support programs that were continued during FY 2020-21 included management of facilities' shutdowns, environmental compliance, and public outreach. All status updates in this Annual Report are referenced to the latest baseline scope, budget and schedule, approved on April 14, 2020, which is referred to as the "April 2020 Approved Baseline."

The scope of the WSIP is based on the primary Level of Service (LOS) goals used to determine project design criteria as follows: water quality (maintain high water quality); seismic reliability (reduce vulnerability to earthquakes); delivery reliability (increase delivery reliability and improve ability to maintain the system); and water supply (meet customer water needs in non-drought and drought periods). In addition, two additional overarching program goals include sustainability (enhance sustainability in all system activities); and cost effectiveness (achieve a cost-effective, fully operational system). Each project that reaches construction substantial completion contributes to increasing the overall reliability of the system and achieving progress towards meeting the LOS goals and objectives. As of end of FY 2020-21, 41 of the 43 Regional WSIP projects with specific LOS goals had achieved their LOS goals and objectives. The two Regional WSIP projects that have not yet achieved their LOS goals are the Alameda Creek Recapture Project (ACRP) and the Regional Groundwater Storage and Recovery Project (RGSRP). The other nine Regional WSIP projects (Support projects and WSIP Closeout projects) do not have specific LOS goals.

The two Regional projects with LOS goals that remain to be completed (ACRP and RGSRP) both have water supply as a primary LOS goal. The last Regional project remaining in pre-construction at the beginning of the reporting period was the ACRP, and this project had its environmental planning completed, design completed, and construction contract bid and awarded during the reporting period; NTP was issued June 21, 2021. Project completion is anticipated May 2023.

The other remaining water supply project, RGSRP, continued construction and start-up testing for 12 well sites under Phase 1, and final design of one remaining well site under Phase 2. The project scope was changed and approved by the SFPUC Commission in 2018 such that Phase 1 included construction for 12 production wells, and Phase 2 included construction of a thirteenth (13^{th}) production well and installation of up to three test wells. Two test wells were installed in FY2018-19. The SFPUC does not intend to install a third test well due to a determination of limited potential benefit (low water yield) at high cost. The Phase 2 test wells, additionally, will not be converted to production wells under the current approved WSIP scope. However, the SFPUC will provide updated yield estimates for the wells in the future after the wells are fully operational based on extended pumping tests and operational experience. After sufficient operational experience has been obtained, the SFPUC will evaluate, based on updated well estimates, whether or not it would be appropriate to convert one or more of the existing two test wells, and/or future test well(s) in other location(s), into production wells. This evaluation would necessarily include schedules for implementation, cost estimates, and funding considerations during and after the current scheduled completion of WSIP.

The status of schedule forecasts and variances for all WSIP Regional Projects as of June 30, 2021 is provided in the report. As of June 30, 2021, the overall WSIP is

forecast to be complete in May 2023, which is consistent with the current baseline schedule approved as part of the April 2020 Approved Baseline. The overall current approved WSIP completion date is driven by the final administrative closeout completion date for ACRP on May 5, 2023.

All WSIP Regional Projects excluding RGSRP and ACRP are currently forecasted to be completed on or under budget. Even with the budget variances from these two projects, the overall program is forecast to be completed within budget in accordance with the program baseline budget first approved as part of the April 2018 Approved Baseline (there were no budget changes in the April 2020 Approved Baseline).

Significant achievements in FY 2020-21 include commencement of construction of the ACRP and the completion of two of the WSIP Closeout Projects, for the Bay Division and for the San Joaquin Region. The RGSRP made progress in commencement of 7-week sustained performance testing for 4 wells and continued construction modifications and improvements at all well sites. Finally, substantial progress was also made on Job Order Contracts (JOCs) associated with the WSIP Closeout Projects in the remaining two regions that have not yet been completed.

The major challenge to the program in FY 2020-21 was due to COVID-19 resulting in some project delays and increased costs for health and safety provisions.

As it would generally be overly conservative to plan for 100% of future potential risks, the SFPUC has elected to use the “80% confidence level” as a relatively conservative estimate of future cost risk for the WSIP. Namely, the “80% confidence level” represents the amount of cost for which one can be 80% confident that future cost risk will not exceed this level. The risk exposure at the “80% confidence level” at the end of the reporting period was $2.2M, which compares to $2.4M at the end of last year’s reporting period; the cumulative risk exposure for the program was reduced to as low as $0.5M as the RGSRP progressed, but was increased to $2.2M in June 2021 with the addition of 30 construction risks for the ACRP, which started construction in June. The program’s top 10 risks as of June 30, 2021, based on likelihood of occurrence and potential cost impact, belong to two construction contracts: RGSRP (2 risks) and ACRP (8 risks). The current highest risk in the top 10 risks belongs to ACRP. It relates to the location of the pipe tie-in and proposes that the alignment may not meet up with the existing water line. The second highest risk also belongs to ACRP and proposes a problem procuring the barge specified in the contract. The third highest risk belongs to RGSRP and relates to delays in finalizing a permanent easement and securing agreements with local agencies for right of way access.

At 98.9 percent completion and with 41 of 43 Regional WSIP projects with specific LOS goals and objectives currently in service, the overall WSIP is in the Closeout Phase. It is essential to continue to implement best practices that have helped to make the WSIP

successful to date, and to continue to look for opportunities to become more efficient as the SFPUC strives to bring the WSIP to successful completion over the next two years. As has been the practice since the program was established, the WSIP Director will continue to meet with project teams on a rotation monthly to review status of every budget line item at least twice quarterly. Because of these meetings, staffing adjustments are made in real time to ensure project teams work within the existing budgets, and where appropriate, budget forecasts and resources are adjusted as necessary to help ensure successful completion of every project. In addition, we are continuing to implement our industry best practice Construction Management (CM) Business Processes and Procedures to ensure the available funds are used efficiently and effectively, with emphasis on identification of cost savings wherever possible.

The program-level risk analysis shows that the remaining program risk exposure at the "80% confidence level" is $2.2 million for active construction contracts as of June 30, 2021. The remaining forecast construction contingency as of June 30, 2021 is $5.5 million after all current trends have been considered. In addition, the current forecast WSIP Director's Reserve Fund is $16.1 million. Therefore, a total of approximately $21.6 million is available to fund future risks, including both construction risks and unforeseen soft (non-construction) costs. If one conservatively assumes that up to $3.0 million is needed for future soft cost risk, this would leave approximately $18.6 million available to fund potential future construction risks. Accordingly, the analysis shows that the current WSIP is sufficiently funded to be completed within the current approved baseline budget and schedule (April 2020 Approved Baseline) with over 80 percent confidence, based on the current understanding of trends and remaining risks in the program.

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LIST OF ACRONYMS

AB	Assembly Bill
ACDD	Fish Passage Facilities at Alameda Creek Diversion Dam Project
ACRP	Alameda Creek Recapture Project
ARM	Active Risk Management
BAWSCA	Bay Area Water Supply and Conservation Agency
BDPL	Bay Division Pipelines
BHR	Bioregional Habitat Restoration
CDRP	Calaveras Dam Replacement Project
CEQA	California Environmental Quality Act
CIP	Capital Improvement Program
CM	Construction Management
CMIS	Construction Management Information System
COVID-19	Coronavirus Disease of 2019
DRB	Dispute Resolution Board
DSOD	Division of Safety of Dams (State of California)
EBMUD	East Bay Municipal Utility District
EIR	Environmental Impact Report
FY	Fiscal Year
HHWP	Hetch Hetchy Water and Power
HTWTP	Harry Tracy Water Treatment Plant
JOC	Job Order Contract
LOS	Level of Service
MGD	Million Gallons per Day
NOC	Notice of Changes
PCCP	Pre-stressed Concrete Cylinder Pipe
RBOC	Revenue Bond Oversight Committee
RGSRP	Regional Groundwater Storage and Recovery Project
ROW	Right-of-Way
SABPL	San Antonio Backup Pipeline
SCADA	Supervisory Control and Data Acquisition
SFPUC	San Francisco Public Utilities Commission
SJPL	San Joaquin Pipeline
SSF	South San Francisco
SVWTP	Sunol Valley Water Treatment Plant
WSIP	Water System Improvement Program
WSTD	Water Enterprise, Water Supply and Treatment Division

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1.0 OVERALL PROGRAM PROGRESS

1.1 Program Status Summary

Significant progress has been made on the implementation of the Water System Improvement Program (WSIP) during Fiscal Year (FY) 2020-2021 (July 1, 2020 through June 30, 2021) with overall progress on the Regional Program increasing from 98.6% to 98.9% complete. Overall, actual performance (98.9%) on the Regional Program is 0.7% behind schedule based on the latest Baseline Budget and Schedule, approved on April 14, 2020, which is referred to as the "April 2020 Approved Baseline". The overall program is on schedule.

As indicated in Table 1-1, planning, environmental and design are 100% complete, and construction phase is 99% complete.

Table 1-1: WSIP Regional Program Performance[1]

Phase	June 30, 2020		June 30, 2021	
	% Planned	% Actual	% Planned[2]	% Actual
Planning	99.8%	100.0%	100.0%	100.0%
Environmental	99.8%	99.9%	100.0%	100.0%
Design	99.9%	98.9%	100.0%	100.0%
Bid & Award	98.9%	97.4%	100.0%	98.6%
Construction	99.0%	98.9%	99.6%	99.0%
Closeout	86.9%	83.0%	93.5%	83.0%
Program Cumulative	**98.9%**	**98.6%**	**99.6%**	**98.9%**

[1] Percent completion does not include Support Projects in the WSIP Regional Program.
[2] Incorporates the April 2020 Approved Baseline schedule revisions

In recent years, the focus of the program has been on construction activities and administrative closeout of completed projects. Table 1-2 compares the number of projects in each phase and their corresponding total approved value at the beginning of the reporting period (June 30, 2020) to those at the end of the reporting period (June 30, 2021). As of the end of the reporting period, five (5) regional projects are in construction with a total value of $1,047 million, and forty-five (45) additional projects with a total value of $2,724 million are in close-out or have been completed.

Table 1-2: Status of WSIP Regional Projects

Project Phase	June 30, 2020 Status		June 30, 2021 Status	
	No. of Projects	Total Project Value ($M)	No. of Projects	Total Project Value ($M)[1]
Planning	0	$0	0	$0
Design	1	$35	0	$0
Bid & Award	0	$0	0	$0
Construction	6	$1,021	5	$1,047
Closeout	1	$96	1	$96
Completed	42	$2,619	44	$2,628
Not Applicable[2]	2	$32	2	$32
Total	**52**	**$3,803**	**52**	**$3,803**

[1] Based on budget approved as part of the April 2020 Approved Baseline.
[2] The "Not Applicable" category is for two Support projects, the Long-Term Mitigation Endowment and the Watershed and Environmental Improvement Program, that do not have construction activities.

To better illustrate the progress made during FY 2020-2021, some of the key program-level data included in Table 1-2 are graphically presented in Figures 1-1 and 1-2.

Figure 1-1: Progress Made in Terms of No. of Regional Projects

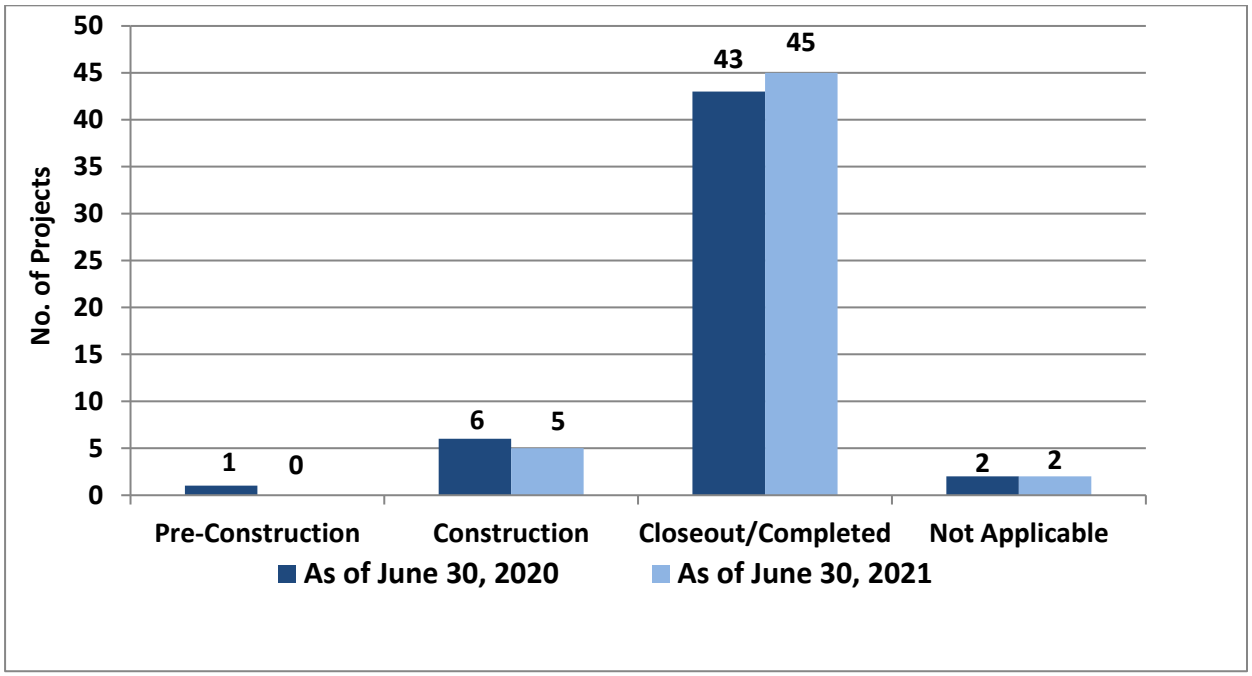
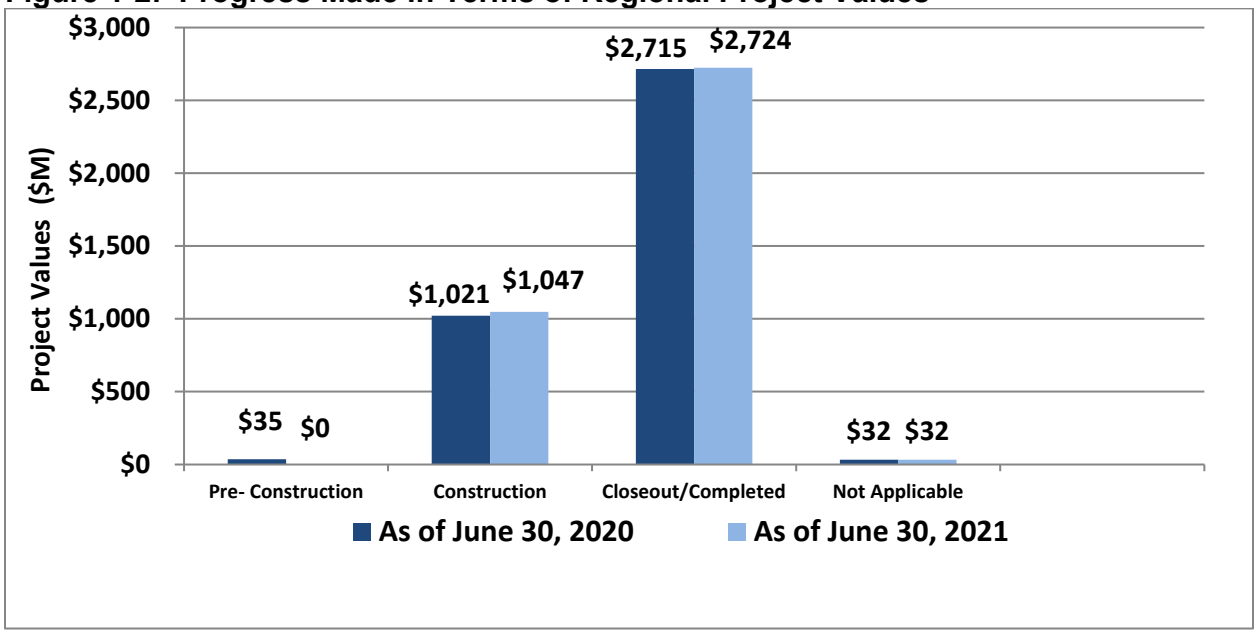


Figure 1-2: Progress Made in Terms of Regional Project Values



During the reporting period, two closeout projects achieved final completion. The milestone is summarized below:

Project Completion:

WSIP Closeout – San Joaquin – March 31, 2021

WSIP Closeout – Bay Division – March 31, 2021

1.2 Program Baseline Budget and Schedule

The program budget and schedule were originally adopted by the SFPUC on March 1, 2003. The program at the time was referred to as the Capital Improvement Program (CIP). The scope of the CIP was changed significantly following the adoption of Level of Service (LOS) goals in early 2005. The program changes were so substantial that the program was renamed the WSIP and a new program budget and schedule were adopted on November 29, 2005. Since the scope of the 2005 Revised WSIP is in general representative of the program being implemented today, the 2005 budget and schedule are considered the original "Baseline Budget and Schedule."

Subsequently, the WSIP Baseline Budget and Schedule were revised in 2007, 2009, 2011, 2013, 2014, 2015, 2016, 2017, 2018, and 2020, and these revisions were approved by the SFPUC on February 26, 2008, July 28, 2009, July 12, 2011, April 23, 2013, April 22, 2014, December 8, 2015, April 26, 2016, February 14, 2017, April 10, 2018, and April 14, 2020 respectively. All status updates in this Annual Report are referenced to the latest Baseline Budget and Schedule, approved on April 14, 2020, which is referred to as the "April 2020 Approved Baseline".

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2.0 PROGRAMMATIC INITIATIVES (FY2020-21)

This section describes some of the more important programmatic initiatives undertaken during FY 2020-21.

2.1 Shutdown Management

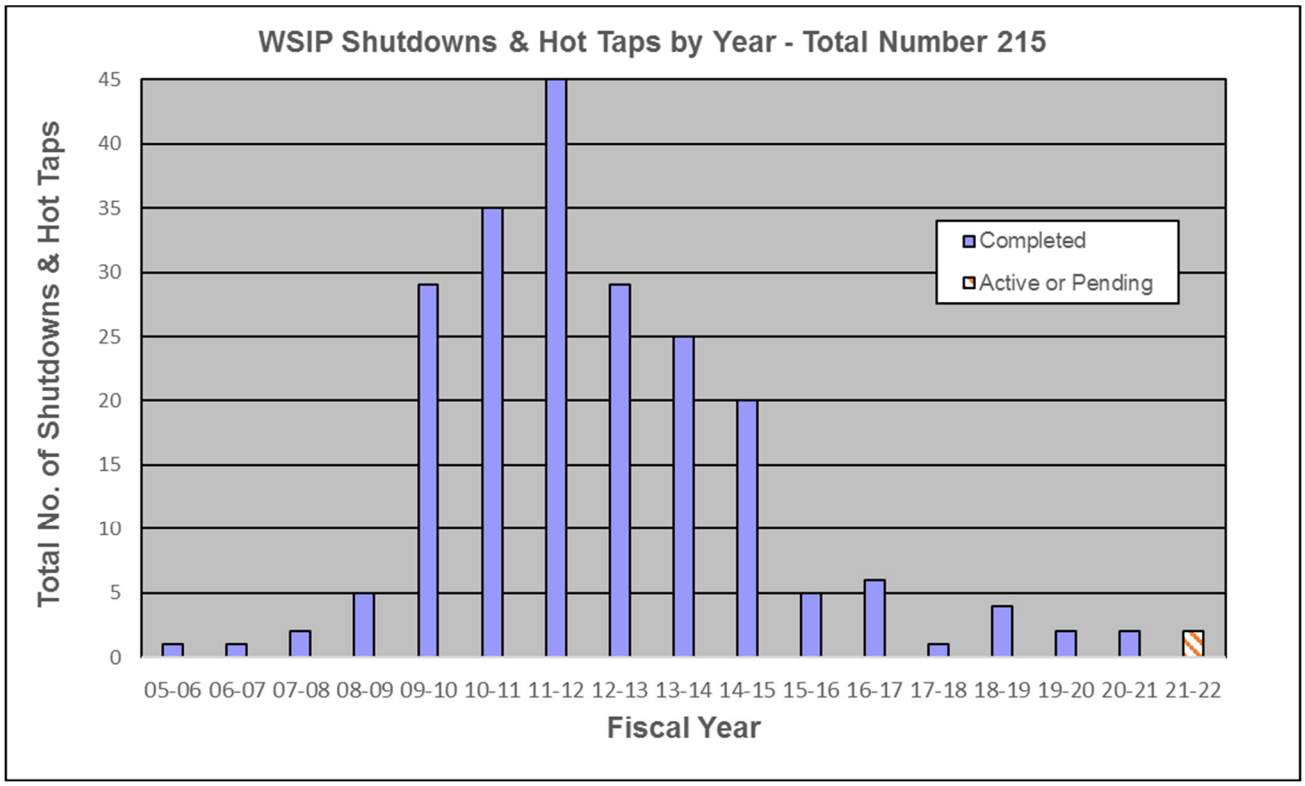
The WSIP team continued to actively manage the WSIP shutdowns during FY 2020-21. Table 2-1 summarizes the WSIP shutdowns that were active in FY 2020-21. Overall, to date, 213 (or 99%) of the 215 WSIP system shutdowns and hot taps have been completed as shown in Figure 2-1. Two shutdowns were completed during FY 2020-21, and five shutdowns are active or planned.

To mitigate operational risks, the SFPUC continues to carefully plan and stagger outages at the various water facilities. Whenever there is a forecasted change to a contract start date, a pre-purchased equipment delivery date, or a contractor's equipment delivery date, the impact on the schedule of a contract's shutdowns is analyzed. The SFPUC has found that in most cases, existing shutdowns can be maintained, or work-around strategies can be identified. In the rare cases where a shutdown window needs to be moved, a program-level analysis is undertaken to assess the potential impact on other system shutdowns. Potential changes to the overall WSIP Master System Shutdown Schedule are discussed at weekly Water Supply and Treatment Division (WSTD) and Hetch Hetchy Water and Power (HHWP) Operations Meetings, at bi-monthly WSIP Shutdown Coordination Meetings, at quarterly HHWP/WSTD coordination meetings, and at contract specific break-out meetings which include representatives from the WSIP team and WSTD Operations staff. Also, part of the shutdown coordination effort involves juggling WSIP shutdowns and WSIP warranty shutdowns simultaneously with operational shutdowns and non-WSIP shutdowns.

