



San Francisco Water Power Sewer

Operator of the Hetch Hetchy Regional Water System

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September 1, 2011

The Honorable Assembly Member Ricardo Lara, Chair
The Honorable Senator Robert Dutton, Vice Chair
California State Assembly
Joint Legislative Audit Committee
1020 N. Street, Room 107
Sacramento, CA 95814

The Honorable Mark Church, Chair
California Seismic Safety Commission
1755 Creekside Oaks Drive, Suite 100
Sacramento, CA 95833

Ron Chapman, MD, MPH, Director
California Department of Public Health
P.O. Box 997377, MS 0500
Sacramento, CA 95899-7377

**Subject: San Francisco Public Utilities Commission (SFPUC)
Fiscal Year 2010-2011 Annual Report
Water System Improvement Program (WSIP)**

Dear Assembly Member Lara, Senator Dutton, Supervisor Church, and Dr. Chapman:

In accordance with Section 73502(c) of the California Water Code, the San Francisco Public Utilities Commission (SFPUC) is pleased to submit the Annual Report describing progress made on the implementation of the Water System Improvement Program (WSIP) during Fiscal Year (FY) 2010-2011.

The WSIP is a multi-billion dollar, multi-year program to upgrade the SFPUC's Regional and Local Water Systems. The program will deliver capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water 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, in an environmentally sustainable manner. The proposed WSIP is structured to cost-effectively meet water quality requirements, improve seismic and delivery reliability through the year 2030, and meet water supply objectives until the year 2018.

Section 1 of the attached report describes the overall progress made on the program during FY 2010-2011 (July 1, 2010 through June 30, 2011) and Section 2 focuses on the major programmatic initiatives undertaken during that time period. Included in Section 3 is a summary of changes made to the WISP individual project schedules. The achievements and challenges encountered in the pre-construction and construction phases of the program during FY 2010-2011 are summarized in Section 4. Finally, Section 5 of the report highlights the current status of the specific projects mentioned in California Assembly Bill (AB) 1823.

Edwin M. Lee
Mayor

Francesca Vietor
President

Anson Moran
Vice President

Ann Moller Caen
Commissioner

Art Torres
Commissioner

Vince Courtney
Commissioner

Ed Harrington
General Manager



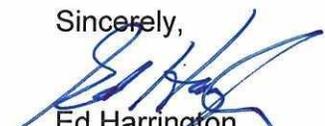
Significant progress was made on the implementation of the WSIP during FY 2010-2011. Between July 1, 2010 and June 30, 2011 the overall completion of the program increased from 26.0% to 42.4%. The program continued its overall transition from pre-construction activities (planning, environmental review/permitting, real estate acquisition, engineering design, and bid & award) to construction. As of the end of the reporting period, planning activities are nearing completion at 98%, whereas environmental, design and construction efforts are 85%, 93% and 34% complete, respectively.

During the reporting period, ten (10) separate construction contracts were awarded and construction substantial and final completion were reached on six (6) and two (2) different contracts, respectively. As of June 30, 2011, construction was underway on twenty (20) regional projects valued at \$2.2 billion, while construction had been completed on eighteen (18) other regional projects valued at \$227 million. Since its inception, the WSIP has stimulated the local and regional economy by employing over 5,000 construction craft workers. In doing so, the program has generated more than 2.1 million hours of work and about \$75 million in wages.

On July 12, 2011 the SFPUC Commission adopted revisions to the WSIP project scopes, schedules and budgets, which were last approved in 2009. These revisions are documented in a report titled Wholesale Regional Water System Security and Reliability Act: Notice of Changes Report June 2011 - Revised Water System Improvement Program, dated September 1, 2011. This report is being submitted separately to the California Seismic Safety Commission and the California Department of Public Health.

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

Sincerely,



Ed Harrington
General Manager
San Francisco Public Utilities Commission

Attachment

CC: The Honorable Francesca Vietor - President, SFPUC Commission
The Honorable Anson B. Moran - Vice President, SFPUC Commission
The Honorable Ann Moller Caen - Commissioner, SFPUC Commission
The Honorable Art Torres - Commissioner, SFPUC Commission
The Honorable Vince Courtney - Commissioner, SFPUC Commission
Arthur Jensen - Chief Executive Officer and General Manager, BAWSCA
Rufus B. Howell - Deputy Director, Center for Environmental Health, California Department of Public Health
Betty Graham - San Francisco District Engineer, Drinking Water Field Operations Branch, California Department of Public Health
Richard McCarthy - Executive Director, California Seismic Safety Commission



HETCH HETCHY

WATER SYSTEM IMPROVEMENT PROGRAM



2010-11

Annual Report

Water System Improvement Program

*Rebuilding Today
for a Better Tomorrow*



Services of the San Francisco Public Utilities Commission

September 1, 2011

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) 2010-2011 (July 1, 2010 through June 30, 2011). This report only addresses 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 multi-billion dollar, multi-year program to upgrade the SFPUC's Regional and Local Water Systems. The program will deliver capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water to its twenty-six (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, in an environmentally sustainable manner. The proposed 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 until the year 2018.

Significant progress was made on the implementation of the WSIP during FY 2010-2011. Between July 1, 2010 and June 30, 2011 the overall completion of the program increased from 26.0% to 42.4%. The program continued its overall transition from pre-construction activities (planning, environmental review/permitting, real estate acquisition, engineering design, and bid & award) to construction. As of the end of the reporting period, planning activities are nearing completion at 98%, whereas environmental, design and construction efforts are 85%, 93% and 34% complete, respectively. Notable achievements during FY 2010-2011 include:

- Six (6) Final Environmental Impact Reports (EIR) for regional projects were certified by the San Francisco Planning Department and none of these documents were appealed.
- The environmental phase (includes California Environmental Quality Act [CEQA] review and all required environmental permits issued by resource agencies) of five (5) projects was completed
- The design phase of five (5) regional projects was completed;
- Ten (10) construction contracts were awarded;
- Construction substantial completion was reached on six (6) construction contracts;
- Construction final completion was reached on two (2) construction contracts. Construction of 18 regional projects valued \$227 million was completed as of the end of FY 2010-2011;

- Construction of 20 regional projects valued at \$2.2 billion was underway as of the end of FY 2009-2010; and
- Four (4) regional projects were completed and formally closed out.

The change in the construction substantial completion and project final completion forecasted in June 2009 and June 2011 for the WSIP regional projects is summarized in Table ES-1.

Table ES-1: Changes in Project Schedule Forecasts

Schedule Forecast Change	Construction Substantial Completion	Project Final Completion
Projects Accelerated	4	4
Projects Unchanged	26	22
Projects Delayed < 6 Months	8	9
Projects Delayed 6-12 Months	5	9
Projects Delayed > 12 Months	3	2

One of the most significant initiatives during FY 2010-2011 was the revision of the WSIP project scopes, schedules and budgets last approved by the SFPUC Commission (“Commission”) in June 2009. In early 2011, WSIP Senior Management recognized the need to assess the cumulative effects of refinements made on the program in the last few years and formally approve revisions in order to:

- Incorporate the latest project schedule and cost forecasts based on the most recent information available, including the status of change orders, trends, risks and contingencies reported by the various construction management (CM) teams;
- Incorporate the latest scope changes and refinements approved by the WSIP Change Management Board and WSIP Director;
- Incorporate the recent construction bids and the near-term effects of the economic recession into construction cost estimates;
- Provide more realistic project baselines for performance measurements;
- Consolidate project cost savings accumulated to date in a Program Management Reserve; and
- Ensure compliance with the California Water Code (Assembly Bills [AB] 1823 and 2437).

The June 2011 Revised WSIP was approved by the Commission on July 12, 2011. This resulted in changes to four (4) project scopes and the extension of the overall program completion date from December 4, 2015 to July 29, 2016, with all but three (3) projects completing their construction phase prior to December 31, 2015. The approved scope and schedule changes are described in the Wholesale Regional Water System Security and Reliability Act: Notice of Changes Report June 2011 Revised Water System Improvement Program, dated September 1, 2011.