Table 2-1: Summary of Shutdowns & Hot Taps Started & Completed in FY19-20

	Shutdowns and Hot Taps	Date Started	Date Completed
1	RGSR	12/7/2020	12/7/2020
2	RGSR	12/7/2020	12/7/2020

Figure 2-1: Number of Shutdowns and Hop Taps by Fiscal Year



2.2 Environmental Program

CEQA

Approval of the Final EIR for the ACRP last year (FY 2019-20) marked the completion of CEQA environmental review for all of the WSIP Regional projects. The total number of California Environmental Quality Act (CEQA) documents approved for WSIP Regional projects is as follows: Seventeen (17) Environmental Impact Reports (EIRs) certified, seven (7) Initial Study/Mitigated Negative Declarations approved, and thirteen (13) Categorical Exemptions issued.

Resource Agency Permits

One hundred and one (101) resource agency permits have been obtained since the start of the program. One new permit was issued during FY 2020-21. With the issuance of this permit for the ACRP in the Sunol Region, permitting is now 100% complete for all WSIP projects.

Environmental Construction Compliance

During FY 2020-21, the WSIP environmental construction compliance staff, led by the Bureau of Environmental Management, participated in construction activities on one Sunol Region project (Alameda Creek Diversion Dam (ACDD), a sub-project to Calaveras Dam Replacement Project (CDRP)) and on one San Francisco Region project (RGSRP). Environmental construction compliance activities for these projects included contractor

training, biological resources surveys and monitoring, stormwater management, coordination with San Francisco Planning Department and other resource agencies, compliance enforcement activities, amendment of existing permits, and implementation of required local, State, and Federal reporting procedures.

Work on the ACDD, a sub-project to the CDRP, was 99% complete at the start of the reporting period, with only a few miscellaneous items to be completed this year through JOC contracting. Work on the RGSRP continued this year, primarily consisting of work interior to buildings. Environmental inspections on these projects in FY 2020-21 were thus performed on a limited basis and were not formally tallied as in past years. There were no significant environmental compliance events on these projects. The WSIP continues through this year not to have received any violation notices from the resource agencies that issued project permits (U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, National Marine Fisheries Service, Regional Water Quality Control Board, the State Historic Preservation Office, and the Bay Conservation and Development Commission). With the start of ACRP construction at the very end of the reporting period, environmental construction staff will be engaged during FY 2021-22 in ensuring implementation of the project's mandated mitigation measures and permit conditions, including routine environmental inspections.

Construction of the habitat compensation sites under the Bioregional Habitat Restoration Project in the Sunol and Peninsula Regions is complete. In addition, revegetation of WSIP sites in areas that were only temporarily affected by construction continues, as required by CEQA mitigation measures and resource agency permits. As of the end of FY 2020-21, WSIP revegetation work had been completed on a total of sixteen WSIP project sites, comprising approximately 193 acres of land; three of these project sites comprising 43 acres of land had their revegetation work completed during the reporting period. Revegetation work on an additional 11 project sites comprising over 317 acres of land continues. Revegetation monitoring will begin on the ACRP site upon the completion of construction. These activities were initially performed under the Vegetation Restoration of WSIP Post Construction Sites Project (CUW 38803) and are continuing under Water Enterprise operations.

2.3 Public Outreach Program

The Communications and Public Outreach Teams continued to build public awareness and support for the WSIP and its projects in FY 2020-21.

Virtual Tours, Summer 2020
During 2020-2021, the Public Outreach Team was unable to promote the importance of WSIP projects in person due to the COVID-19 pandemic. Instead, the team hosted a series of "Virtual System Tours" during the summer of 2020. The Water System tours highlighted the facilities constructed under the larger WSIP projects, including Bay Tunnel, Calaveras Dam, Regional Groundwater Wells, and New Irvington Tunnel. On average more than 250 people attended each event.

New Website: SFPUC.org, February 2021
The WSIP Communications Team created a new suite of WSIP project pages as part of the new SFPUC website: SFPUC.org; the website was launched in February 2021. These project updates include streamlined pages that highlight the WSIP projects and their benefits.

Community and Elected Official Briefings, January- April 2021
The WSIP Communications Team coordinated with the WSIP project team for ACRP to present project updates to the Sunol Citizens Advisory Council in March 2021 and to two Alameda County Supervisors in January and April 2021, respectively. Constituents were made aware of the impending start of construction of the ACRP in addition to its purpose and need.

Government Relations – Regional Groundwater Project, Spring 2021
The WSIP Communications Team continues to act as liaison between the RGSRP team and the neighborhoods and municipalities in which the groundwater wells are located regarding access and construction issues.

Industry Awards
During the reporting period, submittals for industry awards for the WSIP were not facilitated as has been done in past reporting quarters. The WSIP program has received 66 industry awards since 2010.

2.4 WSIP Revisions in FY 2020-21

There were no revisions to the WSIP project schedules, budgets and scopes during FY2020-21.

3.0 LEVEL OF SERVICE (LOS) GOALS

3.1 WSIP Goals and Objectives

Table 3-1 provides a summary of the WSIP goals and objectives in accordance with the April 2020 Approved Baseline.

Table 3-1: WSIP Goals and Objectives

Program Goal	System Performance Objective
WATER QUALITY *Maintain high water quality*	• *Design improvements to meet current and foreseeable future federal and state water quality requirements.* • *Provide clean, unfiltered water originating from Hetch Hetchy Reservoir and filtered water from local watersheds.* • *Continue to implement watershed protection measures.*
SEISMIC RELIABILITY *Reduce vulnerability to earthquakes*	• *Design improvements to meet current seismic standards.* • *Deliver basic service to the three regions in the service area (East/South Bay, Peninsula, and San Francisco) within twenty-four (24) hours after a major earthquake. Basic service is defined as average winter-month usage, and the performance objective for design of the regional system is 229 mgd. The performance objective is to provide delivery to at least 70 percent of the turnouts in each region, with 104, 44, and 81 mgd delivered to the East/South Bay, Peninsula, and City of San Francisco, respectively.* • *Restore facilities to meet average-day demand of up to 300 mgd within thirty (30) days after a major earthquake.*
DELIVERY RELIABILITY *Increase delivery reliability and improve ability to maintain the system*	• *Provide operational flexibility to allow planned maintenance shutdown of individual facilities without interrupting customer service.* • *Provide operational flexibility to minimize the risk of service interruption due to unplanned facility upsets or outages.* • *Provide operational flexibility and system capacity to replenish local reservoirs as needed.* • *Meet the estimated average annual demand of up to 300 mgd under the conditions of one planned shutdown of a major facility for maintenance concurrent with one unplanned facility outage due to a natural disaster, emergency or facility failure/upset.*

Program Goal	System Performance Objective
WATER SUPPLY *Meet customer water needs in non-drought and drought periods*	• *Meet average annual water demand of 265 mgd from the SFPUC watersheds for retail and wholesale customers during non–drought years for system demands through 2019.* • *Meet dry-year delivery needs through 2019 while limiting rationing to a maximum 20 percent system-wide reduction in water service during extended droughts.* • *Diversify water supply options during non-drought and drought periods.* • *Improve use of new water sources and drought management, including groundwater, recycled water, conservation and transfers.*
SUSTAINABILITY E*nhance sustainability in all system activities*	• *Manage natural resources and physical systems to protect watershed ecosystems.* • *Meet, at a minimum, all current and anticipated legal requirements for protection of fish and wildlife habitat.* • *Manage natural resources and physical systems to protect public health and safety.*
COST-EFFECTIVENESS *Achieve a cost-effective, fully operational system*	• *Ensure cost-effective use of funds.* • *Maintain gravity-driven system.* • *Implement regular inspection and maintenance program for all facilities.*

Note that the first four goals, Water Quality, Seismic Reliability, Delivery Reliability, and Water Supply, are the goals that are used to determine project design criteria. The last two goals, Sustainability and Cost-Effectiveness, are overarching program goals that are not applied to specific criteria at the project level. Thus, these last two goals are infrequently referred to in project and program documents.

3.2 Progress Towards Meeting LOS Goals

The scope of the WSIP is based on the first four LOS goals described above – Seismic Reliability, Delivery Reliability, Water Quality, and Water Supply. Each project that reaches construction substantial completion contributes to increasing the overall reliability of the system and achieving progress towards meeting the LOS goals. The SFPUC remains committed to achieving all the LOS goals established for the system.

Table 3-2 lists the projects with their individual contributions to LOS goals and indicates which projects have been substantially completed. This tabulation demonstrates the progress that has been achieved in the WSIP toward meeting these goals. As of the end of FY2020-21, forty-one (41) of the forty-three (43) Regional WSIP projects with specific LOS goals have achieved their LOS goals and objectives. The other nine Regional WSIP projects (Support projects and WSIP Closeout projects) do not have specific LOS goals.

Table 3-2: Progress Towards Meeting LOS Goals

Project No.	Project Name / Construction Contract	Actual / Approved Substantial Completion Date	LOS Goals (P =Primary, S =Secondary)				Actual Operational Service Start	Construction Progress Toward LOS Goals
			Water Quality	Seismic Reliability	Delivery Reliability	Water Supply		
San Joaquin Projects								
CUW36401	Lawrence Livermore Water Quality Improvement *(Completed)*	08/31/10	P				08/31/10	100%
CUW37301	San Joaquin Pipeline System *(Completed)* (A) HH935A Crossovers (B) HH935B Western Segment (C) HH935C Eastern Segment	(A) 01/06/12 (B) 05/27/13 (C) 06/21/13			P		(A) 01/06/12 (B) 05/27/13 (C) 06/21/13	100%
CUW37302	Rehabilitation of Existing San Joaquin Pipelines (Roselle Crossover; *Completed*)	05/13/11			P		05/13/11	100%
CUW38401	Tesla Treatment Facility *(Completed)* (A) DB116 Tesla Treatment Facility Design-Build Contract (B) HH953 Tesla Portal Protection	(A) 06/24/11 (B) 08/05/13	P	S	S		(A)06/24/11 (B)08/05/13	100%
Sunol Valley Projects								
CUW35201	Alameda Creek Recapture	10/20/22				P		0%
CUW35501	Standby Power Facilities - Various Locations *(Completed)* (A) WD-2553 East Bay - Standby Power Facilities (B) WD-2511 Peninsula - Standby Power Facilities	(A) 09/11/08 (B) 04/15/10		P	S		(A)09/11/08 (B)04/15/10	100%
CUW35901	New Irvington Tunnel *(Completed)*	09/19/15		S	P		02/27/15	100%
CUW35902	Alameda Siphon #4 *(Completed)*	12/16/11		P	S		12/16/11	100%
CUW37001	Pipeline Repair & Readiness Improvements *(Completed)* (A) WD-2530 Phase A 8 Pipe Storage Sites (B) WD-2530 Phase B Pipe Rolling Machine Facility @ Sunol Yard	(A) 02/09/07 (B) 07/14/08		P	S		(A)02/09/07 (B)07/14/08	100%
CUW37401	Calaveras Dam Replacement (A) WD-2551 Calaveras Dam Replacement (B) WD-2729 Alameda Creek Diversion Dam	(A) 04/12/19 (B) 02/15/19		S	P	S	(A) 04/12/19 (B) 02/15/19	(A) 100% (B) 99%
CUW37402	Calaveras Reservoir Upgrades *(Completed)*	10/06/05	P				10/06/05	100%
CUW37403	San Antonio Backup Pipeline *(Completed)*	12/31/14			P		12/31/14	100%
CUW38101	SVWTP Expansion & Treated Water Reservoir *(Completed)*	05/17/13	P		P		05/17/13	100%
CUW38601	San Antonio Pump Station Upgrade *(Completed)*	06/30/11			P		06/30/11	100%

Project No.	Project Name / Construction Contract	Actual / Approved Substantial Completion Date	LOS Goals (P =Primary, S =Secondary)				Actual Operational Service Start	Construction Progress Toward LOS Goals
			Water Quality	Seismic Reliability	Delivery Reliability	Water Supply		
Bay Division Projects								
CUW35301	BDPL Nos. 3&4 Crossover/ Isolation Valves (*Completed)*	11/15/07		P			11/15/07	100%
CUW35302	Seismic Upgrade of BDPL Nos. 3 & 4 (*Completed)*	10/26/15		P			06/20/14	100%
CUW36301	SCADA System - Phase II *(Completed)*	11/29/10			P		11/29/10	100%
CUW36801	BDPL Reliability Upgrade - Tunnel *(Completed)*	05/20/15		P	S		10/15/14	100%
CUW36802	BDPL Reliability Upgrade – Pipeline *(Completed)* (A) WD-2541 East Bay (B) WD-2542 Peninsula (C) WD-2665 Cordilleras	(A) 12/09/11 (B) 06/13/12 (C) 03/05/13		P	S		(A) 12/09/11 (B) 06/13/12 (C) 03/05/13	100%
CUW36803	BDPL Reliability Upgrade - Relocation of BDPL Nos. 1 & 2 *(Completed)*	05/28/10			P		05/28/10	100%
CUW38001	BDPL Nos. 3 & 4 - Crossovers *(Completed)*	08/15/12		P	S		08/15/12	100%
CUW38901	SFPUC/EBMUD Intertie *(Completed)*	09/07/07			P		09/07/07	100%
CUW39301	BDPL No. 4 Condition Assessment PCCP Sections *(Completed)*	02/06/09		P	S		02/06/09	100%
Peninsula Projects								
CUW35401	Lower Crystal Springs Dam Improvements *(Completed)*	11/20/11			P	S	11/20/11	100%
CUW35601	New Crystal Springs Bypass Tunnel (*Completed)*	07/14/11		P	S		07/14/11	100%
CUW35701	Adit Leak Repair - Crystal Springs/Calaveras *(Completed)*	11/30/07			P		11/30/07	100%
CUW36101	Pulgas Balancing – Inlet / Outlet Work *(Completed)*	02/02/06	P		S		02/02/06	100%
CUW36102	Pulgas Balancing - Discharge Channel Modifications *(Completed)*	10/23/09			P		10/23/09	100%
CUW36103	Pulgas Balancing - Structural Rehabilitation & Roof Replacement *(Completed)*	07/26/11	P		S		07/26/11	100%
CUW36105	Pulgas Balancing - Modifications of Existing Dechloramination Facility *(Completed)*	08/27/12	P		S		08/27/12	100%
CUW36501	Cross Connection Controls *(Completed)*	11/26/08	P				11/26/08	100%
CUW36601	HTWTP Short-Term Improvements - Demo Filters *(Completed)*	01/11/06		P	S		01/11/06	100%

Project No.	Project Name / Construction Contract	Actual / Approved Substantial Completion Date	LOS Goals (P =Primary, S =Secondary)				Actual Operational Service Start	Construction Progress Toward LOS Goals
			Water Quality	Seismic Reliability	Delivery Reliability	Water Supply		
CUW36603	HTWTP Short-Term Improvements - Coagulation & Flocculation/Remaining Filters *(Completed)*	12/21/09		P	S		12/21/09	100%
CUW36701	HTWTP Long -Term Improvements *(Completed)*	09/08/15		P	S		09/08/15	100%
CUW36702	Peninsula Pipelines Seismic Upgrade *(Completed)*	10/30/15		P			10/30/15	100%
CUW36901	Capuchino Valve Lot Improvements *(Completed)*	02/14/08			P		02/14/08	100%
CUW37101	Crystal Springs/San Andreas Transmission Upgrade *(Completed)*	06/30/14		P	S		09/02/14	100%
CUW37801	Crystal Springs Pipeline No. 2 Replacement *(Completed)*	01/31/13		P	S		01/31/13	100%
CUW37901	San Andreas Pipeline No. 3 Installation *(Completed)*	03/29/11		P	S		03/29/11	100%
CUW39101	Baden & San Pedro Valve Lots Improvements *(Completed)*	03/31/11		P	S		03/31/11	100%
San Francisco Regional Projects								
CUW30103	Regional Groundwater Storage and Recovery (A) WD-2600 Test Well Drilling (B) WD-2668 Regional Groundwater Storage and Recovery (C) Regional Groundwater Storage and Recovery (Phase 2A)[(2)] (D) Regional Groundwater Storage and Recovery (Phase 2B)[(2)]	(A) 07/23/12 (B) 12/31/17 (C) 02/28/21 (D) 02/28/21				P	(A) 07/23/12	(A) 100% (B) 98% (C) 0% (D) 0%
CUW35801	Sunset Reservoir - North Basin *(Completed)*	09/19/08		P	S		09/19/08	100%
CUW37201	University Mound Reservoir - North Basin *(Completed)*	05/25/11		P	S		05/25/11	100%

1 Support projects and WSIP Closeout projects are not listed in the table above since these projects do not have specific Level of Service (LOS) goals.
2 Current Forecasted Substantial Completion date is on 12/31/22.

The two remaining projects that contribute to LOS goals, RGSRP and ACRP, both were in construction phase at the end of the reporting period. Both projects have encountered significant challenges that have delayed the projects' completion. For the RGSRP, changes during construction to chemical feed and flow monitoring systems were required at most of the well sites. In addition, as the wells began start-up testing, groundwater quality issues including raw water ammonia and high levels of corrosivity were discovered at some of the wells. While most of the identified chemical feed system changes will be completed under this project, solutions to the emerging water quality issues that require additional planning to

determine best treatment options will be resolved under a future project. More information is included in Section 6.5. Because the wells were only operated for start-up testing in FY2020-21, there is no information currently available on the groundwater sustainable yield and contribution to LOS goals.

The ACRP Final EIR was certified by the San Francisco Planning Commission and approved by the SFPUC in April 2020. The Final EIR included some project operational changes to gain stakeholder support for project approval. These changes include restricting schedule for facility operations to outside of the steelhead migration period and maintaining higher pond elevations. The project yield is anticipated to be around 6,000 acre-feet per year, but this yield will not be confirmed until all permits have been received and the project is operational. Construction completion is anticipated in 2023, and operations will begin thereafter.

The Lower Crystal Springs Dam project contributes to Water Supply LOS goal as a secondary goal. While the project has been completed, the Lower Crystal Springs Reservoir cannot fully achieve the secondary water supply goal until the reservoir is allowed to be refilled completely, following re-establishment of sensitive flora around the rim of the reservoir, to restore the full level of reservoir storage. Efforts to re-establish this flora are ongoing.

4.0 PROJECT SCHEDULES

As of June 30, 2021, the overall WSIP is forecast to be complete in May 2023, which is consistent with the current baseline schedule approved as part of the April 2020 Approved Baseline. The April 2020 Approved Baseline extended the overall approved completion date from December 30, 2021 to May 5, 2023. Any future proposed schedule changes would need to be approved by the San Francisco Public Utilities Commission, in accordance with the requirements of AB1823.

All but two projects with Level of Service (LOS) goals involving construction activities (ACRP and RGSRP) have achieved their LOS goals and objectives. Three other support projects, the Bioregional Habitat Restoration (BHR) Program, the Watershed Environmental Improvement Program, and the Long-Term Mitigation Endowment), as well as the four WSIP Closeout projects will also extend to near the end of the program; however, these projects do not directly contribute to the system's LOS.

4.1 Tracking and Controlling Project Schedules

The WSIP Management Team continues to pro-actively monitor and control program and project schedules. Detailed business processes, well defined procedures, and best practices are in place to support early identification of schedule issues and timely development of recovery plans to mitigate any forecast delays as required.

The WSIP uses best practices common in the industry to forecast dates that accord with the best available information available at the given moment the forecast dates are reported in the WSIP Quarterly Reports. It is important to note that forecast dates can move each month based on the latest, best available data from the individual project teams (including information from the construction contractor in the field). When warranted, the WSIP Director will direct a project team to accelerate selected construction activities to mitigate forecasted delays.

4.2 Keeping the Public and Stakeholders Informed

To make sure the general public and project stakeholders are kept informed of project status and potential changes, the WSIP Management Team publishes extensive quarterly reports that include cost and schedule forecasts for all projects. These reports are distributed to the WSIP's oversight bodies (i.e., SFPUC Commission, Revenue Bond Oversight Committee (RBOC), and BAWSCA) and are posted on the SFPUC's website (previously sfwater.org/wsip, upgraded to sfpuc.org in 2021). The WSIP Director presents these quarterly reports to the Commission and is available to respond to questions related to the reports at a quarterly Commission meeting that is open to the public. Likewise, throughout the year, the WSIP Director presents informative updates on the Program's status to various interested governmental and other entities (e.g., County Board of Supervisors, wholesale water agencies) and at public forums throughout the system's service area.

Additionally, the WSIP team conducts regular informational tours of project sites with elected officials, wholesale agency representatives, and other key stakeholders. These outreach efforts are promoted on a regular basis through social media platforms and email communications with stakeholders. Finally, the WSIP Communications and Public Outreach

Team issues news releases and organizes special media events to highlight major program milestones (e.g., start of or completion of construction activities and completion of key projects).

4.3 Project Schedule Forecast and Variances

The status of schedule forecasts and variances for WSIP Regional Projects are shown in Table 4-1 as of the end of FY 2020-21. The table provides the original 2005 baseline and the current approved completion dates for each project. Additionally, the current forecast completion date for each project is provided. As can be seen in the table, four (4) active Regional WSIP Projects are currently forecasted to be completed behind schedule in accordance with the current approved completion dates. The forecasted completion date for CDRP has been extended by 6 months due to the additional time needed by the contractor of the ACDD sub-project to repair the rake/rack system, install operator fall protection improvements, and prepare Time Impact Analysis backup documents for evaluation of the final contract change orders. The forecasted completion date for WSIP Closeout – Sunol Valley has been extended by 12 months due to a decision to move remaining scope for the ACDD communication systems from the CDRP to the WSIP Closeout – Sunol Valley project in order to expedite the close out of the CDRP. The forecasted completion date for the WSIP's RGSRP has been extended by 16 months and is due to modifications to chemical systems, retrofit of transmission line flowmeters, changes to programming, pump performance issues resulting from corrosion, anticipated longer time needed to obtain easements and right of way permits, and other factors. The forecasted completion date for Watershed and Environmental Improvement Program has been extended by 15 months and is due to additional time requiring for negotiations, appraisals, and/or permitting. Due to the recent changes in forecasted project completion dates, the SFPUC plans to prepare an official Notice of Change to the WSIP in compliance with the requirements of the Wholesale Regional Water System Security and Reliability Act during the next reporting period. The approved project-level and phase-level schedules are included in Appendix A. Additional detail regarding the forecasts presented below may be found in the WSIP Quarterly Report for the 4th Quarter of FY 2020-21 (Appendix B).

Table 4-1: Project Schedule Forecast and Variances

Project No.	Project Name	2005 Approved Completion	Current Approved Completion [1]	June 2021 Forecasted Completion	Schedule Variance (Calendar Days)
San Joaquin Region					
CUW36401	Lawrence Livermore Water Quality Improvement *(Completed)*	11/7/2011	7/31/2013	7/31/2013	-
CUW37301	San Joaquin Pipeline System *(Completed)*	3/25/2014	3/31/2016	3/31/2016	-
CUW37302	Rehabilitation of Existing San Joaquin Pipelines *(Completed)*	6/30/2014	10/31/2014	10/31/2014	-
CUW38401	Tesla Treatment Facility *(Completed)*	7/1/2011	1/30/2015	1/30/2015	-
CUW38701	Tesla Portal Disinfection Station *(Combined with CUW38401)*	9/2/2011	6/29/2007	6/29/2007	-
CUWSJI0101	WSIP Closeout - San Joaquin *(Completed*	-	03/31/2021	03/31/2021	-
Sunol Valley Region					
CUW35201	Alameda Creek Recapture Project	5/25/2012	05/05/2023	05/05/2023	-
CUW35501	Standby Power Facilities - Various Locations *(Completed)*	12/6/2010	12/22/2010	12/22/2010	-
CUW35901	New Irvington Tunnel (Completed)	9/17/2013	3/31/2018	3/31/2018	-
CUW35902	Alameda Siphon #4 *(Completed)*	4/14/2011	6/28/2013	6/28/2013	-
CUW37001	Pipeline Repair & Readiness Improvements *(Completed)*	3/30/2007	4/16/2009	4/16/2009	-
CUW37401	Calaveras Dam Replacement	5/25/2012	03/31/2021	9/30/2021	(183)
CUW37402	Calaveras Reservoir Upgrades *(Completed)*	6/16/2006	7/28/2006	7/28/2006	-
CUW37403	San Antonio Backup Pipeline *(Completed)*	6/29/2012	6/30/2016	6/30/2016	-
CUW38101	SVWTP Expansion & Treated Water Reservoir *(Completed)*	7/9/2013	10/31/2014	10/31/2014	-
CUW38102	SVWTP Calaveras Road *(Eliminated)*	-	12/14/2007	12/14/2007	-
CUW38201	SVWTP Treated Water Reservoir *(Combined with CUW38101)*	12/21/2010	3/2/2007	3/2/2007	-

Project No.	Project Name	2005 Approved Completion	Current Approved Completion [1]	June 2021 Forecasted Completion	Schedule Variance (Calendar Days)
CUW38601	San Antonio Pump Station Upgrade *(Completed)*	12/12/2011	6/29/2012	6/29/2012	-
CUWSVI0101	WSIP Closeout - Sunol Valley	-	6/30/2021	6/30/2022	(365)
Bay Division Region					
CUW35301	BDPL Nos. 3 & 4 Crossover/ Isolation Valves *(Completed)*	9/30/2008	7/31/2009	7/31/2009	-
CUW35302	Seismic Upgrade of BDPL Nos. 3 & 4 *(Completed)*	10/15/2012	7/30/2018	7/30/2018	-
CUW36301	SCADA System - Phase II *(Completed)*	2/24/2012	5/28/2013	5/28/2013	-
CUW36801	BDPL Reliability Upgrade / Tunnel *(Completed)*	1/31/2014	8/30/2016	8/30/2016	-
CUW36802	BDPL Reliability Upgrade - Pipeline *(Completed)*	1/31/2014	3/31/2016	3/31/2016	-
CUW36803	BDPL Reliability Upgrade - Relocation of BDPL Nos. 1 & 2 *(Completed)*	1/31/2014	5/28/2010	5/28/2010	-
CUW38001	BDPL Nos. 3 & 4 Crossovers *(Completed)*	4/24/2013	6/30/2014	6/30/2014	-
CUW38901	SFPUC/EBMUD Intertie *(Completed)*	2/7/2007	3/20/2014	3/20/2014	-
CUW39301	BDPL No. 4 Condition Assessment PCCP Sections *(Completed)*	5/1/2008	2/6/2009	2/6/2009	-
CUWBDP0101	WSIP Closeout - Bay Division *(Completed)*	-	12/31/2020	03/31/2021	(90)
Peninsula Region					
CUW35401	Lower Crystal Springs Dam Improvements *(Completed)*	8/16/2011	12/28/2012	12/28/2012	-
CUW35601	New Crystal Springs Bypass Tunnel *(Completed)*	10/28/2010	8/17/2012	8/17/2012	-
CUW35701	Adit Leak Repair - Crystal Springs/Calaveras *(Completed)*	7/3/2008	7/31/2008	7/31/2008	-
CUW36101	Pulgas Balancing - Inlet/Outlet Work *(Completed)*	5/11/2006	5/11/2006	5/11/2006	-
CUW36102	Pulgas Balancing - Discharge Channel Modifications *(Completed)*	8/5/2013	7/30/2010	7/30/2010	-

Project No.	Project Name	2005 Approved Completion	Current Approved Completion [1]	June 2021 Forecasted Completion	Schedule Variance (Calendar Days)
CUW36103	Pulgas Balancing - Structural Rehabilitation and Roof Replacement *(Completed)*	1/27/2013	12/28/2012	12/28/2012	-
CUW36104	Pulgas Balancing - Laguna Creek Sedimentation *(Eliminated)*	-	12/31/2007	12/31/2007	-
CUW36105	Pulgas Balancing - Modifications of the Existing Dechloramination Facility *(Completed)*	8/8/2013	3/20/2013	3/20/2013	-
CUW36501	Cross Connection Controls *(Completed)*	5/15/2009	4/30/2009	4/30/2009	-
CUW36601	HTWTP Short-Term Improvements (Demo Filters) *(Completed)*	6/1/2006	11/14/2006	11/14/2006	-
CUW36602	HTWTP Short-Term Improvements - Remaining Filters *(Combined with CUW36603)*	9/8/2010	2/22/2008	2/22/2008	-
CUW36603	HTWTP Short-Term Improvements - Coagulation & Flocculation/ Remaining Filters *(Completed)*	9/8/2010	7/28/2010	7/28/2010	-
CUW36701	HTWTP Long-Term Improvements *(Completed)*	4/8/2014	12/30/2016	12/30/2016	-
CUW36702	Peninsula Pipelines Seismic Upgrade *(Completed)*	-	7/6/2016	7/6/2016	-
CUW36901	Capuchino Valve Lot Improvements *(Completed)*	7/1/2009	8/19/2008	8/19/2008	-
CUW37101	Crystal Springs/San Andreas Transmission Upgrade *(Completed)*	4/1/2014	6/30/2015	6/30/2015	-
CUW37801	Crystal Springs Pipeline No. 2 Replacement *(Completed)*	4/27/2012	12/31/2014	12/31/2014	-
CUW37901	San Andreas Pipeline No. 3 Installation *(Completed)*	6/16/2011	8/30/2012	8/30/2012	-
CUW39101	Baden and San Pedro Valve Lots Improvements *(Completed)*	10/12/2011	3/29/2013	3/29/2013	-
CUWPWI0101	WSIP Closeout - Peninsula	-	08/05/2021	08/5/2021	-
San Francisco Regional Region					
CUW30103	Regional Groundwater Storage and Recovery	2/27/2014	12/30/2021	05/05/2023	(491)
CUW35801	Sunset Reservoir - North Basin *(Completed)*	5/6/2009	9/10/2010	9/10/2010	-

Project No.	Project Name	2005 Approved Completion	Current Approved Completion [1]	June 2021 Forecasted Completion	Schedule Variance (Calendar Days)
CUW37201	University Mound Reservoir - North Basin *(Completed)*	3/10/2011	3/29/2013	3/29/2013	-
Support Projects					
CUW36302	System Security Upgrades *(Completed)*	2/24/2012	9/28/2018	4/9/2019	(193)
CUW38801	Programmatic EIR *(Completed)*	1/18/2008	6/30/2009	6/30/2009	-
CUW38802	Bioregional Habitat Restoration	-	9/30/2021	9/30/2021	-
CUW38803	Vegetation Restoration of WSIP Construction Sites *(Completed)*	-	6/30/2016	6/30/2016	-
CUW38804	Long Term Mitigation Endowment	-	9/30/2021	9/30/2021	-
CUW39201	Program Management Project	6/29/2014	12/30/2021	12/30/2021	-
CUW39401	Watershed Environmental Improvement Program	6/28/2013	1/8/2021	3/30/2022	(446)

[1] Incorporates the April 2020 Approved Baseline schedule.

5.0 PROJECT BUDGETS

As of June 30, 2021, the forecasted overall WSIP total program cost (regional and local projects) is $4,787.8M, which is the same as the Commission Approved Budget (April 2020 Approved Baseline). As of the end of FY 2020-21, the current forecasted remaining construction contingency is $5.5M, not including contingency budget reserved to cover the June 2021 forecasted construction change orders (approved, potential, and pending change orders) and anticipated trends on currently active construction contracts. In addition to the remaining contingency for active projects, there is currently $16.1M in the WSIP Director's Reserve to cover future potential project/program risks.

5.1 Tracking and Controlling Project Budgets

The WSIP Management Team pro-actively monitors and controls program and project budgets. The following business processes, procedures, and best practices are in place to allow for the identification of budget issues early and to ensure measures are taken to control potential cost increases whenever required.

Monthly Statusing and Monthly Progress Meetings

According to WSIP Procedures, PM5.05 (Monthly Statusing) and PM5.07 (Monthly Progress Meetings), WSIP project teams must prepare monthly budget updates/forecasts for all project phases, and review and analyze them carefully to identify cost issues and projected cost overruns at project completion. These updates allow for the measurement of performance against baseline. In standing review meetings, all current and projected cost overruns are discussed and evaluated, and project teams are expected to address the issues and come up with a plan to mitigate project variances.

Change Management

WSIP Procedure PM5.02 (Change Management) is used by the WSIP Management Team to control any scope changes that may cause cost overruns. According to this procedure, no project-level scope, budget, and/or schedule changes can be implemented without review and approval of the Change Control Board and the WSIP Director.

Management of Construction Costs

Construction cost changes are governed by the Contract General Conditions, Section 00700, Article 6 – Clarifications and Changes in the Work, together with the Supplementary Conditions, Section 00800, as applicable. The Contract requirements, together with the supporting CM Business Processes, CM Plan and CM Procedures, are enforced to ensure diligent and pro-active management of WSIP construction costs. Unlike the progress schedules, which are updated monthly, WSIP cost information is tracked and updated on a near-real-time basis in the Construction Management Information System (CMIS). Construction progress invoices are processed monthly and all actual costs are summed at the program, regional, and project levels.

The WSIP team controls and manages WSIP construction costs in a number of interlocking ways as follows:

- Quality checks on design in the Pre-construction Phase to minimize design errors and the potential for change orders and consequent cost increases during construction.
- Avoiding unnecessary changes during construction by eliminating discretionary changes not required for project functionality and requiring Change Control Board approval of all owner-requested changes over $50,000.
- Earliest possible identification and definition of possible impacts through a layered early identification process from Risks (potential events), Trends (likely impacts not yet formalized as change orders), and Potential Changes (actual, non-negotiated changes) all recorded and updated in the CMIS. This system provides early warning of potential or impending cost impacts with the possibility to mitigate, as well as forecast, likely construction completion costs.
- Periodic independent verification and validation of all active Risks, Trends, and Potential Change Orders by the Program CM to assure that forecasting is current and realistic.
- Mandatory preparation of Independent Cost Estimates by the project CM teams for all change orders over $75,000 assures that change order costs are rapidly assessed and accurately forecasted.
- Expedited decision making within the SFPUC to support rapid settlement of issues, thereby avoiding unnecessary delays and associated costs.
- An urgent and aggressive approach to change order negotiation, backed by Independent Cost Estimates for larger changes, resulting in equitable agreements executed rapidly to avoid compounding and/or protracting cost issues.
- A strong preference for early bi-lateral settlement of changes to keep the performance risk on Contractors.
- Issuance of unilateral changes when necessary to avoid interruptions to work in progress. Unilateral changes are controlled with detailed CM oversight, and by record keeping of Force Account work through daily reports to control associated costs until agreement on scope and quantum is reached.
- Use of Decision Ladders, Partnering, and Dispute Resolution Boards (DRBs) to avoid, mitigate, and settle construction issues and disputes before intractable and costly disputes arise.

Control of Remaining Delivery Costs

The WSIP Management Team, with the support of SFPUC upper management, has been taking the following actions in recent years to reduce and better control the remaining delivery costs of the WSIP:

- Implementing significant reductions in both City and consultant resources at the program and project levels in accordance with the WSIP Staff Transition Plan.

- Transitioning work from consultants to City staff to the extent feasible.
- Transitioning WSIP staff to other City and SFPUC Capital Programs as more WSIP projects get completed.
- Requesting final invoices/statements from consultants and other City departments immediately following completion of work to avoid further charges.
- Terminating cost codes for completed activities to avoid further project charges.
- Accelerating project closeout to minimize cost after construction completion.
- Establishing a Director's Reserve within each project that cannot be spent by project teams without explicit written approval of the WSIP Director upon formal request by the project team.
- Controlling soft costs and scope on the four Close-Out Projects by closely monitoring scope, schedule, and budget to keep projects on track.

5.2 Project Budget Forecast and Variances

The status of cost forecasts for WSIP Regional Projects are shown in Table 5-1 as of the end of FY 2020-21. The Table provides the original 2005 baseline budget and the current approved budget for each project. Additionally, the current forecast cost for each project is provided. As can be seen in the table, all WSIP Regional Projects excluding RGSRP and ACRP are currently forecasted to be completed on or under budget. The RGSRP is currently forecasted at $9.6 million over the approved budget. This variance is primarily due to modifications to chemical systems, retrofit of transmission line flowmeters, changes to programming, and pump performance issues resulting from corrosion and other factors. The ACRP is forecasting costs that are $8.0 million over the approved budget; this increase is mostly due to the additional time and analysis to recirculate the Draft EIR and respond to comments, the updates to the design documents to meet the Final EIR, and the increases in construction duration and escalation costs. Funding would be available to cover the two projects' budget shortfalls from the remaining Director's Reserve, currently at $16.1 million for the entire WSIP. Additional detail regarding the forecasts presented below may be found in the WSIP Quarterly Report for the 4th Quarter of FY 2020-21 (Appendix B).

Table 5-1: Project Budget Forecast and Variances

Project No.	Project Name	2005 Approved Cost	Current Approved Cost [1]	June 2021 Forecasted Cost	Cost Variance
San Joaquin Region					
CUW36401	Lawrence Livermore Water Quality Improvement *(Completed)*	$4,235,258	$4,198,247	$4,198,247	-
CUW37301	San Joaquin Pipeline System *(Completed)*	$352,732,000	$203,178,015	$203,178,015	-
CUW37302	Rehabilitation of Existing San Joaquin Pipelines *(Completed)*	$80,000,000	$21,153,622	$21,153,622	-
CUW38401	Tesla Treatment Facility *(Completed)*	$101,643,001	$113,211,607	$113,211,607	-
CUW38701	Tesla Portal Disinfection Station *(Combined with CUW38401)*	$20,731,270	$2,081,278	$2,081,278	-
CUWSJI0101	WSIP Closeout - San Joaquin *(Completed)*	-	$4,376,164	$3,376,376	$999,788
Sunol Valley Region					
CUW35201	Alameda Creek Recapture Project	$18,809,304	$34,000,006	$41,967,395	($7,967,389)
CUW35501	Standby Power Facilities - Various Locations *(Completed)*	$9,949,735	$12,950,566	$12,950,566	-
CUW35901	New Irvington Tunnel *(Completed)*	$214,650,004	$340,406,358	$340,406,358	-
CUW35902	Alameda Siphon #4 *(Completed)*	$78,577,000	$64,950,507	$64,950,507	-
CUW37001	Pipeline Repair & Readiness Improvements *(Completed)*	$5,591,770	$5,195,381	$5,195,381	-
CUW37401	Calaveras Dam Replacement	$256,511,407	$823,091,765	$808,292,693	$14,799,071
CUW37402	Calaveras Reservoir Upgrades *(Completed)*	$1,740,055	$1,690,552	$1,690,552	-

Project No.	Project Name	2005 Approved Cost	Current Approved Cost [1]	June 2021 Forecasted Cost	Cost Variance
CUW37403	San Antonio Backup Pipeline *(Completed)*	$7,677,000	$53,594,683	$53,594,683	-
CUW38101	SVWTP Expansion & Treated Water Reservoir *(Completed)*	$133,108,002	$129,593,674	$129,593,674	-
CUW38102	SVWTP Calaveras Road *(Eliminated)*	-	$34,654	$34,654	-
CUW38201	SVWTP Treated Water Reservoir *(Combined with CUW38101)*	$102,436,436	$5,056,596	$5,056,596	-
CUW38601	San Antonio Pump Station Upgrade *(Completed)*	$41,854,000	$12,894,592	$12,894,592	-
CUWSVI0101	WSIP Closeout - Sunol Valley	-	$5,989,845	$5,989,845	-
Bay Division Region					
CUW35301	BDPL Nos. 3 & 4 Crossover/Isolation Valves *(Completed)*	$27,600,158	$27,039,149	$27,039,149	-
CUW35302	Seismic Upgrade of BDPL Nos. 3 & 4 *(Completed)*	$66,792,849	$73,623,296	$72,194,219	$1,429,077
CUW36301	SCADA System - Phase II *(Completed)*	$36,098,999	$9,470,922	$9,470,922	-
CUW36801	BDPL Reliability Upgrade / Tunnel (*Completed)*	$572,022,634	$272,364,089	$272,364,089	-
CUW36802	BDPL Reliability Upgrade - Pipeline *(Completed)*	-	$216,871,156	$216,722,172	$148,984
CUW36803	BDPL Reliability Upgrade - Relocation of BDPL Nos. 1 & 2 *(Completed)*	-	$3,046,981	$3,046,981	-
CUW38001	BDPL Nos. 3 & 4 Crossovers *(Completed)*	$36,616,911	$29,910,449	$29,910,449	-
CUW38901	SFPUC/EBMUD Intertie *(Completed)*	$8,598,851	$9,167,306	$9,167,306	-

Project No.	Project Name	2005 Approved Cost	Current Approved Cost [1]	June 2021 Forecasted Cost	Cost Variance
CUW39301	BDPL No. 4 Condition Assessment PCCP Sections *(Completed)*	$2,000,000	$1,937,599	$1,937,599	-
CUWBDP0101	WSIP Closeout - Bay Division *(Completed)*	-	$4,398,775	$3,597,500	$801,275
Peninsula Region					
CUW35401	Lower Crystal Springs Dam Improvements *(Completed)*	$27,752,222	$34,859,040	$34,859,040	-
CUW35601	New Crystal Springs Bypass Tunnel *(Completed)*	$83,222,790	$81,466,732	$81,466,732	-
CUW35701	Adit Leak Repair - Crystal Springs/Calaveras *(Completed)*	$3,748,452	$2,787,322	$2,787,322	-
CUW36101	Pulgas Balancing - Inlet/Outlet Work *(Completed)*	$1,667,532	$1,765,938	$1,765,938	-
CUW36102	Pulgas Balancing - Discharge Channel Modifications *(Completed)*	$8,111,422	$2,910,007	$2,910,007	-
CUW36103	Pulgas Balancing - Structural Rehabilitation and Roof Replacement *(Completed)*	$36,712,846	$20,238,716	$20,238,716	-
CUW36104	Pulgas Balancing - Laguna Creek Sedimentation *(Eliminated)*	-	$503,928	$503,928	-
CUW36105	Pulgas Balancing - Modifications of the Existing Dechloramination Facility *(Completed)*	-	$5,390,031	$5,390,031	-
CUW36501	Cross Connection Controls *(Completed)*	$6,111,779	$3,948,944	$3,948,944	-
CUW36601	HTWTP Short-Term Improvements (Demo Filters)	$4,381,375	$3,067,903	$3,067,903	-

Project No.	Project Name	2005 Approved Cost	Current Approved Cost [1]	June 2021 Forecasted Cost	Cost Variance
	(Completed)				
CUW36602	HTWTP Short-Term Improvements - Remaining Filters *(Combined with CUW36603)*	$16,079,372	$1,424,510	$1,424,510	-
CUW36603	HTWTP Short-Term Improvements - Coagulation & Flocculation/ Remaining Filters *(Completed)*	$9,741,617	$18,604,937	$18,604,937	-
CUW36701	HTWTP Long-Term Improvements *(Completed)*	$167,570,000	$274,081,969	$274,081,969	-
CUW36702	Peninsula Pipelines Seismic Upgrade (Completed)	-	$38,825,346	$38,825,346	-
CUW36901	Capuchino Valve Lot Improvements (Completed)	$3,573,782	$2,803,153	$2,803,153	-
CUW37101	Crystal Springs/San Andreas Transmission Upgrade *(Completed)*	$148,582,655	$190,309,453	$190,309,453	-
CUW37801	Crystal Springs Pipeline No. 2 Replacement *(Completed)*	$93,926,000	$56,070,509	$56,070,509	-
CUW37901	San Andreas Pipeline No. 3 Installation *(Completed)*	$42,029,941	$27,495,558	$27,495,558	-
CUW39101	Baden and San Pedro Valve Lots Improvements *(Completed)*	$47,319,999	$24,990,803	$24,990,803	-
CUWPWI0101	WSIP Closeout – Peninsula	-	$13,579,680	$13,579,680	-
San Francisco Regional Region					

Project No.	Project Name	2005 Approved Cost	Current Approved Cost [1]	June 2021 Forecasted Cost	Cost Variance
CUW30103	Regional Groundwater Storage and Recovery	$39,233,443	$138,793,314	$148,350,433	($9,557,119)
CUW35801	Sunset Reservoir - North Basin *(Completed)*	$61,975,999	$64,270,725	$64,270,725	-
CUW37201	University Mound Reservoir - North Basin *(Completed)*	$102,882,610	$43,266,552	$43,266,552	-
Support Projects					
CUW36302	System Security Upgrades *(Completed)*	-	$15,201,310	$14,700,669	$500,641
CUW38801	Programmatic EIR *(Completed)*	$9,271,001	$10,730,684	$10,730,684	-
CUW38802	Bioregional Habitat Restoration	-	$94,063,483	$94,063,483	-
CUW38803	Vegetation Restoration of WSIP Construction Sites *(Completed)*	-	$2,111,546	$2,111,546	-
CUW38804	Long Term Mitigation Endowment		$12,000,000	$12,000,000	-
CUW39201	Program Management Project	$52,076,000	$112,747,230	$113,450,323	($703,093)
CUW39401	Watershed Environmental Improvement Program	$20,000,000	$20,000,000	$20,000,000	-

[1] Incorporates the April 2020 Approved Baseline.

6.0 ACHIEVEMENTS AND CHALLENGES

WSIP implementation is organized geographically to make program delivery more manageable and to take into account project adjacency issues. This section highlights the achievements and challenges of the Program's five regional teams.

6.1 San Joaquin Region

The status of all regional projects in the San Joaquin Region as of the end of FY 2020-21 is summarized in Table 6-1.