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Appendix A: WSIP Regional Projects Q4 / FY 2010-2011 Quarterly Report

Appendix B: June 2011 Revised WSIP Schedule for Regional Projects

WSIP Annual Report – September 1, 2011

LIST OF ACRONYMS

AB	Assembly Bill
ACDD	Alameda Creek Diversion Dam
ACWD	Alameda County Water District
ARM	Active Risk Manager
BAWSCA	Bay Area Water Supply and Conservation Agency
BDPL	Bay Division Pipeline
BHR	Bioregional Habitat Restoration
Cal/OSHA	California Division of Occupational Safety and Health
CCT	Chlorine Contact Tank
CDFG	California Department of Fish and Game
CDPH	California Department of Public Health
CER	Conceptual Engineering Report
CIDH	Cast in Drilled Hole
CEQA	California Environmental Quality Act
CM	Construction Management
CMIS	Construction Management Information System
CSPL	Crystal Springs Pipeline
CS/SA	Crystal Springs/San Andreas
DRB	Dispute Resolution Board
DSOD	California Division of Safety of Dams
EBMUD	East Bay Municipal Utility District
EBRPD	East Bay Regional Park District
EIR	Environmental Impact Report
FY	Fiscal Year
HTWTP	Harry Tracy Water Treatment Plant
IS/MND	Initial Study/Mitigated Negative Declaration
LOS	Level of Service
MLD	Most Likely Decendent
MMRP	Mitigation, Monitoring and Reports Plan
MND	Mitigated Negative Declaration
NIT	New Irvington Tunnel
NOA	Naturally Occurring Asbestos
NTP	Notice to Proceed
PCCP	Pre-stressed Concrete Cylinder Pipe

WSIP Annual Report – September 1, 2011

LIST OF ACRONYMS (continued)

PCM	Project Construction Manager
PG&E	Pacific Gas & Electric
QA	Quality Assurance
QC	Quality Control
RCM	Regional Construction Manager
ROW	Right-of-Way
RPM	Regional Project Manager
RWQCB	Regional Water Quality Control Board
SAPL	San Andreas Pipeline
SFPUC	San Francisco Public Utilities Commission
SJPL	San Joaquin Pipeline
SVWTP	Sunol Valley Water Treatment Plant
TBM	Tunnel Boring Machine
TWR	Treated Water Reservoir
USACE	US Army Corps of Engineers
USD	Union Sanitary District
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
WSIP	Water System Improvement Program
WTP	Water Treatment Plant

ANNUAL REPORT

WATER SYSTEM IMPROVEMENT PROGRAM

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 (WSIP) during Fiscal Year (FY) 2010-2011 (July 1, 2010 through June 30, 2011). This report only addresses 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.

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Section 1 of the report describes the overall progress made on the program during FY 2010-2011 (July 1, 2010 through June 30, 2011) and Section 2 focuses on the major programmatic initiatives undertaken during that time period. Included in Section 3 is a summary of changes made to the WSIP individual project schedules. The achievements and challenges encountered in each region during FY 2010-2011 are summarized in Section 4. Finally, Section 5 of the report highlights the current status of the specific projects mentioned in California Assembly Bill (AB) 1823. The WSIP Regional Projects 4th Quarterly Report for FY 2009-2010 (Q4-FY10/11 WSIP Quarterly Report) is included as Appendix A. This report provides more detailed information on the progress made on and status of each individual WSIP regional project as of June 30, 2011. Also, the latest approved project schedules (June 2011 Revised WSIP project schedules) are provided as part of Appendix B.

1.0 OVERALL PROGRAM PROGRESS (FY 2010-2011)

A great deal of progress has been made on the implementation of the WSIP during the reporting period with overall progress increasing from 26.0% to 42.4%. Overall, actual performance (42.4%) on the Regional Program is 1.1% behind planned performance (43.5%) based on the June 2011 Revised WSIP schedule and 10.2% behind planned performance based on the June 2009 Revised WSIP schedule. The pre-construction and construction activities impacting schedule are discussed under "Pre-construction Challenges" and "Construction Challenges" in Section 4 of this report.

Table 1-1 shows planning activities nearing completion at 98%, whereas environmental, design and construction efforts being 85%, 93% and 34% complete, respectively.

Table 1-1: WSIP Regional Program Performance¹

Phase	July 1, 2010		June 30, 2011	
	% Planned ²	% Actual	% Planned ³	% Actual
Planning	100.0%	97.6%	98.5%	98.5%
Environmental	88.0%	82.2%	86.9%	85.4%
Design	96.1%	92.0%	92.7%	92.7%
Bid & Award	66.8%	64.0%	84.2%	84.2%
Construction	18.7%	15.2%	35.6%	34.1%
Close-Out	26.3%	26.8%	10.2%	9.9%
Program Cumulative	29.6%	26.0%	43.5%	42.4%

¹ Percent completion do not include Support Projects in WSIP Regional Program.

² Based on June 2009 Revised WSIP schedule.

³ Based on June 2011 Revised WSIP schedule.

The program continued its overall transition from pre-construction activities (environmental review/permitting, real estate acquisition, engineering design, and bid & award) to construction. Table 1-2 presents a comparison between July 1, 2010 and June 30, 2011 of the number of projects in each phase and their corresponding total approved value. As of the end of the reporting period (June 30, 2011), twenty (20) regional projects are in construction with a total value of \$2,219 million and eighteen (18) additional projects with a total value of \$227 million are in closeout or have been completed. The remaining eight (8) regional projects are in pre-construction, with one project in bid and award. During this reporting period, four (4) projects were completed and nine (9) projects progressed from pre-construction to construction. During the reporting period, the value of the projects in construction increased by almost \$1 billion from \$1.3 billion to \$2.2 billion.

Table 1-2: Status of WSIP Regional Projects

Project Phase	July 1, 2010 Status		June 30, 2011 Status	
	No. of Projects	Total Project Value (\$M) ¹	No. of Projects	Total Project Value (\$M) ²
Planning	2	\$36	2	\$52
Design	12	\$1,486	5	\$381
Bid & Award	3	\$553	1	\$431
Construction	14	\$1,256	20	\$2,219
Close-Out	5	\$115	4	\$56
Completed	10	\$68	14	\$171
Total	46	\$3,514	46	\$3,310

¹ Based on June 2009 Revised WSIP budget.

² Based on June 2011 Revised WSIP budget.

To further illustrate the progress made during the reporting period, 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

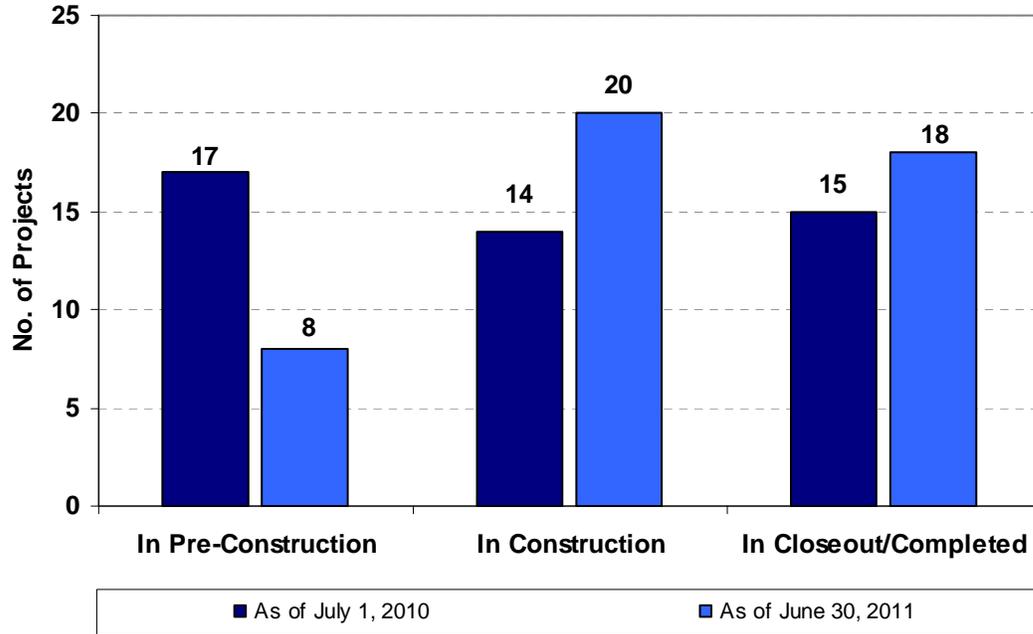
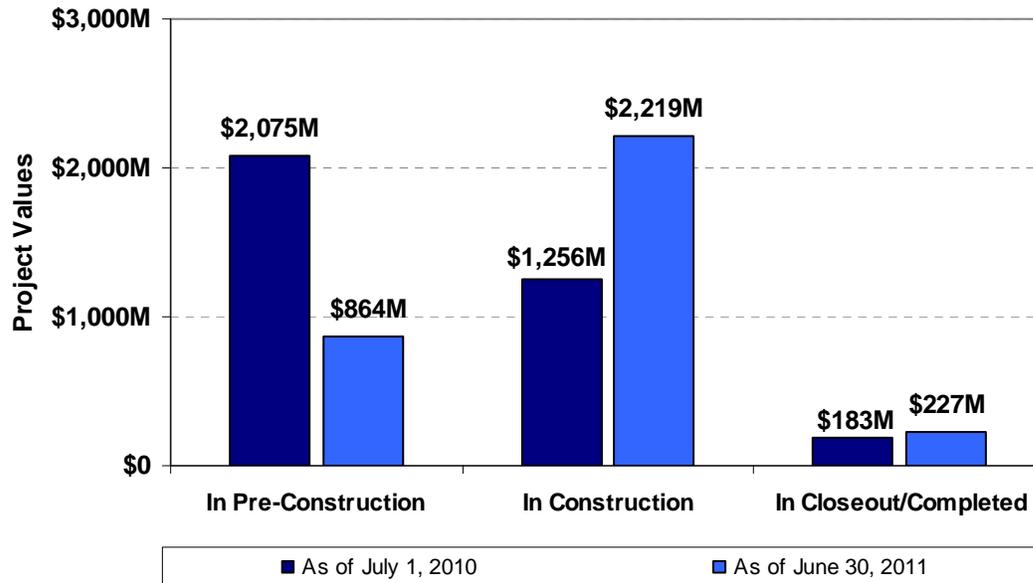


Figure 1-2: Progress Made in Terms of Regional Project Values



During the reporting period, the SFPUC Commission (“Commission”) adopted the California Environmental Quality Act (CEQA) findings for six (6) projects and awarded ten (10) construction contracts (CEQA findings for the remaining four [4] projects were adopted previously). Furthermore, six (6) construction contracts reached substantial completion. These various milestones, as well as other important ones, reached during the reporting period are summarized below.

Six (6) Adoptions of CEQA Findings and Formal Project Approvals:

- Project CUW37801: Crystal Springs Pipeline (CSPL) No.2 Replacement Final Environmental Impact Report (EIR) - Commission Resolution No. 10-0081 dated September 30, 2010
- Project CUW35401: Lower Crystal Springs Dam Improvements Final EIR - Commission Resolution No. 10-0081 dated October 7, 2010
- Project CUW36701: Harry Tracy Water Treatment Plant (HTWTP) Long-Term Improvements Final EIR - Commission Resolution No. 10-0081 dated October 14, 2010
- Project CUW37302: Rehabilitation of Existing San Joaquin Pipelines (SJPLs) Final Mitigated Negative Declaration (MND) - Commission Resolution No. 10-0203 dated December 14, 2010
- Project CUW35302: Seismic Upgrade of Bay Division Pipeline (BDPL) Nos. 3 & 4 Final EIR - Commission Resolution No. 09-0120 dated January 20, 2011
- Project CUW35302: Calaveras Dam Replacement Final EIR - Commission Resolution No. 09-0120 dated January 20, 2011

Six (6) Projects with Completed Environmental Phase (CEQA Review and Environmental Permitting):

- Project CUW37101: Crystal Springs/San Andreas Transmission Upgrade (November 30, 2010)
- Project CUW35901: New Irvington Tunnel (March 7, 2011)
- Project CUW36701: HTWTP Long-Term Improvements (March 15, 2011)
- Project CUW35401: Lower Crystal Springs Dam Improvements (April 28, 2011)
- Project CUW 37801: CSPL No.2 Replacement (June 30, 2011)
- Project CUW35302: Calaveras Dam Replacement (June 30, 2011)

Five (5) Projects with Completed Design Phase:

- Project CUW35401: Lower Crystal Springs Dam Improvements (September 30, 2010)
- Project CUW 37801: CSPL No.2 Replacement (October 8, 2010)
- Project CUW36701: HTWTP Long-Term Improvements (October 15, 2010)

-
- Project CUW37301: SJPL System (March 23, 2011)
 - Project CUW35901: Rehabilitation of Existing SJPLs (March 31, 2011)

Ten (10) Construction Contract Awards:

- Project CUW36105: Pulgas Balancing - Modifications of the Existing Dechloramination Facility (Contract WD-2607) - Commission Resolution No. 10-0143 dated August 10, 2010
- Project CUW37101: Crystal Springs/San Andreas Transmission Upgrade (Contract WD-2601) - Commission Resolution No. 10-0166 dated September 28, 2010
- Project CUW37301: SJPL System - Western Segment (Contract HH-935B) - Commission Resolution No. 10-0218 dated December 14, 2010
- Project CUW35401: Lower Crystal Springs Dam Improvements (Contract WD-2591) - Commission Resolution No. 10-0220 dated December 14, 2010.
- Project CUW37801: CSPL No.2 Replacement (Contract WD-2555) - Commission Resolution No. 11-0011 dated January 11, 2011
- Project CUW36701: HTWTP Long-Term Improvements (Contract WD-2596) - Commission Resolution No. 11-0013 dated January 27, 2011
- Project CUW36302: Security System Upgrade (Contract WD-2653) - Commission Resolution No. 11-0041 dated March 22, 2011
- Project CUW37401: Calaveras Dam Replacement (Contract WD-2551) - Commission Resolution No. 11-0077 dated May 24, 2011
- Project CUW37301: SJPL System - Eastern Segment (Contract HH-935C) - Commission Resolution No. 11-0094 dated June 14, 2011
- Project CUW38802: Bioregional Habitat Restoration (BHR) - Gold Fish Pond (Contract WD-2640) - Commission Resolution No. 11-0098 dated June 28, 2011

Six (6) Construction Contract Substantial Completions:

- Project CUW37901: San Andreas Pipeline (SAPL) No.3 Installation, Contract WD-2513 (March 29, 2011)
- Project CUW39101: Baden & San Pedro Valve Lots Improvements, Contract WD-2556 (March 31, 2011)
- Project CUW37302: Rehabilitation of Existing SJPLs, Contract HH-914R (May 13, 2011)
- Project CUW37201: University Mound Reservoir – North Basin, Contract WD-2539 (May 25, 2011)
- Project CUW38401: Tesla Treatment Facility, Contract DB-116 (June 24, 2011)
- Project CUW38601: San Antonio Pump Station Upgrade, Contract WD-2566 (June 30, 2011)

Two (2) Construction Contract Final Completions:

- Project CUW36401: Lawrence Livermore Water Quality Improvement, Contract WD-2597 (March 11, 2011)
- Project CUW36301: SCADA System – Phase II, Contract WD-2589 (May 24, 2011)

Four (4) Projects Completed:

- Project CUW36603: HTWTP Short-Term Improvements - Coagulation & Flocculation / Remaining Filters (July 28, 2010)
- Project CUW36102: Pulgas Balancing - Discharge Channel Modifications (July 30, 2010)
- Project CUW36301: Sunset Reservoir - North Basin (September 10, 2010)
- Project CUW35501: Standby Power Facilities - Various Locations (December 22, 2010)

In July 2011, the Commission approved revisions to WSIP project scopes, schedules and budgets last approved in June 2009. These latest revisions are referred to as the June 2011 Revised WSIP. As part of these revisions, the Commission approved an extension of the program's completion date from December 4, 2015 to July 29, 2016, with all but three (3) projects completing their construction phase prior to December 31, 2015. Those projects, which include one (1) support project and one (1) water supply project, are:

- Project CUW35201: Upper Alameda Creek Filter Gallery (Water Supply Project)
- Project CUW36302: System Security Upgrade (Support Project)
- Project CUW37401: Calaveras Dam Replacement

As part of the June 2011 Revised WSIP, the approved project completion of twenty (20) of the WSIP forty-six (46) regional projects was extended. As of the end of the reporting period, thirteen (13) of these projects were in construction, while seven (7) were still in pre-construction. Table 1-3 provides a breakdown of project-specific schedule changes approved by the Commission in July 2011. Section 3 of this report provides more details on project schedule changes.