Table 6-1: Status of San Joaquin Regional Projects as of June 30, 2021

Project/Contract Name	Status
Lawrence Livermore Water Quality Improvement	Completed
SJPL System – Crossovers	Completed
SJPL System - Western Segment	Completed
SJPL System - Eastern Segment	Completed
Rehabilitation of Existing SJPLs - Roselle	Completed
Tesla Treatment Facility	Completed
Tesla Portal Protection	Completed
WSIP Closeout - San Joaquin	Completed

As of June 30, 2021, construction has been completed for all of the region's eight (8) projects, including the WSIP Closeout -San Joaquin Project.

Achievements

For the WSIP Closeout – San Joaquin Project, the last active project in the region during FY2020-21, the project team completed all construction including replacement of the battery banks for the solar panel facilities at Oakdale Portal, Knights Ferry Throttling Station, and San Joaquin Junction No. 4, and installation of a new backup generator at the Oakdale Portal site. This project was administratively closed out during the reporting period.

6.2 Sunol Valley Region

The status of all regional projects in the Sunol Valley Region as of the end of FY 2020-21 is summarized in Table 6-2.

Table 6-2: Status of Sunol Valley Regional Projects as of June 30, 2021

Project/Contract Name	Status
Alameda Creek Recapture Project	Construction
Standby Power Facilities - Various Locations	Completed
New Irvington Tunnel	Completed
Alameda Siphon #4	Completed
Pipeline Repair & Readiness Improvements	Completed
Calaveras Dam Replacement (A) Fish Passage Facilities at Alameda Creek Diversion Dam (B)	(A) Construction – 100% Complete[1] (B) Construction – 98.6% Complete[1]
Calaveras Reservoir Upgrades	Completed
San Antonio Backup Pipeline	Completed
SVWTP Expansion & Treated Water Reservoir	Completed
San Antonio Pump Station Upgrade	Completed
WSIP Closeout - Sunol Valley	Active (various phases)

[1] Status of construction percentage complete is based on construction base bid plus approved change orders.

As of June 30, 2021, eight (8) projects have been completed, two (2) projects were in construction, and the WSIP Closeout – Sunol Valley Project had completed six (6) of the original six (6) subprojects; however, one new subproject was added to the scope of the WSIP Closeout – Sunol Valley Project that is in the construction phase.

CDRP

Achievements

During the year, several outstanding construction needs of the CDRP that had not been included in the primary CDRP construction contract were completed under smaller Job Order Contracts (JOCs). These items included modification of security gates and fences, and adjustments to the valve appurtenances.

The Initial Fill Plan inspections required by the Department of Safety of Dams (DSOD) includes dam inspections at water surface elevations of 733.6 feet, 745 feet, and 750 feet. Due to lack of inflow during the reporting period, these water elevations were not reached. Thus, it was decided to transfer this inspection and reporting responsibility out of the CDRP and the WSIP to allow the CDRP to close out. The inspections will instead be performed as part of the operations and maintenance activities for the dam over time as the reservoir naturally fills.

Construction of the Fish Passage Facilities at Alameda Creek Diversion Dam Project (ACDD) was 98.6% complete, including the repair of the debris rake and rack system during the reporting period. Due to the insufficient flow in Alameda Creek, wet testing to confirm

performance of the facility during high creek flows could not be completed during the reporting period. This wet testing will be performed once there is sufficient flow in the creek. However, during the reporting period, supplemental work was completed using JOCs including installation of a wildlife exclusion fence, modification to the electrical systems, and installation of a worker safety system for maintenance access to the sediment trap. Provisioning of a reliable power supply for the SCADA and video systems is still on-going.

Challenges

Due to the time needed for the ACDD contractor to provide backup documents for the administrative contract closeout, the CDRP project as a whole is currently forecasted to complete in September 2021. To avoid any further delay to closing out the CDRP, the remaining supplemental work for the communication systems' power supply to be performed by JOC has been transferred to be completed under the WSIP Closeout – Sunol Valley Project.

ACRP

Achievements

The ACRP completed its design phase and secured a California Department of Fish and Wildlife Incidental Take Permit. The construction contract was advertised on December 18, 2020, and 5 bids were received. The low bid was below the revised engineer's estimate. However, this bid was $5.8M above the 2018 approved baseline construction budget (that was not revised in 2020) due to project scope, schedule and budget increases. The contract was awarded to Anvil Builders, Inc. as the lowest responsible bidder, and the construction Notice-to-Proceed was issued on June 21, 2021.Mobilization to the site is anticipated early in the next reporting period. Negotiation of terms for remediating erosion occurring near the construction site at Pond F2 continues with the leasing quarry operator at this location.

Challenges

There is a $8.0M variance between the approved 2018 baseline budget (that was not revised in 2020) and forecast project cost. The cost increase is due to the added scope, schedule and budget since 2018 in order to (1) complete environmental permitting and finalize the Environmental Impact Report (EIR); (2) incorporate design code changes since 2018 into the design documents; (3) accommodate revisions to the pond operating protocol; (4) add necessary security and monitoring facilities; (5) review existing site erosion with the current quarry pond operator; and (6) include escalation cost for the extensive schedule delay.

WSIP Closeout – Sunol Valley Region

Achievements

During the reporting period, the two (2) subprojects that had remained of the original six (6) subprojects were completed, and a new subproject was added. The subproject for construction of the San Antonio Backup Pipeline (SABPL) Carrier Water System Modifications Phase 2 work was completed, including the installation of equipment

analyzers and control cabinets. All the closeout deliverables have been received.

The subproject for design of the SVWTP Polymer Feed Facility reached 65% design; this project will be completed and funded under a separate capital improvement project outside of the WSIP. This subproject under WSIP is now complete.

A new subproject to construct improvements to the remote power facilities for the communications systems at the ACDD is being added, transferring this remaining scope out of the CDRP into this project.

Challenges

The remote power facilities for the ACDD will require additional time to procure equipment, construct improvements, and test the facilities. In order to allow the CDRP project to close out in the next reporting period, this scope was transferred from the CDRP to this project. This new subproject extends the forecast completion date for this project to June 2022. It is anticipated that there is sufficient budget within this project to complete this work; there is no forecast change to the project cost.

6.3 Bay Division Region

The status of all regional projects in the Bay Division Region as of the end of FY2020-21 is summarized in Table 6-3.

Table 6-3: Status of Bay Division Regional Projects as of June 30, 2021

Project/Contract Name	Status
BDPL Nos. 3 & 4 Crossover/Isolation Valves	Completed
Seismic Upgrade of BDPL Nos. 3 & 4	Completed
SCADA System - Phase II	Completed
BDPL Reliability Upgrade – Tunnel (Bay Tunnel)	Completed
BDPL Reliability Upgrade - Pipeline	Completed
BDPL Reliability Upgrade - Relocation of BDPL Nos. 1 & 2	Completed
BDPL Nos. 3 & 4 Crossovers	Completed
SFPUC/EBMUD Intertie	Completed
BDPL No. 4 Condition Assessment PCCP Sections	Completed
BDPL Nos. 3 & 4 Crossover/Isolation Valves	Completed
WSIP Closeout - Bay Division	Completed

As of June 30, 2021, all of the eleven (11) Bay Division regional projects have been completed, including all six (6) of the six (6) subprojects of WSIP Closeout - Bay Division Project.

Achievements

During this reporting period, the WSIP Closeout – Bay Division Project was the only project with active construction in the Bay Division Region. This project's one remaining subproject, BDPL No. 3 and 4 Site Drainage and Pipe Coating Repairs, was completed

during the reporting period. Work included coating of the pipe and pipe supports within the articulated vault, and construction of a v-ditch drainage system.

Challenges

None.

6.4 Peninsula Region

The status of all Regional projects in the Peninsula as of the end of FY2020-21 is summarized in Table 6-4.

Table 6-4: Status of Peninsula Regional Projects as of June 30, 2021

Project/Contract Name	Status
Lower Crystal Springs Dam Improvements	Completed
New Crystal Springs Bypass Tunnel	Completed
Adit Leak Repair - Crystal Springs/Calaveras	Completed
Pulgas Balancing - Inlet/Outlet Work	Completed
Pulgas Balancing - Discharge Channel Modifications	Completed
Pulgas Balancing - Structural Rehabilitation and Roof Replacement	Completed
Pulgas Balancing - Modifications of the Existing Dechloramination Facility	Completed
Cross Connection Controls	Completed
HTWTP Short-Term Improvements - Demo Filters	Completed
HTWTP Short-Term Improvements - Coagulation & Flocculation/ Remaining Filters	Completed
HTWTP Long-Term Improvements	Completed
Peninsula Pipelines Seismic Upgrade (Phases 1 / 2 / 3)	Completed
Capuchino Valve Lot Improvements	Completed
Crystal Springs/San Andreas Transmission Upgrade	Completed
Crystal Springs Pipeline No. 2 Replacement	Completed
San Andreas Pipeline No. 3 Installation	Completed
Baden and San Pedro Valve Lots Improvements	Completed
WSIP Closeout – Peninsula Region	Construction

As of June 30, 2021, seventeen (17) projects have been completed, and the WSIP Closeout – Peninsula Project has completed five (5) out of its seven (7) subprojects; the remaining two (2) sub-projects are in construction.

Achievements

During the reporting period, the WSIP Closeout – Peninsula Project was the only project

with active construction in the Peninsula Region. For this project, two of the subprojects were active, and the other five subprojects were completed in previous reporting periods. The active subproject for construction for the Lower Crystal Springs Dam (LCSD) Stilling Basin Connecting Channel was completed, including installation of flowmeters; this subproject will be closed out in the next reporting period. For the subproject to coordinate with San Mateo County for bridge construction over Lower Crystal Springs Dam, the security fence was designed and is under construction; video surveillance monitoring equipment is also being designed under this subproject but will be constructed using capital funding outside the WSIP. This second subproject will be closed out during the next reporting period.

Challenges

None.

6.5 San Francisco (Regional) Region

The status of all regional projects in the San Francisco Region as of the end of FY 2020-21 is summarized in Table 6-5.

Table 6-5: Status of San Francisco Regional Projects as of June 30, 2021

Project/Contract Name	Status
Regional Groundwater Storage & Recovery	(A) Phase 1 Test Wells: Completed (B) Phase 1 Construction: 98.4% Complete[1] (C) Phase 2a: Pre-Construction (D) Phase 2b: Pre-Construction
Sunset Reservoir - North Basin	Completed
University Mound Reservoir - North Basin	Completed

1. Status of construction percentage complete is based on construction base bid plus approved change orders.

As of June 30, 2021, and during this reporting period, only one (1) of the three San Francisco Regional projects/contracts is still active. The two (2) other projects in this region were completed and closed out in prior reporting periods.

Achievements

For Phase 1 (associated with Contract B) of the RGSRP, 4-day continuous testing at four regional well sites was completed during the reporting period. During the 4-day tests, treated groundwater was successfully served to the potable water transmission system. Accomplishments for the reporting period include the following improvements at various sites: replacement of the ammonium sulfate chemical feed pumps, upsizing of the carrier water pumps, installation of cathodic protection systems and surge arresters, calibration of flowmeters, site access improvements, programming and security improvements, and extensive treatment testing. The 7-week sustained performance testing has started at four of the thirteen wells.

For Phase 2, the scope of work has been separated into two planned contracts since the

second contract may be delayed due to time needed to obtain permits and easements. Phase 2A (Contract C) consists of installation of cathodic protection, variable frequency drives, flowmeters for water accounting, and valve modifications. Phase 2B (Contract D) consists of work at South San Francisco (SSF) Main well, including well improvements and pipeline installation to connect the well to Cal Water's treatment facility. 100% design for Phase 2A was being finalized near the end of the reporting period. For Phase 2B, the project team has completed the 95% design for the SSF Main well station. The Phase 2B contract will be advertised after all right of way permits and easements are obtained.

Challenges

Increases in the forecasted cost and schedule for Phase 1 are due to: site permitting and access issues at one site; improvements to flowmeter accuracy and reliability at several sites; discovery, analysis and remediation of internal well corrosion at multiple sites; and modifications to the chemical feed systems to accommodate revised treatment protocols.

For Phase 2, increases to the forecasted cost and schedule are due to the scope addition of cathodic protection systems to prevent corrosion at several sites (Phase 2A); and potential escalation costs from anticipated delays in order to obtain easements and right of way permits (Phase 2B).

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7.0 RISK MANAGEMENT

7.1 WSIP Risk Management Protocol

Risk registers for a project's construction contract are developed with the project team, comprised of the project construction manager, operations analyst, project engineer, QA inspector, communications/public outreach personnel, environmental personnel, safety personnel, and scheduler. These individuals identify the specific risks to the project, and then meet with the risk analyst/risk manager in order to provide a qualitative assessment of all risks, propose mitigation methods to prevent risks from becoming realized, and address the potential impacts from the risks should they materialize. Once the qualitative assessment of the risk register is completed, a smaller team, consisting of the project manager, project engineer, and project construction manager, reviews each individual risk thoroughly in order to identify the probability of occurrence along with the probable cost and schedule impacts. Once the risk register has been finalized with these values, meetings to update the risk register occur between the project construction manager, project manager, and risk analyst on a monthly basis.

As it would generally be overly conservative to plan for 100% of future potential risks, the SFPUC has elected to use the "80% confidence level" as a relatively conservative estimate of future cost risk for the WSIP. Namely, the "80% confidence level" represents the amount of cost for which one can be 80% confident that future cost risk will not exceed this level. The "80% confidence level" is determined with the use of the Active Risk Manager (ARM) software in which the software takes the identified project/program risks and performs a Monte Carlo simulation. This takes the likelihood of each risk along with the minimum, most likely, and maximum cost of each risk and performs 1000 iterations of the risk calculation to produce probable cost impact of the risks for the project. This probable cost impact can be expressed in terms of confidence level (confidence level vs. probable cost curve).

7.2 Status of Risk to Active Construction Projects

During FY 2020-21, the WSIP team continued to implement and refine its Risk Management Program. A total of five (5) risks were closed during the reporting period. In addition, the following construction contract was initiated on June 21, 2021, and thirty (30) risks were included on its risk register:

- WD-2825R, Alameda Creek Recapture Project (ACRP)

This brought the total of active construction risk registers and the total of individual risks managed through ARM as of the end of the reporting period to two (2) and thirty-five (35), respectively.

Whenever new risk registers are developed, cost impact estimates are prepared to quantify each risk. Risk assessment workshops are held with the project teams responsible to update and track the risk registers. Table 7-1 summarizes the WSIP's active construction risk registers loaded into the ARM software application as of the end of the reporting period.

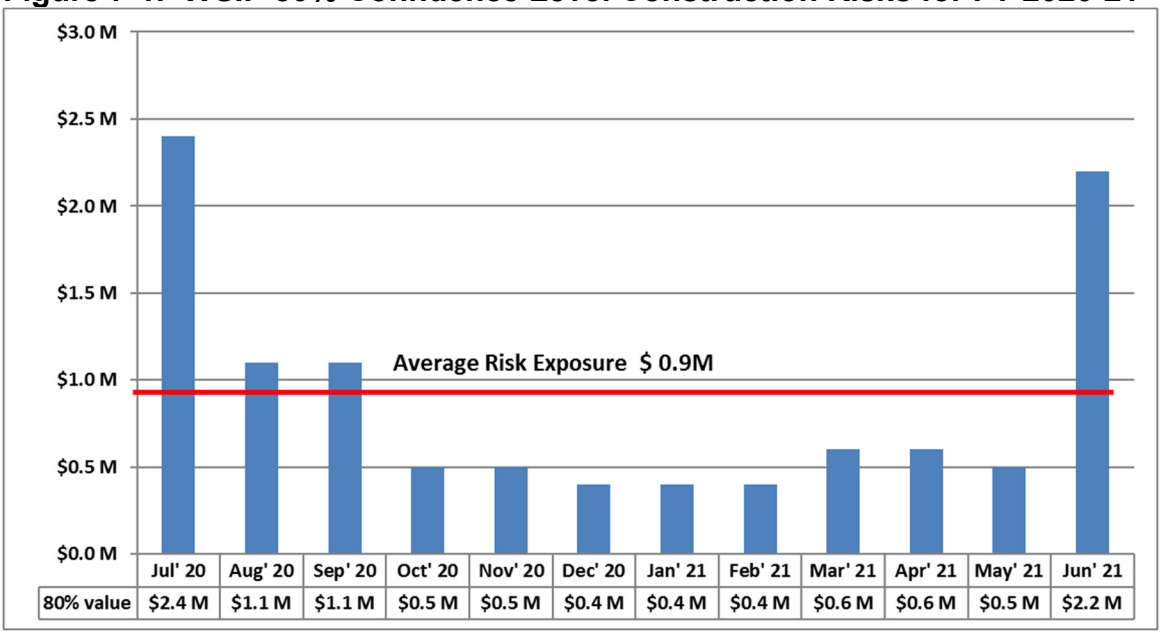
Table 7-1: Summary of Active Construction Risk Registers as of June 30, 2021

Construction Contract[1]	Date[2]	No. of Risks[3]	Risk Value ($M)[4]
Alameda Creek Recapture	June-21	30	1.7
Regional Groundwater Storage and Recovery	June-15	5	0.5
Cumulative active risks @ 80% confidence level		**35**	**2.2**

1. Excludes WSIP Local Region, Bioregional Habitat Restoration, and Security contracts.
2. Date when construction risk register was first created and loaded in ARM.
3. Number of individual risks recorded in register as of June 30, 2021.
4. Total value of all risks at eighty percent (80%) confidence level as of June 30, 2021.

Figure 7-1 shows the reporting period began with a cumulative risk exposure at the 80% confidence level of $2.4M in July 2020, which is the same as the risk exposure in June 2020. The risk exposure at the 80% confidence decreased dramatically from July 2020 to August 2020 as a major risk associated with meeting water quality requirements for RGSRP was closed. The 80% confidence level further decreased from $1.1M in September 2020 to $0.5M in October 2020 due to a decrease in risk probabilities and costs for the RGSRP. The 80% confidence level remained near a $0.5M level from October 2020 until May 2021. The 80% confidence level increased from $0.5M in May 2021 to $2.2M in June 2021 due to the initiation of the ACRP construction contract in late June and consequent addition of thirty (30) associated risks to the risk register .

Figure 7-1: WSIP 80% Confidence Level Construction Risks for FY 2020-21



The WSIP Risk Management System ranks construction contract risks based on a combination of the likelihood of occurrence and the potential cost impact to the SFPUC should they occur. Table 7-2 provides a description of the program's 10 largest risks.

Mitigation plans are developed for each risk identified in the risk register for active construction projects. Mitigation plans may change over the life of the risk until the risk is closed due to not having occurred. Action items derived from the risk mitigation plans are individually assigned to construction management (CM) team members and tracked in the ARM software through completion.

Based on the risks summarized above, there are two (2) active construction contracts: RGSRP and ACRP. They carry potential to impact the Program's overall cost and schedule.

Eight of the current top ten risks for active WSIP construction contracts, based on likelihood of occurrence and potential cost impact, belong to the ACRP and two belong to RGSRP. The current highest risk in the top ten risks belongs to ACRP. It relates to the location of the pipe tie-in and proposes that the alignment may not meet up with the existing water line. The second highest risk also belongs to ACRP and proposes a disagreement between the contractor and the barge vendor specified in the contract. The third highest risk belongs to RGSRP and relates to delays in finalizing a permanent easement and securing agreements with local agencies for right of way access. Table 7-2 below lists the top ten risks along with their cost impacts and mitigation strategies.

Table 7-2: Top 10 WSIP Risks as of June 30, 2021

Project	Risk Description	Occurrence Probability	Risk Value[1] ($K)	Mitigation
Alameda Creek Recapture	Pipe tie-in alignment does not meet existing waterline at proposed location or pipe out of round.	50%	107	Pothole and Survey tie-in location and pipe roundness.
Alameda Creek Recapture	Contractor cannot work out agreement with listed Barge vendor.	30%	858	Contract with vendor as City furnished item.
Regional Groundwater Storage and Recovery	Delays in finalizing permanent easements including utilities, and securing agreements with local agencies for right of way access.	30%	423	Continue to work with Property owners to finalize Permanent Access and easements.
Alameda Creek Recapture	Discovery of human remains or historical artifacts without agreed plan as to what to do in such instances	30%	77	Develop Archaeological monitoring plan and perform required archaeological monitoring and reporting.
Alameda Creek Recapture	Connection point of 36 inch occurring within DWR ROW.	10%	1,103	Identifying the proper connection point early enough to consider options

Project	Risk Description	Occurrence Probability	Risk Value[1] ($K)	Mitigation
Alameda Creek Recapture	Barge system does not function as planned.	15%	1,050	Ensure Quality Survey and submittals are as expected.
Alameda Creek Recapture	Delay in barge/pump fabrication and installation.	10%	803	Pre-qualify vendors.
Alameda Creek Recapture	Failure of existing Sunol Pump Pipeline during startup and testing.	10%	740	Perform internal pipeline inspection before advertisement.
Alameda Creek Recapture	Contractor's schedule conflicts with Operations wanting to move water into or out of F3 East.	20%	330	Proactive Management.
Regional Groundwater Storage and Recovery	Design errors and omissions.	20%	326	Perform redesign and acquire consultant expertise to assist in the redesign as soon as possible.

[1.] Most likely cost of each risk. The lowest and highest costs of each risk are also recorded in ARM.

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8.0 PROGRAM DELIVERY STRATEGY FOR CLOSEOUT PHASE

At 98.9 percent completion and with 41 of 43 regional WSIP projects with specific Level of Service (LOS) goals and objectives currently in service, the overall WSIP is in the Closeout Phase. Nevertheless, there are still several active projects with potential current or future risks that, should these risks be realized, could have a negative schedule and/or budget impact to the program. Therefore, it is essential to continue to implement the best practices that have helped to make the WSIP successful to date, and to continue to look for opportunities to become increasingly efficient as the SFPUC strives towards bringing the WSIP to successful completion.

8.1 2020 Review of the Program Forecast

During early 2020, WSIP Senior Management reviewed the status of the remaining WSIP projects and analyzed the forecasted schedules, budgets, and scopes for each project. Based on this analysis, the SFPUC determined that the schedules for five WSIP projects should be extended by as much as 18 months with new completion dates in order to reflect current known construction schedules and remaining needs and requirements. The SFPUC did not recommend adjusting the budget for any of the projects at that time due to the uncertainty of potential cost changes, particularly with ACRP not having finished the environmental or design phase at the time. The recommended proposed revisions were documented in the March 13, 2020 Notice of Public Hearing for the proposed revised WSIP that was adopted by the Commission on April 14, 2020. The April 2020 Approved Baseline extended the program completion date from December 30, 2021 to May 5, 2023.