Table 1-3: Changes in Project Schedules

Schedule Change	No. of Project
Projects Completed	14
Projects Accelerated	3
Projects with No Change	9
Projects Extended by < 6 months	6
Projects Extended by 6-12 months	6
Projects Extended by > 12 months	8

Eight (8) projects have been extended by more than twelve (12) months. Three (3) of these projects are water supply projects, two (2) are support projects that do not directly contribute to the system's level of service (LOS) goals, and the construction of one project has been completed. These projects are:

- Project CUW30103: Regional Groundwater and Recovery (Water Supply Project)
- Project CUW35201: Upper Alameda Creek Filter Gallery (Water Supply Project)
- Project CUW36302: System Security Upgrade (Support Project)
- Project CUW36701: HTWTP Long-Term Improvements
- Project CUW36702: Peninsula Pipelines Seismic Upgrade
- Project CUW37401: Calaveras Dam Replacement
- Project CUW38802: Bioregional Habitat Restoration (Support Project)
- Project CUW38901: SFPUC/EBMUD Intertie (Construction Completed)

2.0 PROGRAMMATIC INITIATIVES (FY 2010-2011)

This section describes some of the more important programmatic initiatives undertaken during FY 2010-2011.

2.1 Schedule Compression Analysis

Due to concerns expressed by the Bay Area Water Supply and Conservation Agency (BAWSCA) regarding project schedules extending into the last year of the June 2009 Revised WSIP, the SFPUC tasked its Program Management Consultant (Parsons) in late 2010 with analyzing the potential compression of the overall WSIP schedule.

Parsons reviewed the schedules of the eleven (11) projects scheduled to complete in the last year of the program, resource loaded forecasts, and construction management (CM) processes. Parsons also reviewed the program's trends by comparing the approved June 2009 Revised WSIP budgets and schedules to the September 2010 cost and schedule forecasts (program status as of September 2010).

The review focused on answering seven (7) specific questions. The observations Parsons presented in their final report (*WSIP Schedule Compression Analysis, January 31, 2011*) are summarized below.

Is the schedule compressed? – The overall September 2010 forecasted schedule for the construction and closeout phases of the program is compressed compared to the schedule approved as part of the June 2009 Revised WSIP. This conclusion was based on the following observations: (1) more projects will be completed in the last year of the program, (2) spending will be greater in the last three (3) years, and (3) a greater percentage of construction must be completed in the last three (3) years.

Do the projects projected to complete in 2015 present additional risks or challenges to program completion? - The construction projections for the eleven (11) projects forecasted to complete in 2015 are not related in ways that pose significant additional risks to the program. However, having more projects finishing in the last year of the program increases the risk for delay of the overall program schedule.

Are processes and systems in place to address construction issues in a timely and effective manner and being executed? - The current processes and systems for managing construction were well planned and thorough. However, while the current number of projects in construction is as high as it will be for WSIP, the value of construction taking place will more than double for the next two (2) years and average monthly spending will exceed \$60 million. It is incumbent on the entire WSIP organization to maintain the diligence they have demonstrated in identifying, elevating and resolving construction issues.

Has the SFPUC planned for adequate resources to address the project schedules of construction and project closeout? - City staff resources and consultant contracts are generally adequate to handle the current construction workload that has now reached the peak for the number of projects in construction.

Can the SFPUC manage the cash flow to meet the schedules? - The capital funding activities have been well coordinated with the WSIP's cash needs. SFPUC makes contract payments in a timely manner and Parsons sees no reason, absent a capital market collapse, that WSIP cash management requirements will not be met.

Can the SFPUC maintain system operations throughout construction and during the last year of the program? - The level of planning for required system shutdowns, and the communication and documentation ongoing between WSIP Management, designers, construction contractors and SFPUC operations staff is appropriate. With six (6) shutdowns planned for 2014 and one (1) for 2015, compared to over sixty (60) for 2010 and 2011, absent unforeseen schedule delays, the September 2010 schedule forecasts pose no additional concerns for maintaining system operations during the last year of the program.

Can SFPUC retain the right people and resources necessary to complete the program? - The consultant resources should not be a concern, as the consultants have the ability to provide sufficient resources if contract authority is in place. With respect to City staff, the overlap of resource needs for the Sewer System Improvement Program with WSIP requires special attention to balance resources and ensure WSIP retains staff needed for closing out WSIP projects in 2015. With both Capital Programs under the authority of the Assistant General Manager of Infrastructure, WSIP is expected to receive the priority it needs.

In summary, Parsons concluded that while the September 2010 forecasted schedule is compressed compared to the approved June 2009 Revised WSIP schedule, resources overall appear to be adequate to address the workload. Procedures and systems are in place for construction, issues are identified and elevated in a timely manner, and cash flow management processes are in place and functioning well. The primary risks are that with more projects now scheduled to complete in 2015, there are more opportunities for schedule delays that could affect the program's overall completion date of December 4,

2015, and there is, in some cases, less time for project closeout activities than has historically been required. Additionally, although CM procedures, systems and resources are proving to be adequate to deal with the current workload, the average monthly and annual spending will increase significantly for the next three (3) years, potentially stressing the organization's ability to deal with more issues.

2.2 CM Independent Review

In late 2009, an Independent Review Panel tasked to assess the WSIP's overall performance to date and delivery capability of the SFPUC recommended a follow-up third-party review of the CM Program. In response to that recommendation, a review panel of four senior-level CM industry professionals was convened in November 2010. The panel was given the latitude to comment on any aspect of the WSIP CM Program, but was asked to respond to eight (8) specific questions. The observations the independent panel presented in their final report (*Final Report of the Independent Review Panel for the Hetch Hetchy Water System Improvement Program Construction Management Program, January 31, 2011*) are summarized below.

Is the WSIP CM organization performing to the standards and requirements established by the CM Plan and procedures? – The CM Plan is well written and consistent with the industry standard of practice. The organization is generally performing to the standards and requirements of the CM Plan and procedures. However, it is not clear that there is full compliance with the Risk Management Plan at the field level. It is recommended that the contractor continue to be involved in the risk management process.

Is the CM organization performing effectively and efficiently? – Overall the organization appears to be very effective. The overall CM organization has a well-defined structure. Weekly progress meetings in the field are effective with issues clearly discussed and action items identified. The Bi-Weekly CM Meeting led by the WSIP Deputy Director of Construction is very effective addressing major issues. It may be good to review how issues are brought forward to ensure the most serious issues are always given the attention they deserve.

Is communication within the organization and through the use of meetings and reports adequate and most efficient for the needs of the construction program? – Communication at all levels of the organization is strong. Issues are being raised and discussed in a timely manner. Project and Regional meetings are being held regularly with consistent agendas and tracking of major issues. The goals and objectives of the program are being communicated clearly throughout the organization. Communication with the public has been outstanding. One concern was how emails are selected for inclusion in the Construction Management Information System (CMIS).