Because the April 2020 Approved Baseline only extended project and program completion dates, the SFPUC has continued to report budget variances in the project forecasts. While projects have mostly stayed on budget and schedule, the recent changes in forecasts for several project completion dates and costs indicate that it will be prudent for an overall review during the next reporting period to determine if revised completion dates and cost should be considered for approval.

The SFPUC anticipates that it may propose revisions for several WSIP projects for adoption by the Commission during FY2021-22 and would provide written notice not less than 30 days before the date that the Commission is to consider such proposed revisions. Prior to any revisions, careful analysis of current project scopes, schedules, budgets, forecasts and risks will be performed to update proposed project budgets and completion dates using as much information as possible.

8.2 Plan to Ensure Ongoing and Increasing Cost-Efficient Practices

As has been the practice since the program was established, the WSIP Director will continue to meet with project teams on a rotation monthly in order to review status of every project at least twice quarterly. As a result of these meetings, staffing adjustments are made in real time to ensure project teams work within the existing budgets, and where appropriate, budget forecasts and resources are adjusted as necessary to help ensure successful completion of every project. The current staff transition plan for the remainder of WSIP is included in the WSIP Quarterly Reports. Actual staffing levels will continue to be

tracked monthly against this plan and appropriate staff adjustments made accordingly to ensure staffing levels stay within the remaining available budget.

In addition, industry best practice Construction Management (CM) Business Processes and Procedures continue to be implemented to ensure the available funds are used efficiently and effectively, with emphasis on identification of cost savings wherever possible. The primary features of the best practice processes and procedures that facilitate monitoring and control of WSIP construction are summarized below.

- Change Management - All Owner-requested changes require approval by a Change Control Board, with final approval by the WSIP Director. All changes are required to support Level of Service (LOS) goals and objectives, and independent cost estimates are required for large changes in advance of Contractor pricing.
- Trends Management - Project Teams are required to re-assess Trend values monthly to ensure accurate cost forecasting. Trends are also audited by the Program CM Management Team and discussed and reviewed monthly with the WSIP Director.
- Risk Management - SFPUC continues to proactively monitor and manage risk on all active projects. Risk registers are updated monthly by each Project Team, and thorough review and discussion of the Risk Register is periodically conducted by the Program CM Management Team. Discussion includes review of mitigation measures as well as probabilities and potential impacts (cost and time) to reflect up-to-date overall project risk exposure.
- Claims Avoidance - WSIP continues to enforce the CM Procedures and Business Processes across all projects by regularly auditing the CM Teams and evaluating their performance. Issues and problems are discussed as early as possible with the Contractor and elevated up the resolution ladder up to the Resolution Board, if necessary, to avoid any potential claim.
- Schedule Management – SFPUC continues to aggressively apply strong schedule control on construction activities and continuously evaluate contractor schedules to ensure approved milestones are met. Project schedule forecasts are reported every month and reviewed and discussed with the Program CM Management Team. Mitigation measures are applied to delays incurred beyond the contractor's contract due to unforeseen conditions. Schedule recoveries are enforced by the Project Teams.
- Program CM Project Audits - The Program CM Management Team conducts regular audits on all active projects, including a review of Risks, Trends, Potential Change Orders, construction schedule, and construction closeout deliverables. Identified problems and potential solutions or mitigation measures are discussed, and project forecasts for budget and schedule updated accordingly.
- Monthly and Quarterly Project Review Meetings - Monthly and Quarterly review meetings are conducted with the WSIP Director to review overall project budget & schedule forecasts as measured against the approved baseline.
- Lessons Learned Reports - Lessons Learned Reports are recorded and posted on the server for all project team members and all SFPUC Infrastructure Bureaus to access. The project team of every active region submits a lesson learned report on

an issue or problem that was encountered on his or her active project. Issues are discussed and resolutions are presented. The lesson learned describes how to avoid these issues on future projects.

8.3 Adequacy of Current Approved Schedules and Budget Contingencies

The schedule forecasts presented in this report show that all of the projects in the program are forecast to be complete by the current approved program completion date of May 5, 2023. As discussed in Section 7 of this report, the program-level risk analysis shows that the remaining program risk exposure at the "80 confidence level" is $2.2 million for active construction contracts as of June 30, 2021.

The remaining forecast construction contingency as of June 30, 2021 is $5.5 million after all current trends have been considered. In addition, the current forecast WSIP Director's Reserve Fund is $16.1 million. Therefore, a total of approximately $21.6 million are available to fund future risks, including both construction risks and unforeseen soft (non-construction) costs. If one conservatively assumes that up to $3 million is needed for future soft cost risk, this would leave approximately $18.6 million available to fund potential future construction risks.

Accordingly, the analysis shows that the current WSIP is sufficiently funded to complete within the current approved baseline budget and schedule (April 2020 Approved Baseline) with over 80 percent confidence, based on the current understanding of trends and remaining risks in the program.

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9.0 STATUS OF AB 1823 PROJECTS

The status of the ten (10) projects identified in Assembly Bill (AB) 1823 is summarized in Table 9-1. As of June 30, 2021, nine (9) projects were completed and one project remains in the construction phase.

Table 9-1: Status of AB 1823 Projects as of June 30, 2021

Project Name	Status
New Irvington Tunnel	Completed
Alameda Siphon #4	Completed
Calaveras Dam Replacement (A) Fish Passage Facilities at Alameda Creek Diversion Dam (B)	Construction – 100.0% Complete[1] Construction – 99.0% Complete[1]
BDPL Nos. 3 & 4 Crossover/ Isolation Valves	Completed
Seismic Upgrade of BDPL Nos. 3 & 4	Completed
BDPL Reliability Upgrade – Tunnel (Bay Tunnel)	Completed
BDPL Reliability Upgrade - Pipeline	Completed
BDPL Nos. 3 & 4 Crossovers	Completed
New Crystal Springs Bypass Tunnel	Completed
Crystal Springs/San Andreas Transmission Upgrade	Completed

1. Status of construction percentage complete is based on construction base bid plus approved change orders.

It should be noted that the original list of projects in AB 1823 includes the BDPL Nos. 1 & 2 - Repair of Caissons/Pipe Bridge Project. That project was removed from the WSIP following completion of a facilities condition assessment that led to the addition of a fifth conduit parallel to BDPL Nos. 1 & 2 to the SFPUC capital program. The conduit, referred to as BDPL No. 5, was completed as part of the BDPL Reliability Upgrade - Tunnel and BDPL Reliability Upgrade - Pipeline projects.

Half of the ten projects listed in AB 1823 contributed to the construction of a new seismically designed lifeline that carries water from the Sunol Valley in the East Bay to the mid-Peninsula. That lifeline involves six segments contracted out separately that have now all achieved substantial construction completion and are in service: Alameda Siphon #4, New Irvington Tunnel, BDPL Reliability Upgrade (East Bay Reaches), BDPL Reliability Upgrade – Tunnel (Bay Tunnel), BDPL Reliability Upgrade (Peninsula Reaches) and New Crystal Springs Bypass Tunnel.

The only project in the original list of AB1823 Projects that is considered to be in construction phase is the Contract B for Calaveras Dam Replacement Project, the Fish Passage Facilities at Alameda Creek Diversion Dam Project (ACDD); Contract A for Calaveras Dam Replacement reached Final Completion in July 2019. Because ACDD is 99% complete, it is anticipated that all AB1823 Projects will be completed in the next reporting period.

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APPENDIX A

Current Approved WSIP Schedule

Regional Projects

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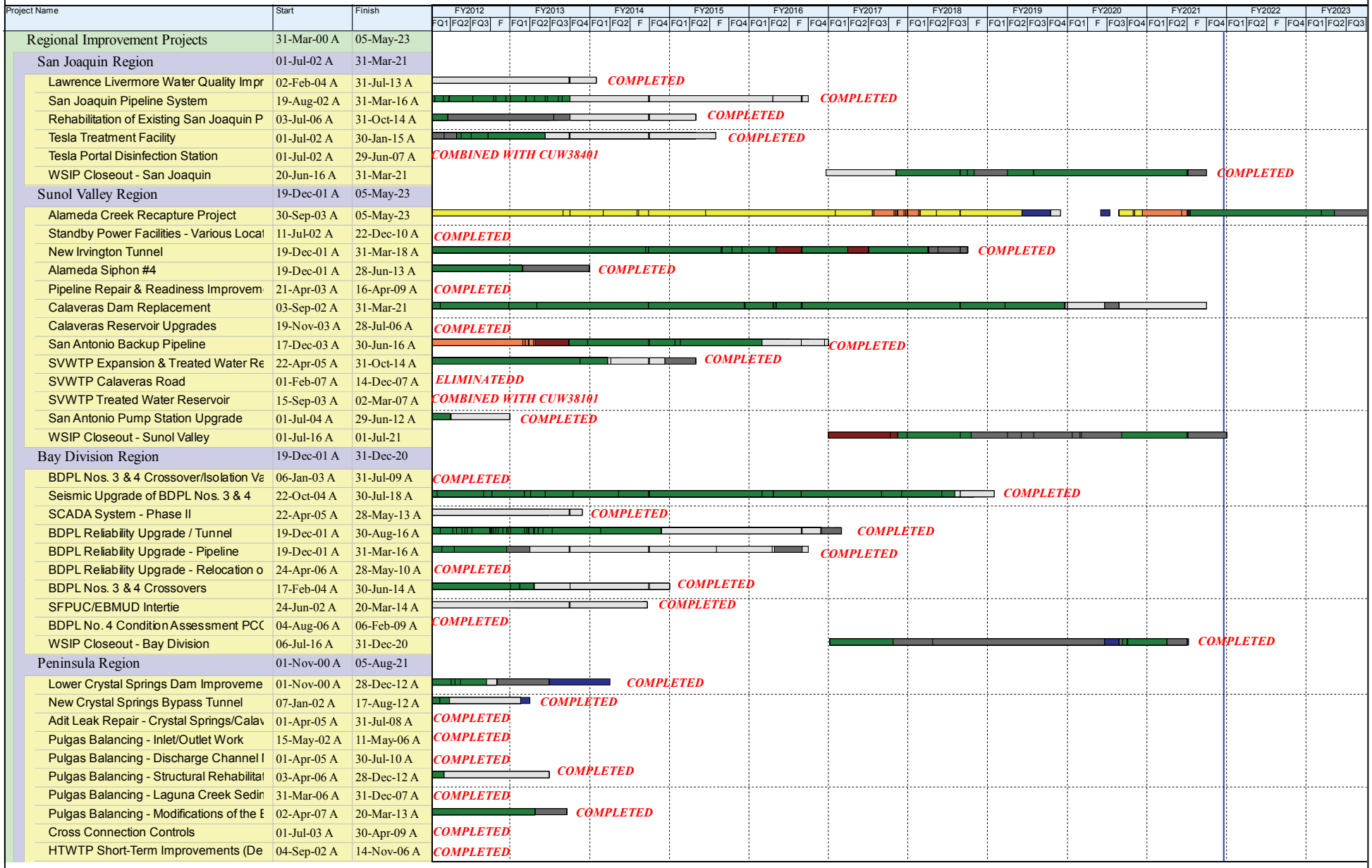
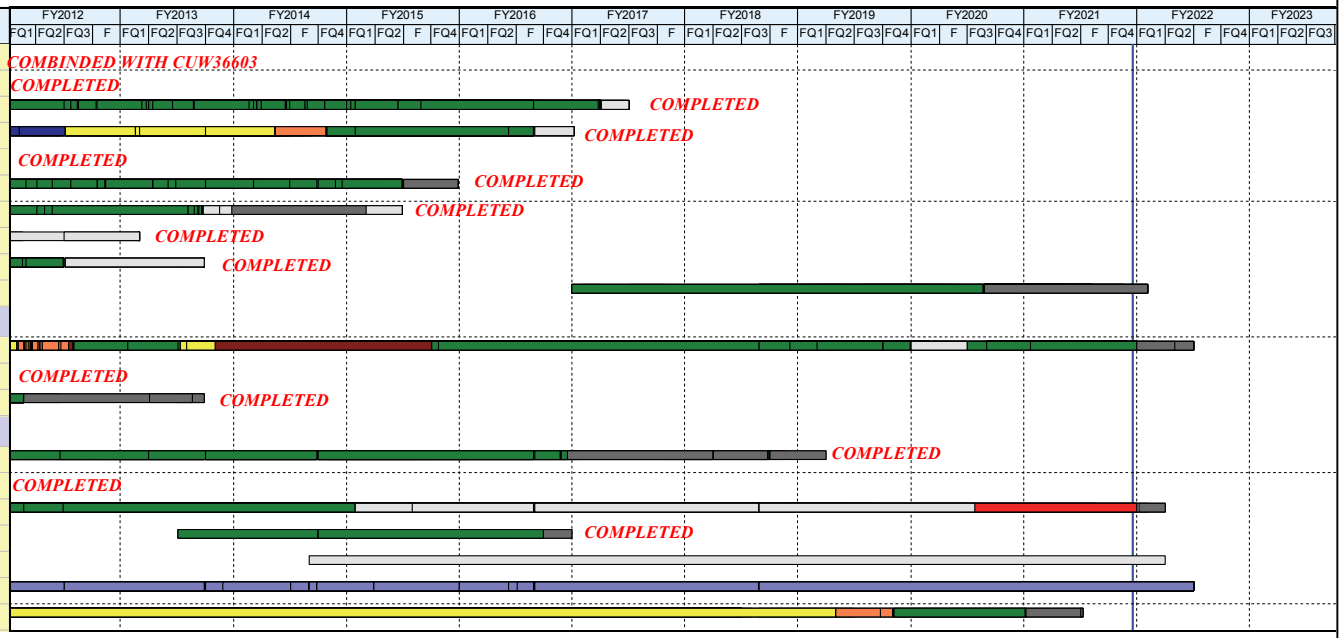
APPENDIX A: Current Approved WSIP Project-Level Schedules



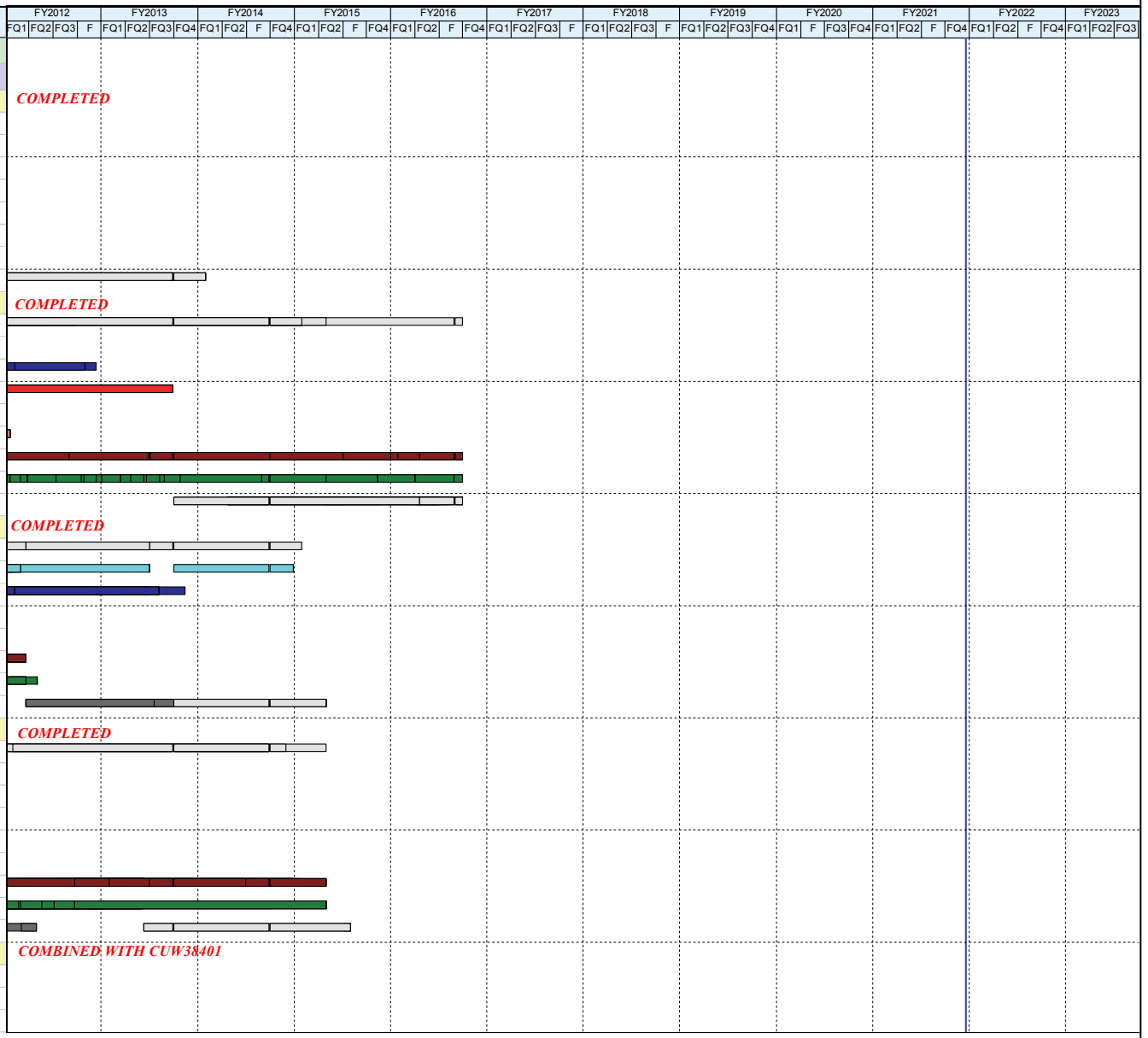
APPENDIX A: Current Approved WSIP Project-Level Schedules

Project Name	Start	Finish
HTWTP Short-Term Improvements - Re	12-Jan-06 A	22-Feb-08 A
HTWTP Short-Term Improvements - Cc	03-Jul-06 A	28-Jul-10 A
HTWTP Long-Term Improvements	01-Jul-03 A	30-Dec-16 A
Peninsula Pipelines Seismic Upgrade	01-Jul-09 A	06-Jul-16 A
Capuchino Valve Lot Improvements	22-Apr-05 A	19-Aug-08 A
Crystal Springs/San Andreas Transmiss	18-Aug-03 A	30-Jun-15 A
Crystal Springs Pipeline No. 2 Replacen	15-Jan-04 A	31-Dec-14 A
San Andreas Pipeline No. 3 Installation	15-Jan-04 A	30-Aug-12 A
Baden and San Pedro Valve Lots Impro	03-Oct-05 A	29-Mar-13 A
WSIP Closeout - Peninsula	01-Jul-16 A	05-Aug-21
San Francisco Regional Region	31-Mar-00 A	30-Dec-21
Regional Groundwater Storage and Rec	01-Jun-03 A	30-Dec-21
Sunset Reservoir - North Basin	31-Mar-00 A	10-Sep-10 A
University Mound Reservoir - North Bas	24-Oct-05 A	29-Mar-13 A
Support Projects	13-Apr-04 A	30-Dec-21
System Security Upgrades	07-Jan-06 A	28-Sep-18 A
Programmatic EIR	13-Apr-04 A	30-Jun-09 A
Bioregional Habitat Restoration	06-Sep-06 A	30-Sep-21
Vegetation Restoration of WSIP Constru	02-Jan-13 A	30-Jun-16 A
Long Term Mitigation Endowment	05-Mar-14 A	30-Sep-21
Program Management Project	01-Aug-05 A	30-Dec-21
Watershed and Environmental Improver	02-Jan-07 A	30-Jul-21



APPENDIX A: Current Approved WSIP Phase-Level Schedules

Project Name	Start	Finish
Regional Improvement Projects	31-Mar-00A	05-May-23
San Joaquin Region	01-Jul-02A	31-Mar-21
Lawrence Livermore Water Quality Impr	02-Feb-04A	31-Jul-13A
Project Management	02-Feb-04A	11-Mar-11A
Project Planning	02-Feb-04A	28-Sep-07A
Environmental Review	31-Aug-06A	25-Feb-09A
Design	01-Oct-07A	31-Mar-09A
Bid and Award	01-Dec-08A	25-Aug-09A
Construction Management	27-Feb-09A	11-Mar-11A
Construction	26-Aug-09A	11-Mar-11A
Close-Out	14-Mar-11A	31-Jul-13A
San Joaquin Pipeline System	19-Aug-02A	31-Mar-16A
Project Management	19-Aug-02A	31-Mar-16A
Project Planning	19-Aug-02A	28-Dec-06A
Environmental Review	17-Feb-04A	27-Mar-12A
Right of Way	02-Jan-07A	29-Mar-13A
Design	02-Jan-07A	23-Mar-11A
Bid and Award	27-Apr-09A	21-Jul-11A
Construction Management	03-Feb-09A	31-Mar-16A
Construction	13-Oct-09A	31-Mar-16A
Close-Out	01-Apr-13A	31-Mar-16A
Rehabilitation of Existing San Joaquin P	03-Jul-06A	31-Oct-14A
Project Management	03-Jul-06A	31-Jul-14A
Project Planning	03-Jul-06A	27-Jun-14A
Environmental Review	26-Sep-06A	31-Dec-12A
Design	31-Jul-06A	31-Mar-11A
Bid and Award	02-May-08A	31-Mar-11A
Construction Management	03-Jul-06A	19-Sep-11A
Construction	02-Oct-06A	01-Nov-11A
Close-Out	20-Sep-11A	31-Oct-14A
Tesla Treatment Facility	01-Jul-02A	30-Jan-15A
Project Management	01-Jul-02A	31-Oct-14A
Project Planning	01-Jul-02A	29-Jun-07A
Environmental Review	30-Jun-06A	25-Feb-09A
Right of Way	17-Mar-08A	16-Oct-08A
Design	15-Feb-07A	20-Nov-09A
Bid and Award	30-Jan-08A	10-Nov-08A
Construction Management	02-Feb-09A	31-Oct-14A
Construction	08-Sep-08A	31-Oct-14A
Close-Out	01-Jul-11A	30-Jan-15A
Tesla Portal Disinfection Station	01-Jul-02A	29-Jun-07A
Project Management	01-Jul-02A	29-Jun-07A
Project Planning	01-Jul-02A	29-Jun-07A
Environmental Review	19-Aug-04A	29-Dec-06A

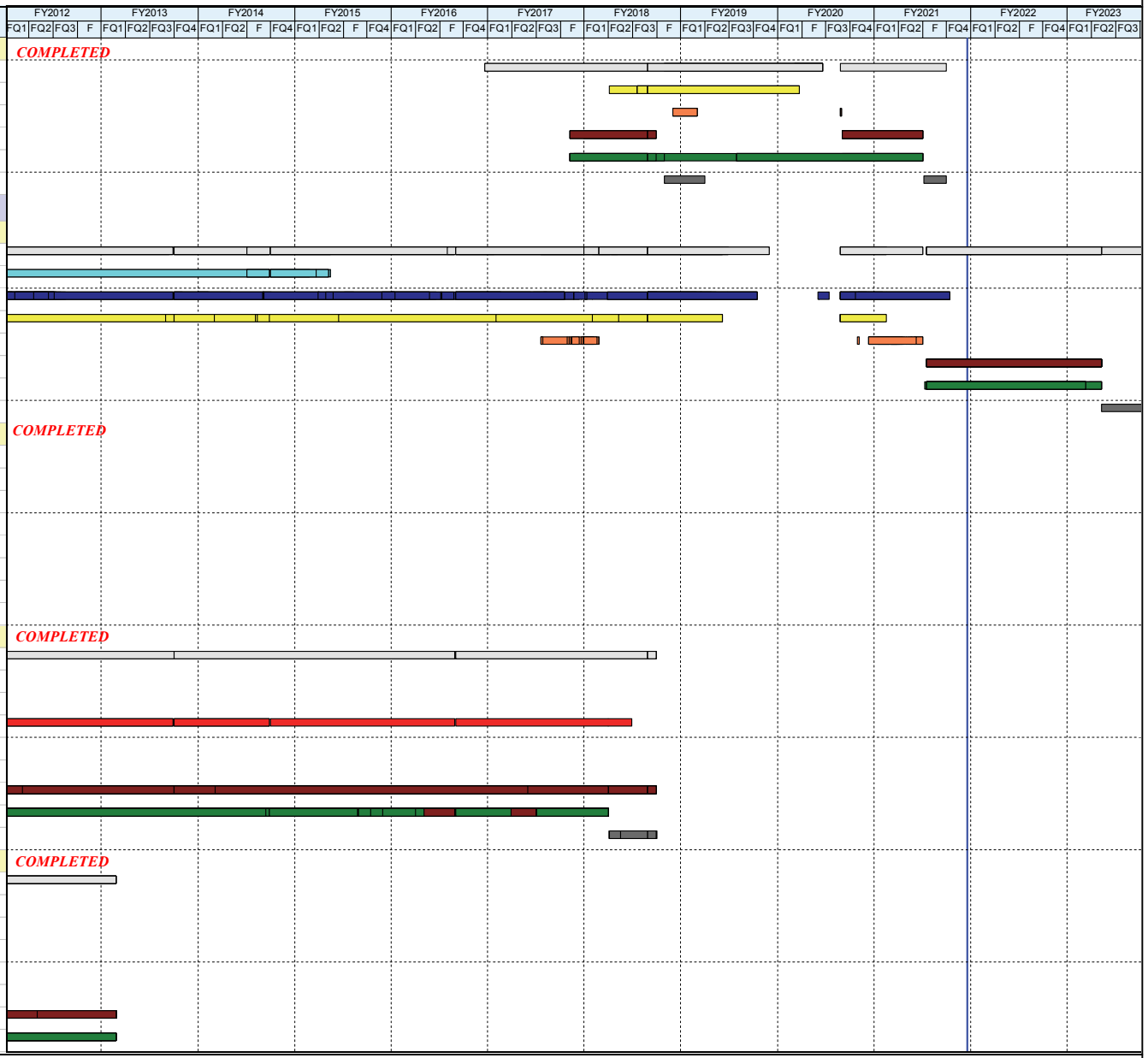


Project Management | Environmental | Right-of-Way | Construction Management | Closeout

Planning | Design | Bid & Award | Construction | Program Management

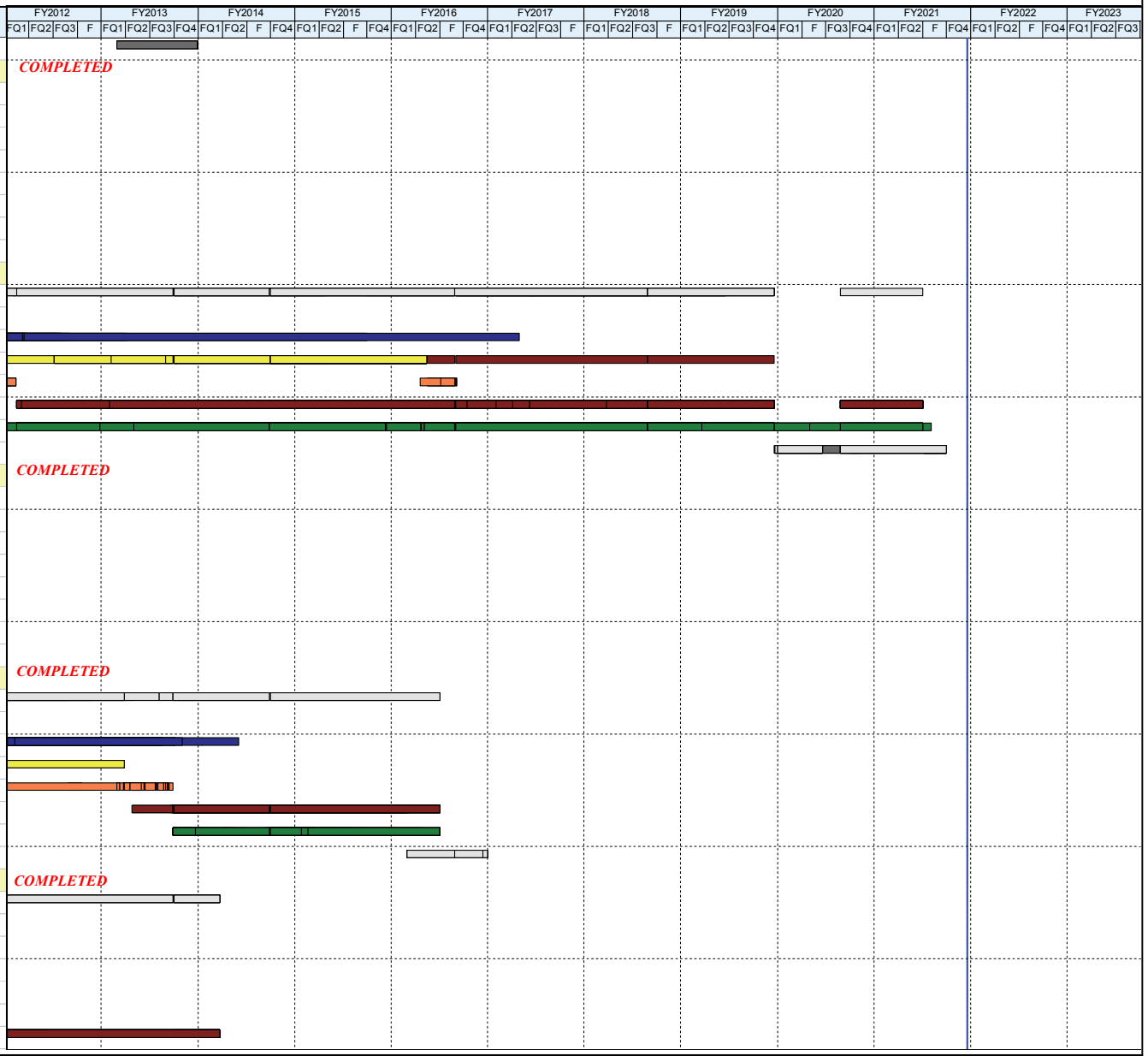
APPENDIX A: Current Approved WSIP Phase-Level Schedules

Project Name	Start	Finish
WSIP Closeout - San Joaquin	20-Jun-16A	31-Mar-21
Project Management	20-Jun-16A	31-Mar-21
Design	02-Oct-17A	21-Sep-19A
Bid and Award	01-Jun-18A	28-Feb-20A
Construction Management	09-May-17A	31-Dec-20
Construction	09-May-17A	31-Dec-20
Close-Out	01-May-18A	31-Mar-21
Sunol Valley Region	19-Dec-01A	05-May-23
Alameda Creek Recapture Project	30-Sep-03A	05-May-23
Project Management	30-Sep-03A	05-May-23
Project Planning	30-Sep-03A	14-Nov-14A
Environmental Review	23-Apr-10A	14-Aug-20
Design	01-Jul-10A	14-Aug-20
Bid and Award	17-Jan-17A	31-Dec-20
Construction Management	15-Jan-21	07-Nov-22
Construction	08-Jan-21	07-Nov-22
Close-Out	08-Nov-22	05-May-23
Standby Power Facilities - Various Locat	11-Jul-02 A	22-Dec-10 A
Project Management	11-Jul-02 A	22-Dec-10 A
Project Planning	11-Jul-02 A	30-Jun-05 A
Environmental Review	26-May-05 A	23-Sep-05 A
Design	01-Jul-05 A	04-May-07 A
Bid and Award	16-Apr-07 A	31-Dec-07 A
Construction Management	10-Dec-07 A	22-Jun-10 A
Construction	10-Dec-07 A	28-May-10 A
Close-Out	10-Sep-08 A	07-Oct-10 A
New Irvington Tunnel	19-Dec-01A	31-Mar-18A
Project Management	19-Dec-01A	30-Mar-18A
Project Planning	19-Dec-01A	07-Oct-05A
Environmental Review	25-Aug-04A	07-Mar-11A
Right of Way	03-Jul-06A	29-Dec-17A
Design	11-Oct-05A	12-Jan-10A
Bid and Award	05-Jan-09A	21-Jul-10A
Construction Management	28-Sep-09A	30-Mar-18A
Construction	31-Mar-09A	30-Sep-17A
Close-Out	02-Oct-17A	31-Mar-18A
Alameda Siphon #4	19-Dec-01A	28-Jun-13A
Project Management	19-Dec-01A	24-Aug-12A
Project Planning	19-Dec-01A	07-Oct-05A
Environmental Review	25-Aug-04A	30-Mar-10A
Right of Way	04-Jun-07A	09-Feb-09A
Design	11-Oct-05A	13-Mar-09A
Bid and Award	03-Nov-08A	25-Aug-09A
Construction Management	26-Aug-09A	24-Aug-12A
Construction	20-Apr-09A	24-Aug-12A



APPENDIX A: Current Approved WSIP Phase-Level Schedules

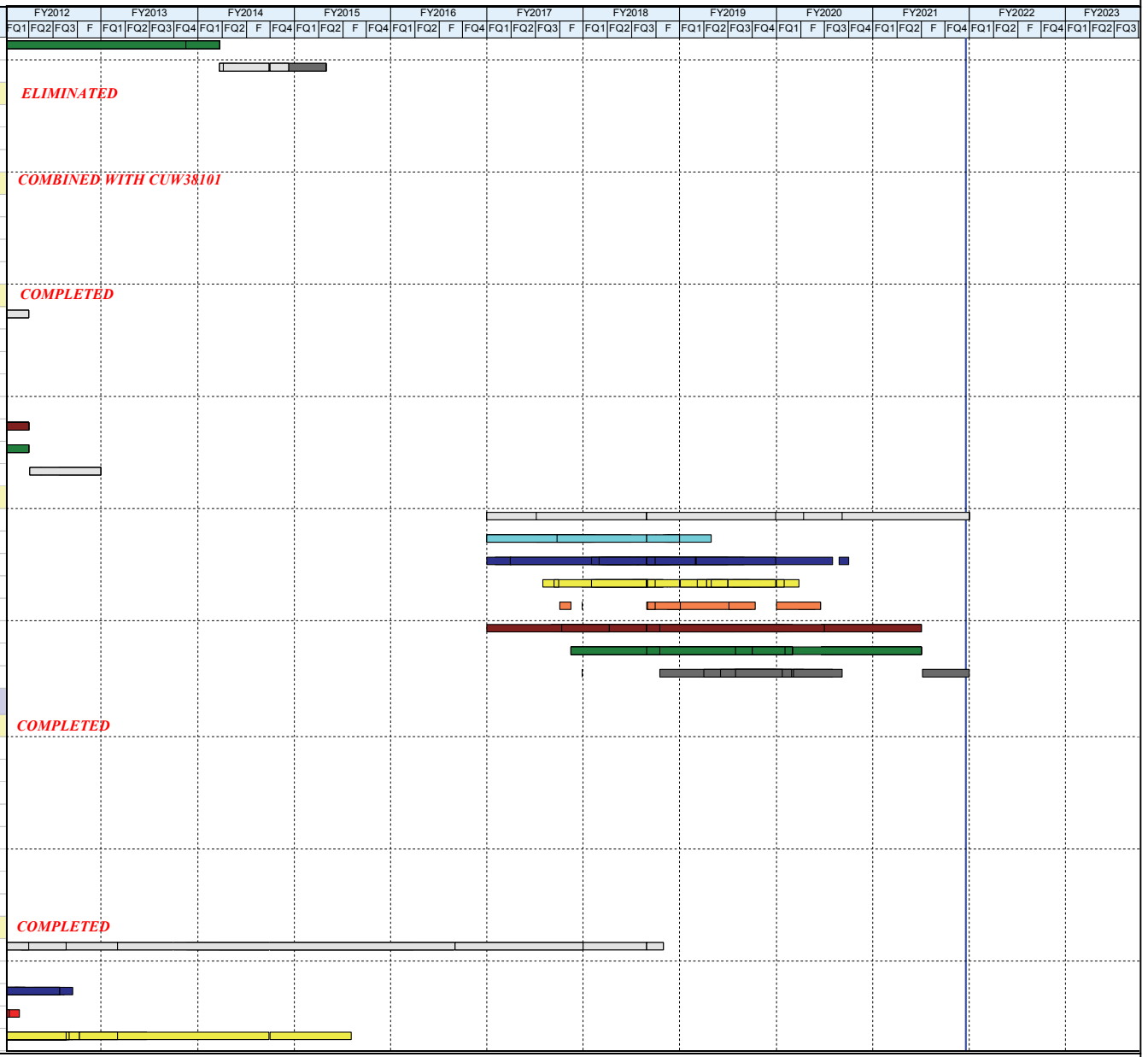
Project Name	Start	Finish
Close-Out	27-Aug-12A	28-Jun-13A
Pipeline Repair & Readiness Improvem	21-Apr-03A	16-Apr-09A
Project Management	21-Apr-03A	15-Oct-08A
Project Planning	21-Apr-03A	30-Mar-07A
Environmental Review	14-Jan-05A	29-Dec-06A
Design	07-Jun-04A	05-Feb-07A
Bid and Award	31-Oct-05A	23-Jul-07A
Construction Management	30-Jan-06A	15-Oct-08A
Construction	30-Jan-06A	15-Oct-08A
Close-Out	18-Sep-06A	16-Apr-09A
Calaveras Dam Replacement	03-Sep-02A	31-Mar-21
Project Management	03-Sep-02A	31-Dec-20
Project Planning	03-Sep-02A	04-Nov-05A
Environmental Review	16-May-05A	06-Feb-12A
Design	14-Nov-05A	19-Jun-19A
Bid and Award	27-Dec-10A	07-Mar-16A
Construction Management	15-Aug-11A	31-Dec-20
Construction	31-May-11A	01-Feb-21
Close-Out	19-Jun-19A	31-Mar-21
Calaveras Reservoir Upgrades	19-Nov-03A	28-Jul-06A
Project Management	19-Nov-03A	14-Feb-06A
Project Planning	19-Nov-03A	18-Nov-05A
Environmental Review	21-May-04A	18-Nov-05A
Design	16-Dec-04A	18-Nov-05A
Bid and Award	28-Jan-05A	18-Nov-05A
Construction Management	27-Jun-05A	14-Feb-06A
Construction	27-Jun-05A	14-Feb-06A
Close-Out	06-Oct-05A	28-Jul-06A
San Antonio Backup Pipeline	17-Dec-03A	30-Jun-16A
Project Management	17-Dec-03A	31-Dec-15A
Project Planning	17-Dec-03A	11-May-07A
Environmental Review	02-Oct-06A	29-Mar-13A
Design	01-Mar-07A	24-Sep-12A
Bid and Award	18-May-11A	29-Mar-13A
Construction Management	26-Oct-12A	31-Dec-15A
Construction	29-Mar-13A	31-Dec-15A
Close-Out	31-Aug-15A	30-Jun-16A
SVWTP Expansion & Treated Water Re	22-Apr-05A	31-Oct-14A
Project Management	22-Apr-05A	20-Sep-13A
Project Planning	22-Apr-05A	29-Jun-07A
Environmental Review	21-Jul-06A	30-Jun-10A
Right of Way	03-Jul-06A	16-Jun-09A
Design	16-Jan-07A	10-Dec-09A
Bid and Award	23-Nov-09A	22-Jun-10A
Construction Management	30-Apr-10A	20-Sep-13A



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

APPENDIX A: Current Approved WSIP Phase-Level Schedules

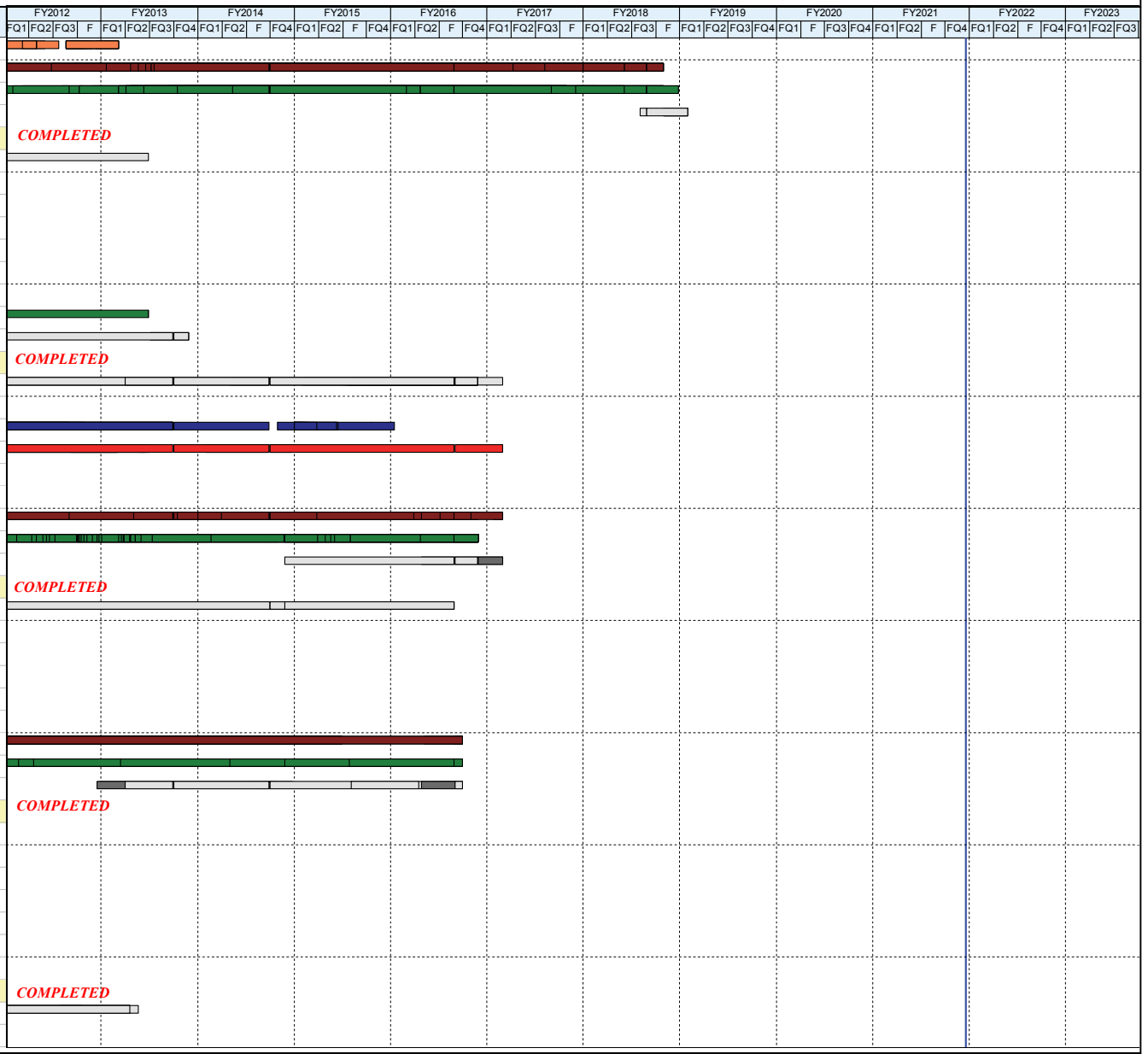
Project Name	Start	Finish
Construction	23-Jun-10A	20-Sep-13A
Close-Out	23-Sep-13A	31-Oct-14A
SVWTP Calaveras Road	01-Feb-07A	14-Dec-07A
Project Management	12-Mar-07A	14-Dec-07A
Environmental Review	01-Feb-07A	30-Jul-07A
Design	02-Apr-07A	14-Dec-07A
SVWTP Treated Water Reservoir	15-Sep-03A	02-Mar-07A
Project Management	15-Sep-03A	02-Mar-07A
Project Planning	15-Sep-03A	29-Sep-04A
Environmental Review	26-Mar-04A	09-Feb-07A
Design	03-Nov-04A	02-Mar-07A
San Antonio Pump Station Upgrade	01-Jul-04A	29-Jun-12A
Project Management	01-Jul-04A	30-Sep-11A
Project Planning	01-Jul-04A	12-Jan-07A
Environmental Review	02-Jan-07A	21-Jun-07A
Design	06-Jul-07A	15-May-09A
Bid and Award	14-Apr-09A	30-Oct-09A
Construction Management	02-Nov-09A	30-Sep-11A
Construction	02-Nov-09A	30-Sep-11A
Close-Out	03-Oct-11A	29-Jun-12A
WSIP Closeout - Sunol Valley	01-Jul-16A	30-Jun-21
Project Management	01-Jul-16A	30-Jun-21
Project Planning	01-Jul-16A	26-Oct-18A
Environmental Review	01-Jul-16A	28-Jun-19
Design	30-Jan-17A	24-Sep-19
Bid and Award	03-Apr-17A	17-Dec-19
Construction Management	01-Jul-16A	31-Dec-20
Construction	16-May-17A	31-Dec-20
Close-Out	26-Jun-17A	30-Jun-21
Bay Division Region	19-Dec-01A	31-Dec-20
BDPL Nos. 3 & 4 Crossover/Isolation Va	06-Jan-03A	31-Jul-09A
Project Management	06-Jan-03A	30-Jun-09A
Project Planning	06-Jan-03A	20-Jul-04A
Environmental Review	16-Jul-03A	28-Feb-06A
Design	03-May-04A	16-May-06A
Bid and Award	16-May-05A	18-Aug-06A
Construction Management	23-Jan-06A	03-Apr-09A
Construction	11-Oct-05A	19-Mar-08A
Close-Out	20-Mar-08A	31-Jul-09A
Seismic Upgrade of BDPL Nos. 3 & 4	22-Oct-04A	30-Jul-18A
Project Management	22-Oct-04A	30-Apr-18A
Project Planning	22-Oct-04A	12-Dec-08A
Environmental Review	11-Sep-06A	17-Mar-12A
Right of Way	03-Jul-06A	26-Aug-11A
Design	05-Mar-07A	02-Feb-15A