Are decisions being made timely and in the most efficient manner? – Decisions are being made in a timely manner as evidenced by the metrics being recorded in regularly published reports. The uniformity of the processes among all projects aids the efficiency tremendously. Competent professional CMs are ensuring good working relationships with contractors and the early handling of issues.

Is the status of construction being reported accurately, consistently and timely? –

The Project Weekly Meetings the Panel attended indicate that they are well run and well attended with organized agendas and the ability of the CM staff and contractor to provide input. There are also a number of reports that are produced which are used as reference material for meetings. These reports do appear to accurately represent the status of the work.

Is the Construction Management Information System (CMIS) being used effectively as a management and reporting tool? –

As a management and reporting tool, the system is very effective. Although judged to be a fully functional and complete tool, suggestions for improvements are normal and expected. Senior management needs to actively provide a neutral forum to retrieve these inputs. The challenge is to ensure that the system does not grow to provide capabilities that are not essential. The bar should be set high for adding reports or more detail.

What are the greatest CM organizational challenges and risks that could impact program delivery? –

There are a number of challenges, including the need for maintaining system operations, successfully combining public and private sector staff and talent, communicating effectively within the organization and with external organizations, maintaining strong support at the Commission and City levels, and continuing to convey to the affected public the value of the program.

What steps or actions do you recommend the SFPUC Commission and/or Upper Management take to improve the organizational performance, promote accountability, minimize risks, and guarantee success? –

Promote site visits by SFPUC/WSIP Senior Management to provide overall program perspectives; look for opportunities to streamline the organization; authorize an independent, external review of CMIS reports and their utilization; continue to promote the concept on “one team working for the project;” ensure the Risk Management System is being used at all levels of the organization; evaluate and document the criteria for “success” and document the metrics to evaluate success; develop a “WSIP Roadmap for Success” and communicate performance expectations; and consider conducting semi-annual Management Excellence Forums to focus on continuous improvement, best practices, lessons learned, and mid-course corrections.

WSIP management is following up to address the panel recommendations and schedule a second independent review of the WSIP CM Program in the fall of 2011.

2.3 June 2011 Revised WSIP

One of the most significant initiatives during FY 2010-2011 was the revision of the WSIP project scopes, schedules and budgets last approved by the Commission in June 2009. Consistent with other large and complex infrastructure programs and prudent utility practice, the SFPUC periodically performs a comprehensive review and revision of the WSIP. In early 2011, WSIP Senior Management recognized the need to assess the cumulative effects of refinements made on the program in the last few years and formally approve revisions in order to:

-
- Incorporate the latest project schedule and cost forecasts based on the most recent information available, including the status of change orders, trends, risks and contingencies reported by the various CM teams;
 - Incorporate the latest scope changes and refinements approved by the WSIP Change Management Board and WSIP Director;
 - Incorporate the recent construction bids and the near-term effects of the economic recession into construction cost estimates;
 - Provide more realistic project baselines for performance measurements;
 - Consolidate project cost savings accumulated to date in a Program Management Reserve; and
 - Ensure compliance with the California Water Code (Assembly Bills [AB] 1823 and 2437).

The June 2011 Revised WSIP was approved by the Commission on July 12, 2011. The approved scope and schedule changes are described in the Wholesale Regional Water System Security and Reliability Act: Notice of Changes Report - June 2011 Revised Water System Improvement Program, dated September 1, 2011, and submitted to the State separately. A summary of the changes approved by the Commission is provided below.

Scope Changes

No projects were deleted or added to the WSIP since revisions to the program were last approved in 2009. Only the four (4) following regional projects have scope modifications that are considered significant enough to be documented separately.

- Project CUW35301: Seismic Upgrade of BDPL Nos. 3 & 4;
- Project CUW36702: Peninsula Pipelines Seismic Upgrade;
- Project CUW38802: Bioregional Habitat Restoration (support project); and
- Project CUW39401: Watershed & Environmental Improvement Program (support project)

Schedule Changes

The most significant change approved by the Commission is the extension of the overall program completion date from December 4, 2015 to July 29, 2016. Of the forty-six (46) regional projects in the WSIP, fourteen (14) have been completed, three (3) were accelerated, nine (9) had no schedule variance, and twenty (20) were extended.

Cost Changes

The approved June 2011 Revised WSIP budget was \$4,585,556,260, which is the same as the June 2009 Revised WSIP budget. While a number of projects had budget changes (some more than and some less than the budgets last approved by the Commission), the net savings of these project-level budget changes resulted in the ability to establish a Program Management Reserve of \$161,431,097. The Program Management Reserve will

be the source of funds for any project costs that exceed the June 2011 Revised WSIP project budgets.

A number of projects have had significant budget reductions, primarily due to the favorable construction bidding climate over the past few years. In fact, a total of \$288.5 million in construction cost savings has been realized since the program budget was last revised in 2009. These savings were partially offset by an increase in delivery and other costs of \$114.5 million and \$12.5 million, respectively.

2.4 Risk Management

During FY2010-2011, the WSIP team continued to implement and expand the scope of its Risk Management Program. New risk registers, with a total of 129 risks, were developed and entered in the Active Risk Management (ARM) software application for four (4) construction contracts. This brought the total of active construction risk registers and individual risks managed through ARM as of the end of the reporting period to fourteen (14) and 280, respectively. Whenever new risk registers are developed, cost impact estimates are prepared to quantify each risk and risk assessment workshops are held with the project teams responsible to update and track the registers. Table 2-1 summarizes the WSIP's construction risks registers loaded into the ARM software application as of the end of the reporting period.

Table 2-1: Summary of Construction Risk Registers as of June 30, 2011

Project No.	Construction Contract	Date ¹	No. of Risk ²	Risk Value (\$M) ³
CUW35901	New Irvington Tunnel	Jun-11	40	\$11.3
CUW37301	SJPL System - West Segment	May-11	37	\$3.8
CUW36801	BDPL Reliability Upgrade - Tunnel	Nov-10	23	\$9.0
CUW38101	SVWTP Expansion & TWR	Nov-10	31	\$6.3
CUW36103	Pulgas Balancing - Structural Rehab.	Jun-10	14	<\$0.1
CUW36802	BDPL Reliability Upgrade - EB Pipeline	Jun-10	23	\$1.1
CUW37301	SJPL System - Crossovers	Jun-10	23	\$0.5
CUW38001	BDPL Nos. 3 & 4 Crossovers	Jun-10	30	\$0.9
CUW35601	New Crystal Springs Bypass Tunnel	May-10	7	\$0
CUW35902	Alameda Siphon #4	May-10	24	\$0.6
CUW36802	BDPL Reliability Upgrade - Pen Pipeline	May-10	15	\$2.3
CUW38401	Tesla Treatment Facility	May-10	5	\$0
CUW38601	San Antonio Pump Station Upgrade	May-10	6	\$0
CUW39101	Baden/San Pedro Valve Lot Improvements	May-10	2	\$0
Total			280	\$35.8

¹ Date when construction risk register was first created and loaded in ARM.

² Number of individual risks recorded in register as of June 30, 2011.

³ Total value of all risks at eighty percent (80%) confidence level as of June 30, 2011. Contracts with Risk Value equal to \$0 only have contractor risks remaining.

During the reporting period, CM procedures were revised in an effort to improve the WSIP Risk Management Program. The revised procedures further define the requirements for conducting risk assessment workshops, approving risk management plans and updating risk registers. They also require project teams to use their risk registers to proactively manage construction risks and track mitigation action items. Furthermore, all Project Construction Managers (PCMs) are required to work with their project teams to update their risk profiles on a monthly basis. The WSIP Risk Manager conducts quarterly reviews with each of the PCMs to ensure risk registers are updated appropriately and mitigation measures are implemented as planned.

Modifications were also made to the ARM platform to improve the format of risk management reports and plans were initiated to provide WSIP Senior Management, Regional Project Managers (RPMs), and Regional Construction Managers (RCMs) with remote access to the ARM software application.

The top ten (10) program risks can vary continuously. During the first quarter of the reporting period, several of the top program risks were associated with the two construction contracts for Project CUW36802: BDPL Reliability Upgrade - Pipeline. Most of the project's risks were related to differing site conditions, and some of these risks could not be mitigated and later evolved into change orders. New risks registers were created later in the year and some of the top program risks shifted to Project CUW36801: BDPL Reliability Upgrade - Tunnel ("Bay Tunnel project") and Project CUW38101: Sunol Valley Water Treatment Plant (SVWTP) Expansion and Treated Water Reservoir (TWR). The largest risks for the Bay Tunnel project included differing site conditions, insufficient power supply to the site, and required permits and easements. For the SVWTP Expansion and TWR project, the largest risks were scope creep and differing site conditions. In June 2011, when the risk register for Project CUW35902: New Irvington Tunnel (NIT) was developed, risks on that project joined the risks for the Bay Tunnel and SVWTP projects as the program's highest risks.

With mitigation action items being proactively implemented by the project teams, several risks were closed during FY 2010-2011, which resulted in a reduction in risk exposure. Some of the risks that were mitigated included securing the permits and easements required to start tunneling activities on the Bay Tunnel project. In addition, forty (40) system shutdown risks were closed with only two (2) resulting in actual impacts. Table 2-2 shows the WSIP's top ten (10) risks and associated mitigation measures as of June 30, 2011.

Efforts are ongoing to have the risk registers for the six (6) following construction contracts entered into the ARM software application:

- Project CUW35401: Lower Crystal Springs Dam Improvements
- Project CUW36701: HTWTP Long-Term Improvements
- Project CUW37101: Crystal Springs/San Andreas Transmission Upgrade
- Project CUW37301: SJPL System - East Segment
- Project CUW37401: Calaveras Dam Replacement
- Project CUW37801: CSPL No.2 Replacement

It is anticipated that the program's greatest risks will come from five (5) of the program's largest projects (Calaveras Dam Replacement, HTWTP Long-Term Improvements, Bay Tunnel, New Irvington Tunnel and SVWTP Expansion and TWR). The focus of the Risk Management Program will therefore be directed at the construction activities associated with these projects. The greatest risks on these five projects, like on many of our other projects for that matter, typically fall into three (3) major categories – environmental, differing site conditions and system operations/shutdowns.

Environmental risks include the presence of protected species, archeological discoveries and contaminated soil or groundwater. The presence of high concentrations of naturally occurring asbestos (NOA) at the Calaveras Dam site and the potential for disrupting the groundwater supply of ranches in the vicinity of the New Irvington Tunnel are some of the WSIP's largest environmental risks. Differing site conditions are most often associated with unforeseen geotechnical conditions or discrepancies between field and as-built conditions of existing structures/facilities. The risks associated with differing geotechnical conditions are greatest on tunnel projects (Bay Tunnel and New Irvington Tunnel) and risks associated with differing as-built conditions are greatest on water treatment plant (WTP) projects (HTWTP Long-Term Improvements and SVWTP Expansion and TWR). The risks associated with system shutdowns can be high on all projects but they tend to be most challenging when associated with WTPs.

The mitigation strategies to address environmental risks typically involve taking pro-active measures to identify in advance any potential impacts. This includes: (1) pre-clearance species inspections by biologists, pre-trenching for archeological discoveries and special surveys in potentially contaminated areas in advance of actual construction work; (2) constant field monitoring for potential environmental impacts during construction to allow for timely and accurate reporting to resource agencies; (3) the installation of exclusion fencing to control special species' access to project site; (4) clearing of trees to minimize potential nesting; (5) environmental briefings at weekly and quarterly construction meetings; and (6) modification of construction sequence and/or means and methods to address potential environmental impacts.

Similarly, the mitigations strategies to address differing site conditions focus on a look-ahead approach. This includes: (1) performing field verification surveys of what is shown on as-built drawings; (2) conducting advance exploration (soil borings, potholing, horizontal drillings); (3) involving utility companies to verify as-built conditions; and (4) verifying early the condition of existing equipment or facilities to be salvaged and reused.

Finally, the system operation and shutdowns are mitigated through extensive advance planning, tracking and coordination. The WSIP shutdown needs are carefully reviewed on a continuous basis and are systematically analyzed with all stakeholders at monthly WSIP System Shutdown meetings. The preparation of mitigation plans is required for all shutdowns. Risks are also minimized by including incentives in contract documents to accelerate the construction work to be completed during risky shutdowns. Furthermore, the equipment needed for the work to be performed during a shutdown is given special attention as part of the WSIP Supply Quality Surveillance (SQS) program.

Table 2-2: Top 10 WISP Risks as of June 30, 2011

Project	Risk Description	Occurrence Probability	Risk Value (\$M) ¹	Mitigation Measures
CUW36801 (Bay Tunnel)	Restrictions due to nesting special-status shorebirds moving into an active construction area.	50%	\$3.1	Continually monitor status of birds in the area and develop an initial strategy for managing this risk.
CUW36801 (Bay Tunnel)	More abrasive ground conditions than anticipated.	50%	\$2.0	Assure that there are adequate spare parts available at start and throughout tunneling.
CUW35901 (NIT)	Conditions Differ from GBR: Encounter higher groundwater inflow; uncontrolled water inflow.	50%	\$2.0	Develop a contingency plan for water control.
CUW35901 (NIT)	Conditions Differ from GBR: Face instability	50%	\$2.0	Develop contingency plans for difficult ground.
CUW35901 (NIT)	Conditions Differ from GBR: Running/flowing ground conditions	50%	\$2.0	Develop a contingency plan for difficult ground.
CUW35901 (NIT)	Change in Cal OSHA tunnel classification	50%	\$2.0	Follow OSHA standards.
CUW36801 (Bay Tunnel)	Chimney to bottom of the Bay, blow-in to TBM, lose tunnel, submerge shaft and start over.	10%	\$112.5	Maintain full-time CM QA inspection on the TBM when tunneling. Assure Contractor maintains adequate off-shift monitoring of pressure chamber and heading.
CUW36801 (Bay Tunnel)	TBM gets stuck.	10%	\$3.0	Verify and monitor that all TBM equipment is functioning as designed.
CUW38101 (SVWTP)	Unforeseen Facility Conditions: utilities, conduits, & piping are in a different location than was anticipated	50%	\$1.6	Perform inspections prior to installation.
CUW38101 (SVWTP)	Unknown deteriorated plant conditions (valves, pumps, chemical lines, equipment foundations, electrical equipment, etc.)	50%	\$1.6	Perform inspection of conditions prior to installation.

¹ Most likely value of each risk. The lowest and highest value of each risk are also recorded in ARM.

2.5 Environmental Program

In past years there were many challenges in the environmental review phase, namely scarcity of staff resources, changing lead agency requirements and the concomitant need for revisions, as well as the need to revise environmental analyses as projects designs were refined or revised. However, one can argue that any schedule delay due to these issues was compensated for by the completion of thorough CEQA documents which led to no legal challenges of any EIR or MND. During FY 2010-2011, five (5) EIRs were certified (those for Project CUW37401: Calaveras Dam Replacement and Project CUW35401: Lower Crystal Springs Dam Improvement being the most noteworthy), and one (1) Initial Study/Mitigated Negative Declaration (IS/MND) was approved, and two Categorical Exemptions were received. The respective total numbers of environmental review documents approved to date for WSIP regional projects are thirteen (13) EIRs, seven (7) IS/MNDs, and thirteen (13) Categorical Exemptions.

In addition to obtaining CEQA certifications, a major emphasis during FY 2010-2011 was on accelerating the acquisition of the resource agency permits required for project implementation. Engaging the Interagency Task Force consisting of the US Army Corps of Engineers (USACE), the US Fish and Wildlife Service (USFWS), the US Environmental Protection Agency (USEPA), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Game (CDFG), for the WSIP was instrumental. However increased agency requirements for mitigation extended the permit acquisition process and added to mitigation costs. This was particularly apparent in the Bioregional Habitat Restoration (BHR), which was formerly named the Habitat Reserve Program. Engaging the upper management echelons of the SFPUC and resource agencies in the final discussions when necessary resulted in substantial progress in the timely receipt of the environmental permits needed to initiate construction activities on various projects, including the construction of BHR compensation sites. During the reporting period, significant progress was also made toward the establishment of an endowment for long-term maintenance and monitoring for BHR compensation sites, and the first habitat restoration construction contract was awarded.