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

APPENDIX A: Current Approved WSIP Phase-Level Schedules

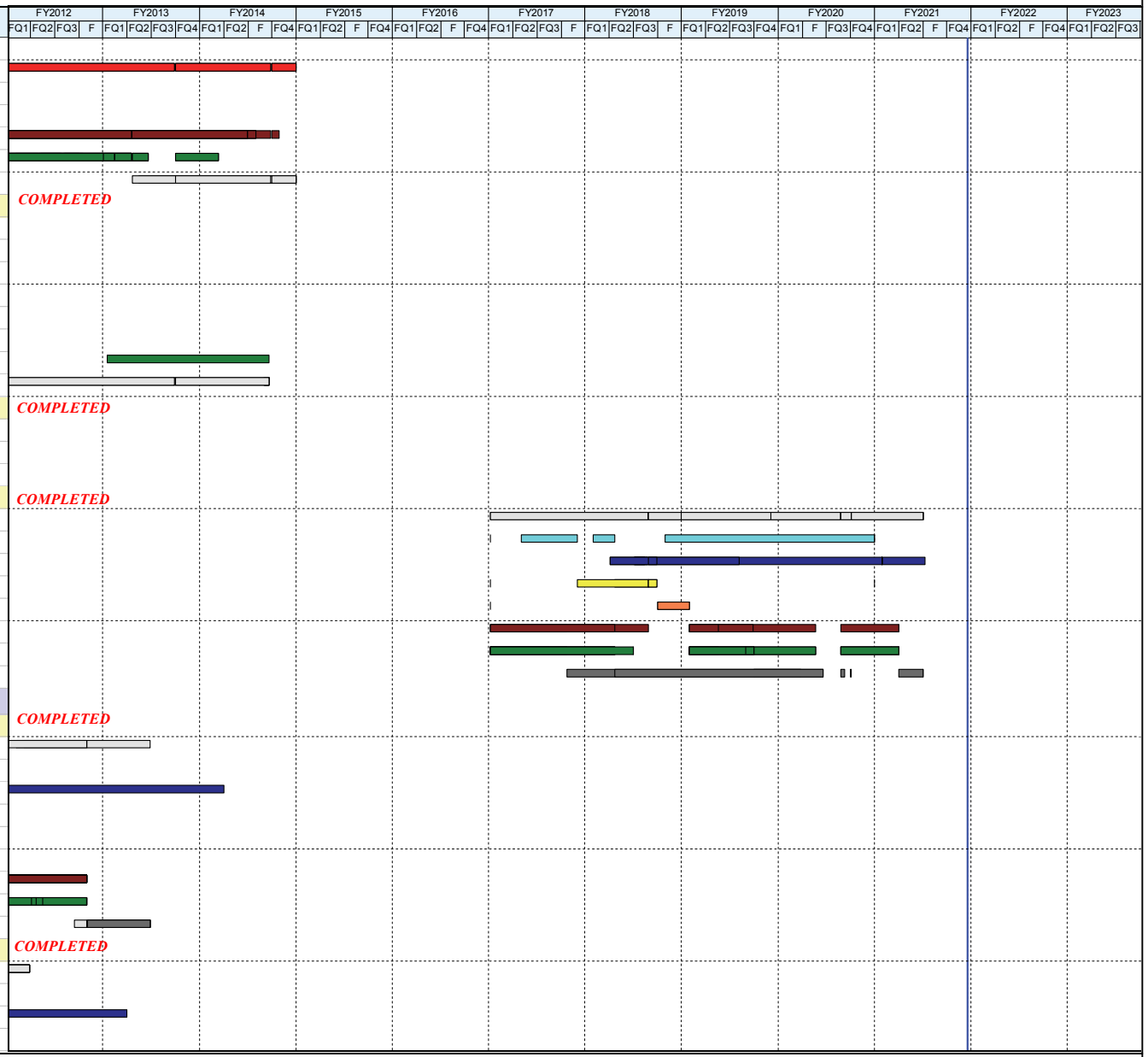
Project Name	Start	Finish
Bid and Award	03-Nov-08A	04-Sep-12A
Construction Management	03-May-10A	30-Apr-18A
Construction	12-Jan-10A	25-Jun-18A
Close-Out	01-Feb-18A	30-Jul-18A
SCADA System - Phase II	22-Apr-05A	28-May-13A
Project Management	22-Apr-05A	28-Dec-12A
Project Planning	26-Apr-05A	24-Dec-07A
Environmental Review	30-Oct-07A	15-Jul-09A
Right of Way	10-Apr-07A	01-Jun-09A
Design	26-Dec-07A	27-Jul-09A
Bid and Award	22-Jun-09A	11-Dec-09A
Construction Management	23-Sep-08A	28-Feb-11A
Construction	25-Jul-08A	28-Dec-12A
Close-Out	01-Mar-11A	28-May-13A
BDPL Reliability Upgrade / Tunnel	19-Dec-01A	30-Aug-16A
Project Management	19-Dec-01A	30-Aug-16A
Project Planning	19-Dec-01A	31-May-06A
Environmental Review	18-Nov-04A	31-Jul-14A
Right of Way	03-Jul-06A	30-Aug-16A
Design	01-Aug-05A	03-Aug-09A
Bid and Award	01-May-09A	31-Mar-10A
Construction Management	24-Jun-08A	30-Aug-16A
Construction	17-Jul-09A	30-May-16A
Close-Out	27-May-14A	30-Aug-16A
BDPL Reliability Upgrade - Pipeline	19-Dec-01A	31-Mar-16A
Project Management	03-Jan-06A	26-Feb-16A
Project Planning	19-Dec-01A	31-May-06A
Environmental Review	18-Nov-04A	12-Feb-10A
Right of Way	03-Jul-06A	08-Dec-10A
Design	03-Jan-06A	17-Aug-09A
Bid and Award	22-Apr-09A	09-Mar-10A
Construction Management	23-Sep-08A	31-Mar-16A
Construction	04-Jan-10A	31-Mar-16A
Close-Out	14-Jun-12A	31-Mar-16A
BDPL Reliability Upgrade - Relocation o	24-Apr-06A	28-May-10A
Project Management	24-Apr-06A	28-May-10A
Right of Way	28-May-10A	28-May-10A
Design	24-Apr-06A	16-Jan-07A
Bid and Award	17-Jan-07A	06-Jan-10A
Construction Management	02-Jul-07A	28-May-10A
Construction	15-Nov-06A	28-May-10A
Close-Out	28-May-10A	28-May-10A
BDPL Nos. 3 & 4 Crossovers	17-Feb-04A	30-Jun-14A
Project Management	17-Feb-04A	16-Nov-12A
Project Planning	17-Feb-04A	14-Nov-06A



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

APPENDIX A: Current Approved WSIP Phase-Level Schedules

Project Name	Start	Finish
Environmental Review	28-Aug-06A	31-Dec-08A
Right of Way	04-Sep-07A	30-Jun-14A
Design	04-Dec-06A	20-Jul-09A
Bid and Award	05-Nov-08A	10-Jul-09A
Construction Management	23-Sep-08A	30-Apr-14A
Construction	30-Jan-09A	11-Sep-13A
Close-Out	22-Oct-12A	30-Jun-14A
SFPUC/EBMUD Intertie	24-Jun-02A	20-Mar-14A
Project Management	24-Jun-02A	31-Jan-08A
Project Planning	24-Jun-02A	11-Oct-02A
Environmental Review	14-Oct-02A	31-Mar-03A
Design	01-Apr-03A	30-Jul-04A
Bid and Award	02-Aug-04A	21-Dec-04A
Construction Management	18-Jan-05A	31-Jan-08A
Construction	18-Jan-05A	20-Mar-14A
Close-Out	01-Feb-08A	20-Mar-14A
BDPL No. 4 Condition Assessment PCC	04-Aug-06A	06-Feb-09A
Project Management	04-Aug-06A	06-Feb-09A
Project Planning	04-Aug-06A	06-Feb-09A
Environmental Review	16-Jul-07A	30-Sep-08A
WSIP Closeout - Bay Division	06-Jul-16A	31-Dec-20
Project Management	06-Jul-16A	31-Dec-20
Project Planning	06-Jul-16A	30-Jun-20
Environmental Review	06-Jul-16A	30-Jun-20
Design	06-Jul-16A	30-Jun-20
Bid and Award	06-Jul-16A	31-Jul-18A
Construction Management	06-Jul-16A	30-Sep-20
Construction	06-Jul-16A	30-Sep-20
Close-Out	25-Apr-17A	31-Dec-20
Peninsula Region	01-Nov-00A	05-Aug-21
Lower Crystal Springs Dam Improveme	01-Nov-00A	28-Dec-12A
Project Management	01-Nov-00A	28-Dec-12A
Project Planning	01-Nov-00A	30-Dec-04A
Environmental Review	03-Jan-05A	28-Apr-11A
Right of Way	03-Jul-06A	30-Jun-10A
Design	08-Mar-07A	30-Sep-10A
Bid and Award	20-Aug-10A	28-Jan-11A
Construction Management	31-Jan-11A	01-May-12A
Construction	31-Jan-11A	01-May-12A
Close-Out	15-Mar-12A	28-Dec-12A
New Crystal Springs Bypass Tunnel	07-Jan-02A	17-Aug-12A
Project Management	07-Jan-02A	28-Sep-11A
Project Planning	07-Jan-02A	05-Aug-04A
Environmental Review	18-Sep-03A	09-Oct-08A
Right of Way	03-Jul-06A	16-Sep-08A

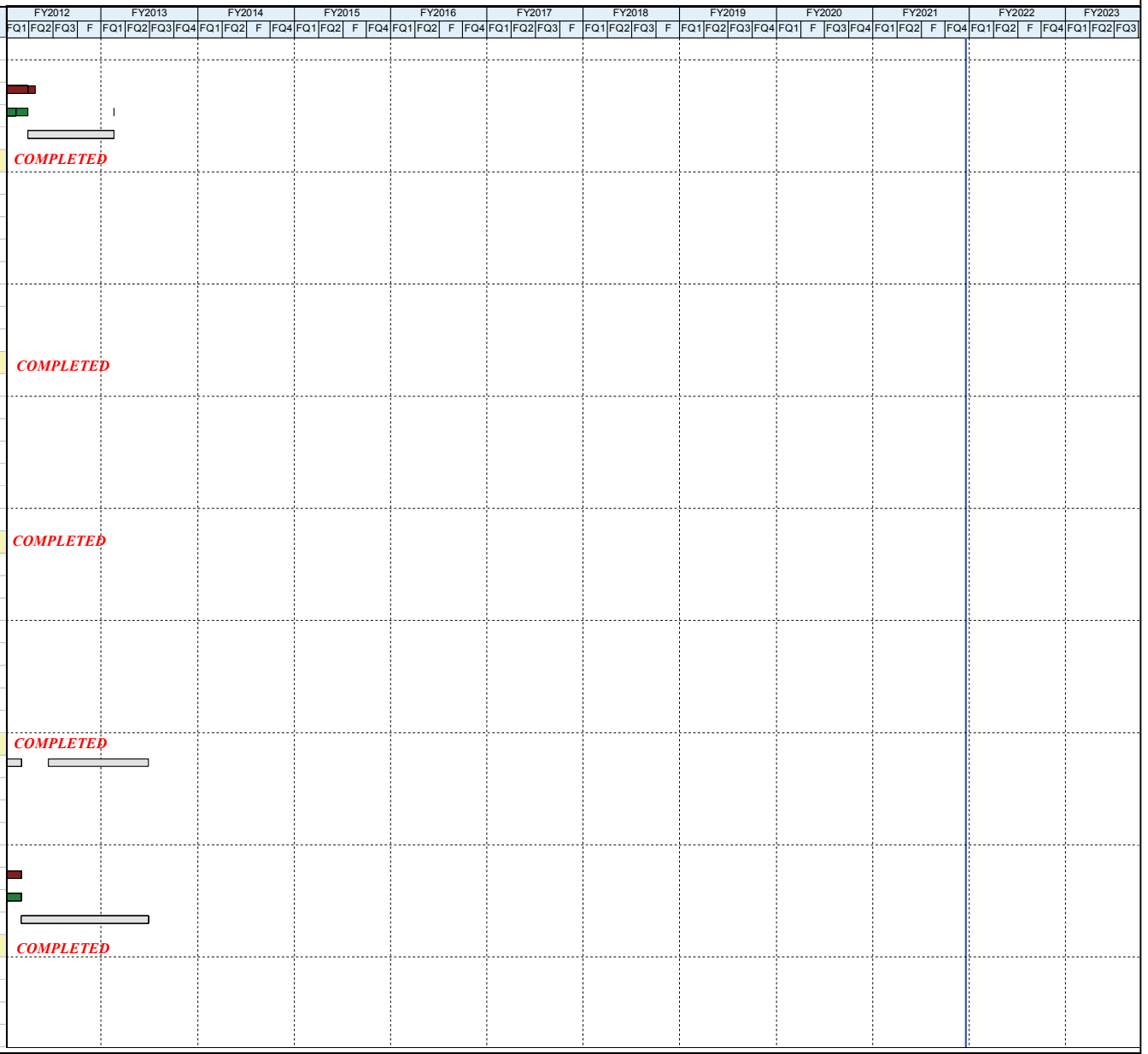


Project Management | Environmental | Right-of-Way | Construction Management | Closeout

Planning | Design | Bid & Award | Construction | Program Management

APPENDIX A: Current Approved WSIP Phase-Level Schedules

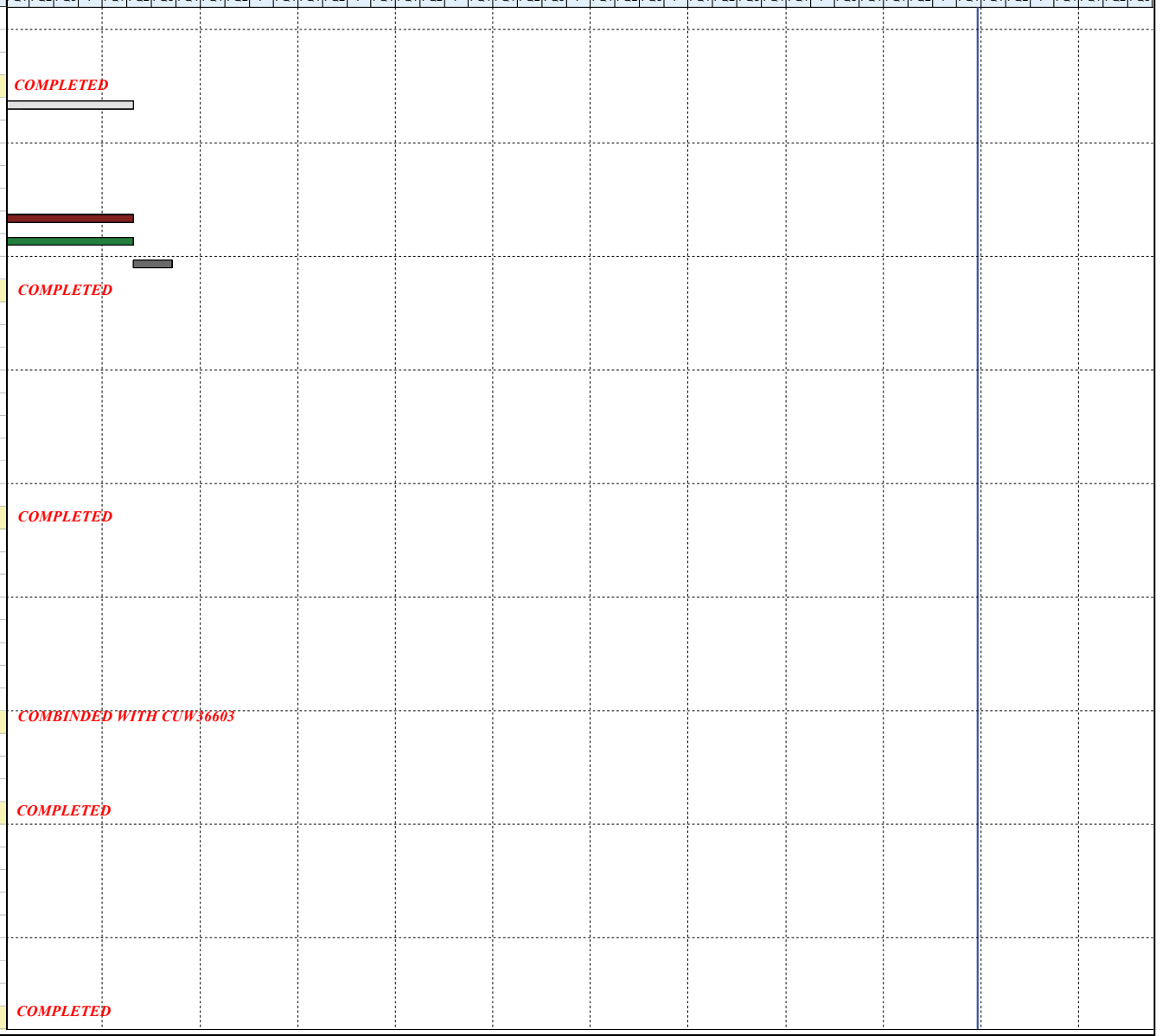
Project Name	Start	Finish
Design	01-Jun-04A	05-Jun-08A
Bid and Award	05-Jun-08A	01-Dec-08A
Construction Management	01-Dec-08A	26-Oct-11A
Construction	01-Dec-08A	17-Aug-12A
Close-Out	29-Sep-11A	17-Aug-12A
Adit Leak Repair - Crystal Springs/Calav	01-Apr-05A	31-Jul-08A
Project Management	01-Apr-05A	11-Mar-08A
Project Planning	01-Apr-05A	27-Mar-06A
Environmental Review	01-Jul-05A	30-Jun-06A
Design	01-Sep-05A	15-Sep-06A
Bid and Award	28-Aug-06A	30-Mar-07A
Construction Management	02-Apr-07A	05-Mar-08A
Construction	09-Apr-07A	05-Mar-08A
Close-Out	12-Mar-08A	31-Jul-08A
Pulgas Balancing - Inlet/Outlet Work	15-May-02A	11-May-06A
Project Management	01-Jul-03A	02-Feb-06A
Project Planning	15-May-02A	01-Aug-05A
Environmental Review	02-May-04A	02-May-04A
Bid and Award	05-Mar-04A	06-Sep-05A
Construction Management	07-Sep-05A	02-Feb-06A
Construction	06-Sep-05A	02-Feb-06A
Close-Out	03-Feb-06A	11-May-06A
Pulgas Balancing - Discharge Channel I	01-Apr-05A	30-Jul-10A
Project Management	01-Apr-05A	07-Dec-09A
Project Planning	01-Apr-05A	15-Sep-06A
Environmental Review	17-Aug-06A	03-Apr-09A
Design	16-Apr-07A	03-Nov-08A
Bid and Award	04-Nov-08A	03-Apr-09A
Construction Management	06-Apr-09A	07-Dec-09A
Construction	02-Apr-09A	07-Dec-09A
Close-Out	08-Dec-09A	30-Jul-10A
Pulgas Balancing - Structural Rehabilitat	03-Apr-06A	28-Dec-12A
Project Management	03-Apr-06A	28-Dec-12A
Project Planning	03-Apr-06A	11-Dec-07A
Environmental Review	03-Jul-07A	16-Jul-09A
Design	11-Jan-08A	01-Jul-09A
Bid and Award	06-Apr-09A	30-Nov-09A
Construction Management	30-Nov-09A	01-Sep-11A
Construction	30-Nov-09A	01-Sep-11A
Close-Out	02-Sep-11A	28-Dec-12A
Pulgas Balancing - Laguna Creek Sedin	31-Mar-06A	31-Dec-07A
Project Management	31-Mar-06A	31-Dec-07A
Environmental Review	31-Dec-07A	31-Dec-07A
Design	31-Mar-06A	26-Dec-06A
Bid and Award	27-Dec-06A	31-Dec-07A



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

APPENDIX A: Current Approved WSIP Phase-Level Schedules

Project Name	Start	Finish
Construction Management	04-Oct-07A	31-Dec-07A
Construction	04-Oct-07A	31-Dec-07A
Close-Out	04-Oct-07A	31-Dec-07A
Pulgas Balancing - Modifications of the E	02-Apr-07A	20-Mar-13A
Project Management	02-Apr-07A	25-Oct-12A
Project Planning	02-Apr-07A	17-Mar-09A
Environmental Review	19-Nov-07A	04-Mar-10A
Design	02-Jan-09A	12-Mar-10A
Bid and Award	29-Jan-10A	22-Sep-10A
Construction Management	22-Sep-10A	25-Oct-12A
Construction	22-Sep-10A	25-Oct-12A
Close-Out	25-Oct-12A	20-Mar-13A
Cross Connection Controls	01-Jul-03A	30-Apr-09A
Project Management	01-Jul-03A	26-Nov-08A
Project Planning	01-Jul-03A	03-Aug-04A
Environmental Review	01-Jul-03A	05-Aug-08A
Right of Way	03-Sep-07A	30-Sep-08A
Design	03-Aug-04A	30-Dec-05A
Bid and Award	01-Apr-05A	31-May-05A
Construction Management	01-Jun-05A	26-Nov-08A
Construction	01-Jun-05A	26-Nov-08A
Close-Out	01-Dec-08A	30-Apr-09A
HTWTP Short-Term Improvements (De	04-Sep-02A	14-Nov-06A
Project Management	04-Sep-02A	27-Feb-06A
Project Planning	04-Sep-02A	30-Apr-03A
Environmental Review	01-Aug-03A	08-Aug-05A
Design	01-Aug-03A	11-Feb-05A
Bid and Award	14-Feb-05A	08-Sep-05A
Construction Management	09-Sep-05A	27-Feb-06A
Construction	09-Sep-05A	27-Feb-06A
Close-Out	12-Jan-06A	14-Nov-06A
HTWTP Short-Term Improvements - Re	12-Jan-06A	22-Feb-08
Project Management	12-Jan-06A	31-Jan-08A
Project Planning	12-Jan-06A	22-Aug-07A
Design	03-Mar-07A	22-Feb-08A
HTWTP Short-Term Improvements - Cc	03-Jul-06A	28-Jul-10A
Project Management	03-Jul-06A	31-Mar-10A
Project Planning	03-Jul-06A	22-Aug-07A
Environmental Review	03-Jul-06A	28-Jul-10A
Design	13-Jul-07A	22-Feb-08A
Bid and Award	03-Sep-07A	09-Jul-08A
Construction Management	18-Jun-08A	31-Mar-10A
Construction	19-Feb-08A	31-Mar-10A
Close-Out	01-Apr-10A	28-Jul-10A
HTWTP Long-Term Improvements	01-Jul-03A	30-Dec-16A

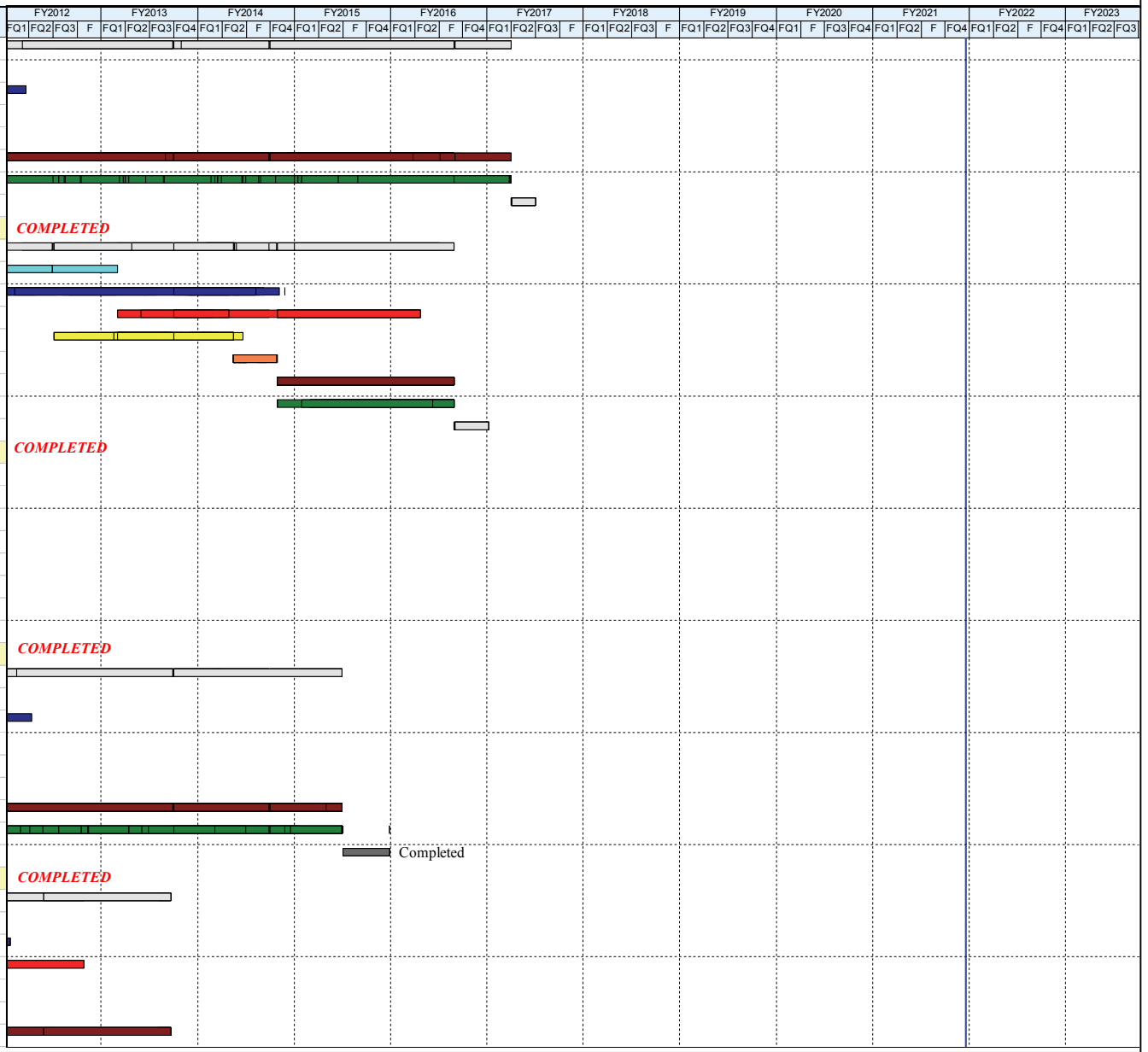


Project Management | Environmental | Right-of-Way | Construction Management | Closeout

Planning | Design | Bid & Award | Construction | Program Management

APPENDIX A: Current Approved WSIP Phase-Level Schedules

Project Name	Start	Finish
Project Management	01-Jul-03A	30-Sep-16A
Project Planning	01-Jul-03A	29-Aug-08A
Environmental Review	09-Jan-07A	15-Mar-11A
Design	02-Sep-08A	15-Oct-10A
Bid and Award	01-Jul-10A	15-Mar-11A
Construction Management	16-Mar-11A	30-Sep-16A
Construction	16-Mar-11A	30-Sep-16A
Close-Out	01-Oct-16A	30-Dec-16A
Peninsula Pipelines Seismic Upgrade	01-Jul-09A	06-Jul-16A
Project Management	01-Jul-09A	29-Feb-16A
Project Planning	01-Jul-09A	31-Aug-12A
Environmental Review	01-Jul-09A	01-Apr-14A
Right of Way	03-Sep-12A	24-Oct-15A
Design	03-Jan-12A	18-Dec-13A
Bid and Award	15-Nov-13A	28-Apr-14A
Construction Management	28-Apr-14A	29-Feb-16A
Construction	28-Apr-14A	29-Feb-16A
Close-Out	29-Feb-16A	06-Jul-1A6
Capuchino Valve Lot Improvements	22-Apr-05A	19-Aug-08A
Project Management	22-Apr-05A	05-Mar-08A
Project Planning	22-Apr-05A	01-Nov-05A
Environmental Review	01-Nov-05A	14-Nov-06A
Design	01-Nov-05A	15-Sep-06A
Bid and Award	18-Sep-06A	29-Jan-07A
Construction Management	29-Jan-07A	05-Mar-08A
Construction	29-Jan-07A	05-Mar-08A
Close-Out	06-Mar-08A	19-Aug-08A
Crystal Springs/San Andreas Transmiss	18-Aug-03A	30-Jun-15A
Project Management	18-Aug-03A	31-Dec-14A
Project Planning	18-Aug-03A	20-Apr-07A
Environmental Review	03-Jan-07A	30-Nov-10A
Right of Way	27-Mar-06A	30-Jun-10A
Design	15-Oct-07A	15-Jun-10A
Bid and Award	13-Apr-10A	30-Nov-10A
Construction Management	01-Dec-10A	31-Dec-14A
Construction	01-Dec-10A	30-Jun-15A
Close-Out	02-Jan-15A	30-Jun-15A
Crystal Springs Pipeline No. 2 Replacen	15-Jan-04A	31-Dec-14A
Project Management	15-Jan-04A	22-Mar-13A
Project Planning	15-Jan-04A	19-Jan-07A
Environmental Review	01-Apr-04A	30-Jun-11A
Right of Way	01-Sep-06A	27-Apr-12A
Design	01-Jan-07A	08-Oct-10A
Bid and Award	09-Sep-10A	04-Mar-11A
Construction Management	01-Nov-10A	22-Mar-13A

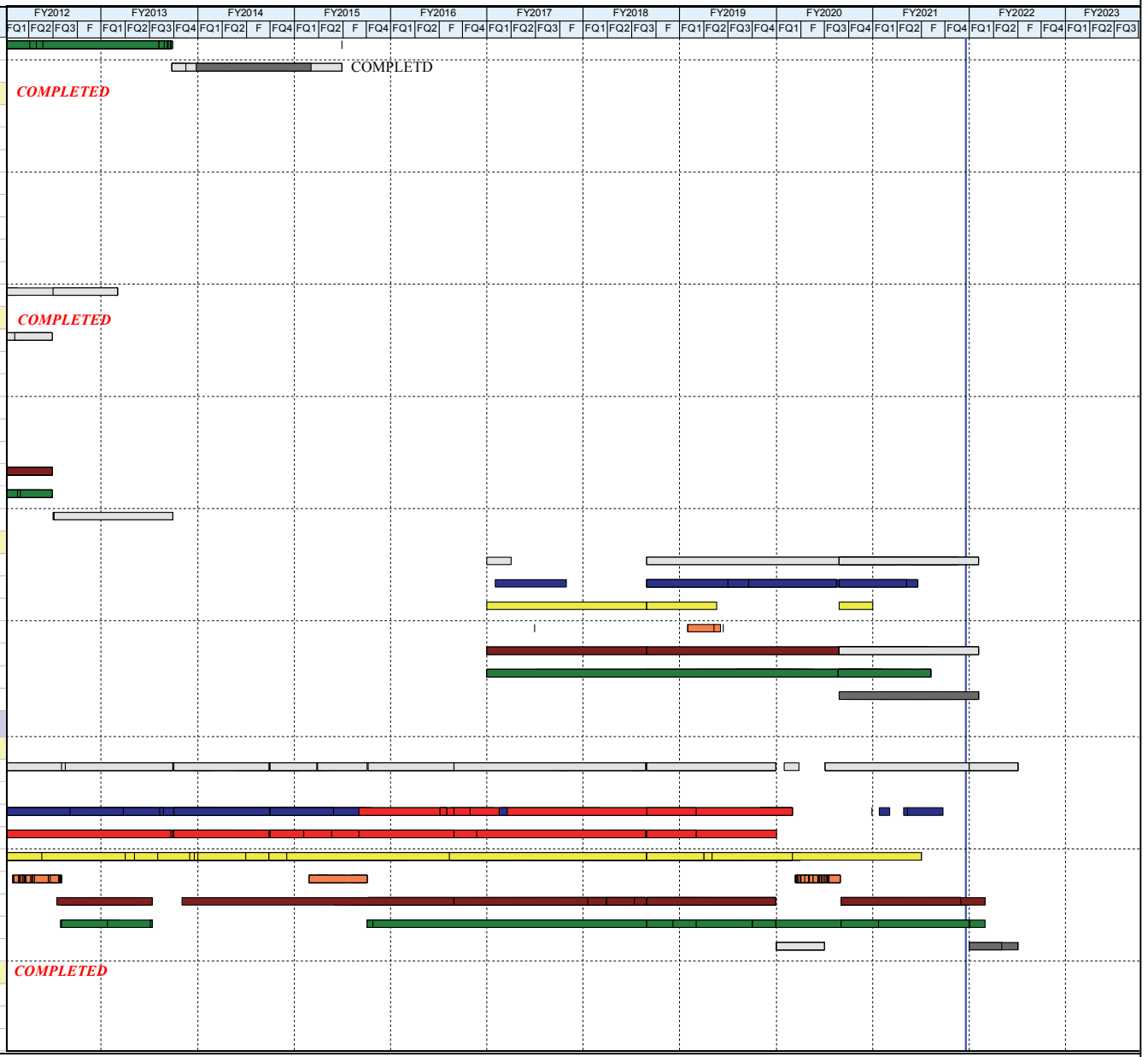


Project Management | Environmental | Right-of-Way | Construction Management | Closeout

Planning | Design | Bid & Award | Construction | Program Management

APPENDIX A: Current Approved WSIP Phase-Level Schedules

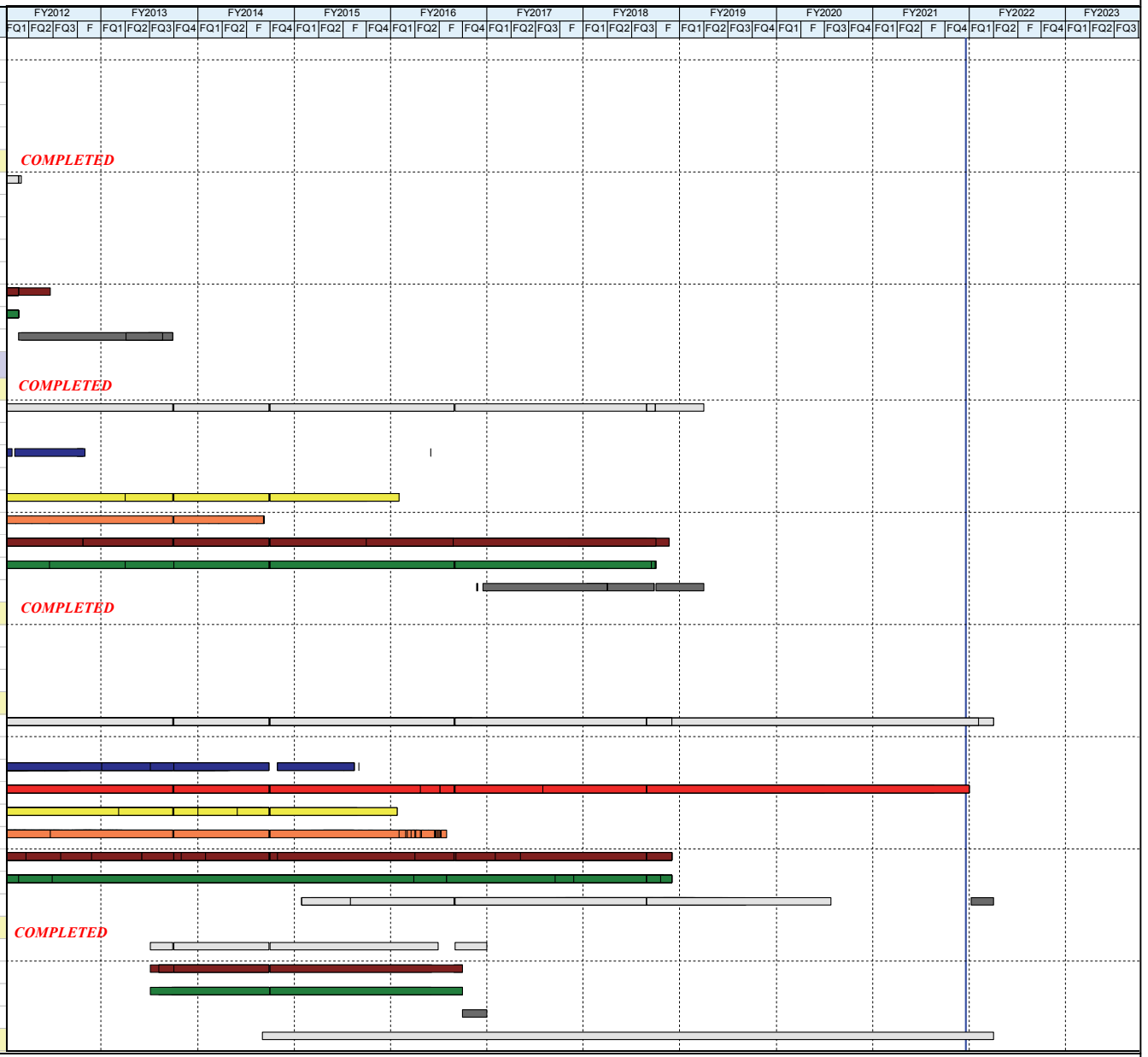
Project Name	Start	Finish
Construction	07-Feb-11A	31-Dec-14A
Close-Out	24-Mar-13A	31-Dec-14A
San Andreas Pipeline No. 3 Installation	15-Jan-04A	30-Aug-12A
Project Management	15-Jan-04A	30-Jun-11A
Project Planning	15-Jan-04A	28-Apr-05A
Environmental Review	01-Apr-04A	15-May-09A
Right of Way	01-Aug-06A	13-Aug-09A
Design	01-May-05A	17-Apr-09A
Bid and Award	20-Apr-09A	26-Aug-09A
Construction Management	26-Aug-09A	30-Jun-11A
Construction	26-Aug-09A	30-Jun-11A
Close-Out	01-Jul-11A	30-Aug-12A
Baden and San Pedro Valve Lots Impro	03-Oct-05A	29-Mar-13A
Project Management	03-Oct-05A	30-Dec-11A
Project Planning	03-Oct-05A	03-Nov-06A
Environmental Review	05-Oct-06A	21-Oct-08A
Right of Way	05-Oct-06A	31-Mar-08A
Design	29-Mar-07A	12-Jan-09A
Bid and Award	29-Sep-08A	07-Apr-09A
Construction Management	08-Apr-09A	30-Dec-11A
Construction	03-Apr-09A	30-Dec-11A
Close-Out	31-Dec-11A	29-Mar-13A
WSIP Closeout - Peninsula	01-Jul-16A	05-Aug-21
Project Management	01-Jul-16A	05-Aug-21
Environmental Review	01-Jul-16A	18-Dec-20
Design	01-Jul-16A	30-Jun-20
Bid and Award	27-Dec-16A	13-Dec-18A
Construction Management	01-Jul-16A	05-Aug-21
Construction	01-Jul-16A	06-Feb-21
Close-Out	24-Feb-20A	05-Aug-21
San Francisco Regional Region	31-Mar-00A	30-Dec-21
Regional Groundwater Storage and Rec	01-Jun-03A	30-Dec-21
Project Management	01-Jul-05A	30-Dec-21
Project Planning	01-Jun-03A	31-Jan-08A
Environmental Review	15-Oct-07A	28-Feb-20
Right of Way	07-Apr-08A	01-Jul-19
Design	02-Jan-08A	31-Dec-20
Bid and Award	11-Mar-09A	28-Feb-20
Construction Management	04-Mar-08A	31-Aug-21
Construction	01-Jul-03A	31-Aug-21
Close-Out	01-Jul-19	30-Dec-21
Sunset Reservoir - North Basin	31-Mar-00A	10-Sep-10A
Project Management	31-Mar-00A	26-Mar-09A
Project Planning	31-Mar-00A	28-Sep-01A
Environmental Review	21-May-04A	21-Dec-04A



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

APPENDIX A: Current Approved WSIP Phase-Level Schedules

Project Name	Start	Finish
Design	01-Oct-01A	12-Apr-06A
Bid and Award	22-Oct-04A	10-Oct-06A
Construction Management	11-Apr-05A	26-Mar-09A
Construction	11-Apr-05A	09-Nov-09A
Close-Out	13-Nov-06A	10-Sep-10A
University Mound Reservoir - North Bas	24-Oct-05A	29-Mar-13A
Project Management	24-Oct-05A	01-Sep-11A
Project Planning	24-Oct-05A	06-Apr-07A
Environmental Review	26-Dec-06A	18-Jul-07A
Design	07-Apr-07A	24-Mar-09A
Bid and Award	02-Feb-09A	31-Jul-09A
Construction Management	03-Aug-09A	23-Dec-11A
Construction	27-Jul-09A	23-Aug-11A
Close-Out	23-Aug-11A	29-Mar-13A
Support Projects	13-Apr-04A	30-Dec-21
System Security Upgrades	07-Jan-06A	28-Sep-18A
Project Management	19-Jun-06A	28-Sep-18A
Project Planning	19-Jun-06A	08-Jul-09A
Environmental Review	19-Jun-06A	28-Mar-12A
Right of Way	26-Nov-08A	26-Nov-08A
Design	19-Jun-06A	03-Aug-15A
Bid and Award	07-Jan-06A	10-Mar-14A
Construction Management	13-Nov-06A	22-May-18A
Construction	13-Nov-06A	31-Mar-18A
Close-Out	24-Sep-07A	28-Sep-18A
Programmatic EIR	13-Apr-04A	30-Jun-09A
Project Management	13-Apr-04A	30-Jun-09A
Project Planning	13-Apr-04A	28-Feb-07A
Environmental Review	15-Jun-04A	30-Jun-09A
Bioregional Habitat Restoration	06-Sep-06A	30-Sep-21
Project Management	01-Nov-06A	30-Sep-21
Project Planning	06-Sep-06A	31-Dec-07A
Environmental Review	03-Jan-07A	13-Feb-15A
Right of Way	02-Jul-08A	30-Jun-21
Design	16-Jul-07A	27-Jul-15A
Bid and Award	04-Dec-09A	29-Jan-16A
Construction Management	22-Jun-10A	31-May-18A
Construction	06-Mar-09A	31-May-18A
Close-Out	29-Jul-14A	30-Sep-21
Vegetation Restoration of WSIP Constru	02-Jan-13A	30-Jun-16A
Project Management	02-Jan-13A	30-Jun-16A
Construction Management	02-Jan-13A	31-Mar-16A
Construction	02-Jan-13A	31-Mar-16A
Close-Out	01-Apr-16A	30-Jun-16A
Long Term Mitigation Endowment	05-Mar-14A	30-Sep-21

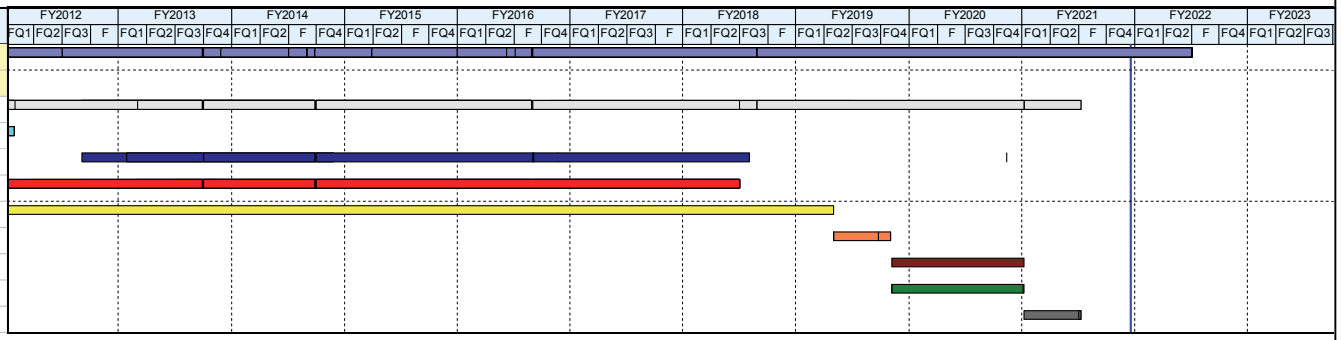


Project Management | Environmental | Right-of-Way | Construction Management | Closeout

Planning | Design | Bid & Award | Construction | Program Management

APPENDIX A: Current Approved WSIP Phase-Level Schedules

Project Name	Start	Finish
Program Management Project	01-Aug-05A	30-Dec-21
Watershed and Environmental Improver	02-Jan-07A	08-Jan-21
Project Management	02-Jul-07A	08-Jan-21
Project Planning	02-Jan-07A	29-Jul-11A
Environmental Review	05-Mar-12A	06-Nov-18A
Right of Way	14-Mar-11A	31-Dec-17A
Design	31-May-11A	30-Oct-18A
Bid and Award	31-Oct-18A	03-May-19A
Construction Management	06-May-19A	06-Jul-20
Construction	06-May-19A	06-Jul-20
Close-Out	07-Jul-20	08-Jan-21



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

APPENDIX B
WSIP Quarterly Report
Regional Projects (Q4/FY 2020- 2021)

Report available on the SFPUC Website at the following address:
https://sfpuc.org/construction-contracts/water-infrastructure-improvements

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