During the reporting period, four (4) major WSIP projects were fully permitted for construction: Project CUW35901: New Irvington Tunnel, Project CUW37101: Crystal Springs-San Andreas Transmission System Upgrade, Project CUW35401: Lower Crystal Springs Dam Improvements and Project CUW37401: Calaveras Dam Replacement. Permitting for both dam projects necessitated the SFPUC agreeing to flow releases in perpetuity to benefit fish and the permits issued for Project CUW35401: Lower Crystal Springs Dam Improvements require a gradual increase in reservoir operating level in order to minimize species impacts. Thirty-six (36) individual permits issued for seven (7) different regional projects were received during FY 2010-2011. Three (3) of these projects still require additional permits before a notice to proceed (NTP) for construction can be issued. A total of seventy-four (74) resource agency permits have been obtained for WSIP regional projects since the start of the program.

The WSIP environmental construction compliance staff pro-actively supported the construction activities for three (3) San Joaquin Region projects, three (3) Sunol Valley Region projects, four (4) Bay Division Region projects, and nine (9) Peninsula Region projects. Support for these projects included agency coordination, compliance reporting

and minor project modification approvals. The two primary challenges for the WSIP environmental construction compliance staff were related to cultural resource discoveries and active migratory bird nests.

Cultural resource discoveries occurred on Project CUW36802: BDPL Reliability Upgrade - Pipeline, Project CUW35401: Lower Crystal Springs Dam Improvements, and Project CUW37901: SAPL No. 3 Installation. Two of the prehistoric discoveries contained Native American burials and other artifacts. One historical discovery included a wood water conveyance structure that was determined to be a historic property associated with the Lower Crystal Springs Dam site. All discoveries were reported to the CEQA Environmental Review Office designee and/or USACE. For Native American burials, the Environmental Construction Compliance Manager also coordinated with the Native American Heritage Commission and Most Likely Descendent (MLD). For potentially significant discoveries on-site visits by agency and Native American representatives and emergency teleconferences were held to minimize construction delay.

Migratory birds are protected under the Migratory Bird Treaty Act and CDFG Codes. Of the nineteen (19) WSIP projects under construction during the migratory nesting bird season, nine (9) projects were affected by active migratory bird nests. Impacts to construction generally resulted in the establishment of buffer zones around the nests until the birds fledged. In one unique instance, the SFPUC obtained a permit from the USFWS and concurrence from the CDFG for removal of hatchlings to a rehabilitation facility for successful rearing and release, thus avoiding significant project delays.

Despite the challenges described above, the WSIP environmental construction compliance staff has been extremely efficient at supporting construction efforts and minimizing the delays associated with environmental issues in the field. As a matter of fact, based on the 5,975 environmental field inspections conducted during FY 2010-2011, the WSIP is 98% compliant and has not received any violations from any resource agencies. This is remarkable given the amount of construction work ongoing during the reporting period.

2.6 Public Outreach Program

The increase in construction activities in all of the WSIP regions mandated an expansion of communication scope and coordination with residents, businesses, agricultural interests, elected officials, the SFPUC wholesale and retail customers, and park and irrigation districts among others. Media requests also doubled during the reporting period.

In the fall 2010, the WSIP Communications team began an intensive effort to increase and diversify the outreach plans for projects to accurately reflect the demands of concurrent construction activities spanning from the Central Valley to the City of San Francisco. Starting with a two-part presentation and media training session for WSIP Managers, RPMs and regional and project communication staff, the WSIP Communication team refreshed and expanded message cards, presentation templates and frequently asked questions documents to reflect the current status of the WSIP.

The training was the catalyst to further engage SFPUC wholesale and retail customers, government officials and the media through a myriad of social media tools, including

increasing the number of blog postings, creating new Twitter accounts, and exponentially increasing the number of contacts for the program's electronic newsletters. These efforts have been well received throughout the communities. Likewise, WSIP projects continue to attract attention from regional newspapers and electronic media like the *San Francisco Chronicle*, *Sacramento Bee*, *San Jose Mercury News*; network and cable TV affiliates as well as top-tier trade publications such as *Engineering News Report*, *Civil Engineering* and numerous tunneling publications.

Another successful tool for communicating with stakeholders has been the use of internally-developed videos to illustrate construction activities, describe upcoming road or trail detours and provide programmatic updates. These videos have been distributed to partnering cities to be included on their websites and subsequently aired on local community access television. They are also distributed at schools, libraries and community centers. The SFPUC's YouTube.com channel stores a copy of all these videos as well, and viewership continues to be steady.

Overall, teamwork has been key to responding and coordinating in a timely fashion with stakeholders and also applying lessons learned in various regions in order to prevent potentially problematic situations from recurring. The WSIP Communication team has also developed an excellent partnership with security and safety officers in the field that has enabled staff to organize successful project tours and media coverage. The WSIP Communication team partnered with our cadre of safety inspectors last fall to call attention to reaching a milestone of one million safe working hours without any major injuries since April 2009. This also included an educational component to reinforce the importance of safety throughout the WSIP and all SFPUC enterprises.

From assisting project teams with shutdown coordination, to managing "real time" developments affecting our stakeholders, to working with the media in capturing this dynamic program, the role of the Communication team in the WSIP continues to be vital to the successful completion of individual projects.

3.0 CHANGES IN PROJECT SCHEDULES (FY 2010-2011)

Table 3-1 summarizes project schedule changes projected during FY 2010-2011. Specifically, the table compares the construction substantial completion and project completion dates forecasted in June 2010 to those forecasted in June 2011 for all WSIP regional projects. Of the forty-six (46) regional projects in the WSIP, the changes in forecasted project completion dates are as follows:

- Projects with Final Completion Date Accelerated: 4
- Projects with Final Completion Date Unchanged: 22
- Projects with Final Completion Date Delayed by <6 Months: 9
- Projects with Final Completion Date Delayed by 6-12 Months: 9
- Projects with Final Completion Date Delayed by >12 Months: 2

TABLE 3-1: FY 2010-11 CHANGES IN PROJECT SCHEDULES FORECASTS

Project No.	Project Name	June 2010 FORECAST		June 2011 FORECAST		Variance (in months)	
		Construction Substantial Completion	Project Completion Date	Construction Substantial Completion	Project Completion Date	Construction Substantial Completion	Project Completion Date
San Joaquin Region							
36401	Lawrence Livermore Water Quality Improvement	31-Aug-10	23-Mar-11	31-Aug-10	14-Sep-11	0	+ 6
37301	San Joaquin Pipeline System	28-Jun-13	25-Mar-14	9-Jun-13	25-Mar-14	-1	0
37302	Rehabilitation of Existing San Joaquin Pipelines	25-Oct-10	30-Jun-14	9-Jun-13	12-Mar-14	+ 32	-4
38401	Tesla Treatment Facility	21-Dec-10	30-Mar-12	24-Jun-11	28-Sep-12	+ 6	+ 6
Sunol Valley Region							
35201	Upper Alameda Creek Filter Gallery	9-Dec-14	4-Jun-15	17-May-16	15-Jul-16	+ 18	+ 14
35501	Standby Power Facilities - Various Locations <i>(Completed)</i>	15-Apr-10	6-Dec-10	15-Apr-10	22-Dec-10	0	< 1
35901	New Irvington Tunnel	11-Apr-14	31-Oct-14	16-Apr-14	31-Oct-14	0	0
35902	Alameda Siphon #4	1-Sep-11	12-Jun-12	1-Sep-11	12-Jun-12	0	0
37001	Pipeline Repair & Readiness Improvements <i>(Completed)</i>	14-Jul-08	16-Apr-09	14-Jul-08	16-Apr-09	0	0
37401	Calaveras Dam Replacement	27-Apr-15	4-Dec-15	1-May-15	29-Jul-16	0	+ 8
37402	Calaveras Reservoir Upgrades <i>(Completed)</i>	6-Oct-05	28-Jul-06	6-Oct-05	28-Jul-06	0	0
37403	San Antonio Backup Pipeline	13-Nov-13	19-Jun-14	22-Jul-14	9-Mar-15	+ 8	+ 9
38101	SWWTP Expansion & Treated Water Reservoir	4-Mar-13	5-Dec-13	4-Mar-13	5-Dec-13	0	0
38601	San Antonio Pump Station Upgrade	31-Aug-10	2-Feb-12	3-Jul-11	7-Dec-11	+ 10	-2
Bay Division Region							
35301	BDPL Nos. 3 & 4 Crossover/Isolation Valves <i>(Completed)</i>	15-Nov-07	31-Jul-09	15-Nov-07	31-Jul-09	0	0
35302	Seismic Upgrade of BDPL Nos. 3 & 4	18-Apr-14	25-Feb-15	16-Jun-14	26-Apr-15	+ 2	+ 2
36301	SCADA System - Phase II	10-Aug-10	24-Feb-12	29-Nov-10	24-Feb-12	+ 4	0
36801	BDPL Reliability Upgrade - Tunnel	2-Mar-15	4-Nov-15	2-Mar-15	13-Nov-15	0	0
36802	BDPL Reliability Upgrade - Pipeline	11-Feb-12	5-Mar-13	11-Feb-12	5-Mar-13	0	0
36803	BDPL Reliability Upgrade - Relocation of BDPL Nos. 1 & 2 <i>(Completed)</i>	NA	28-May-10	NA	28-May-10	NA	0
38001	BDPL Nos. 3 & 4 - Crossovers	15-Aug-12	16-Sep-13	15-Aug-12	17-May-13	0	-4
38901	SFPUC/EBMUD Intertie	7-Sep-07	30-Sep-10	7-Sep-07	30-Dec-11	0	+ 15
39301	BDPL No. 4 Condition Assessment PCCP Sections <i>(No Construction - Completed)</i>	NA	6-Feb-09	NA	6-Feb-09	NA	0

TABLE 3-1: FY 2010-11 CHANGES IN PROJECT SCHEDULES FORECASTS

Project No.	Project Name	June 2010 FORECAST		June 2011 FORECAST		Variance (in months)	
		Construction Substantial Completion	Project Completion Date	Construction Substantial Completion	Project Completion Date	Construction Substantial Completion	Project Completion Date
Peninsula Region							
35401	Lower Crystal Springs Dam Improvements	14-Nov-11	13-Jun-12	13-Nov-11	27-Sep-12	0	+ 4
35601	New Crystal Springs Bypass Tunnel	14-Jul-11	6-Mar-12	14-Jul-11	29-Mar-12	0	< 1
35701	Adit Leak Repair - Crystal Springs/Calaveras <i>(Completed)</i>	30-Nov-07	31-Jul-08	30-Nov-07	31-Jul-08	0	0
36101	Pulgas Balancing - Inlet/Outlet Work <i>(Completed)</i>	6-Feb-06	11-May-06	2-Feb-06	11-May-06	0	0
36102	Pulgas Balancing - Discharge Channel Modifications <i>(Completed)</i>	23-Oct-09	30-Jul-10	23-Oct-09	30-Jul-10	0	0
36103	Pulgas Balancing - Structural Rehabilitation & Roof Replacement	24-May-11	9-Feb-12	26-Jul-11	24-Feb-12	+ 2	< 1
36105	Pulgas Balancing - Modifications of the Existing Dechlorination Facility	30-Oct-11	30-May-12	16-Sep-11	30-May-12	-1	0
36501	Cross Connection Controls <i>(Completed)</i>	26-Nov-08	30-Apr-09	26-Nov-08	30-Apr-09	0	0
36601	HTWTP Short-Term Improvements - Demo Filters <i>(Completed)</i>	11-Jan-06	14-Nov-06	11-Jan-06	14-Nov-06	0	0
36603	HTWTP Short-Term Improvements - Coagulation & Flocculation/Remaining Filters <i>(Completed)</i>	21-Dec-09	28-Jul-10	21-Dec-09	28-Jul-10	0	0
36701	HTWTP Long -Term Improvements	18-Feb-15	20-Nov-15	29-Nov-14	1-Dec-15	-3	0
36702	Peninsula Pipelines Seismic Upgrade	27-Feb-15	31-Aug-15	27-Oct-15	6-Jul-16	+ 8	+ 10
36901	Capuchino Valve Lot Improvements <i>(Completed)</i>	14-Feb-08	19-Aug-08	14-Feb-08	19-Aug-08	0	0
37101	Crystal Springs/San Andreas Transmission Upgrade	11-Apr-13	1-Apr-14	7-Jul-13	23-Apr-14	+ 3	< 1
37801	Crystal Spring Pipeline No. 2 Replacement	25-Oct-12	18-Jul-13	30-Nov-12	25-Sep-13	+ 1	+ 2
37901	San Andreas Pipeline No. 3 Installation	29-Jun-11	8-Dec-11	29-Mar-11	21-Nov-11	-3	-1
39101	Baden & San Pedro Valve Lots Improvements	16-Feb-11	24-Aug-11	31-Mar-11	1-Aug-12	+ 1	+ 11
San Francisco Regional Region							
30103	Regional Groundwater Storage and Recovery	22-Apr-15	30-Nov-15	4-Aug-15	17-Jun-16	+ 3	+ 7
35801	Sunset Reservoir - North Basin <i>(Completed)</i>	19-Sep-08	5-Aug-10	19-Sep-08	10-Sep-10	0	< 1
37201	University Mound Reservoir - North Basin	25-Mar-11	2-Dec-11	25-Jun-11	11-Jan-12	+ 3	+ 1
Support Projects							
36302	System Security Upgrades ⁽¹⁾	1-Aug-11	31-Aug-15	24-Jan-16	29-Apr-16	+ 55	+ 8
38801	Programmatic EIR ⁽²⁾ <i>(Completed)</i>	NA	30-Jun-09	NA	30-Jun-09	NA	0
38802	Bioregional Habitat Restoration	17-Apr-12	4-Dec-15	2-Apr-13	24-Jun-16	+ 12	+ 7
39201	Program Management ⁽²⁾	NA	4-Dec-15	NA	29-Jul-16	NA	+ 8
39401	Watershed Environmental Improvement Program	NA	27-Jun-14	NA	26-Jun-14	NA	0

Note: ¹ Large variance is due to the fact that the project completion had to be adjusted because security improvements will now be completed after substantial completion of WSIP projects. The revised completion date is therefore tied to the substantial completion of Project CUW37401: Calaveras Dam Replacement, the last WSIP project to be completed.

² Not considered a capital project and therefore not included in the total Regional Program project count of 46.

The changes in forecasted construction substantial completion dates are as follows:

- Projects with Construction Substantial Completion Date Accelerated: 4
- Projects with Construction Substantial Completion Date Unchanged: 26
- Projects with Construction Substantial Completion Date Delayed by <6 Months: 8
- Projects with Construction Substantial Completion Date Delayed by 6-12 Months: 5
- Projects with Construction Substantial Completion Date Delayed by >12 Months: 3

The most significant schedule change included in the June 30 Revised WSIP approved by the Commission is the extension of the overall program completion date from December 4, 2015 to July 29, 2016. Forty (40) of the WSIP's 46 regional projects will be completed in 2015 or earlier. Two (2) of the six (6) projects to be completed in 2016 are support projects that do not contribute directly to the system's LOS goals (Project CUW36302: System Security Upgrades and Project CUW38802: Bioregional Habitat Restoration), and two (2) projects are water supply projects (Project CUW30103: Regional Groundwater Storage and Recovery and Project CUW35201: Upper Alameda Creek Filter Gallery). The two remaining projects to be completed in 2016 are Project CUW37401: Calaveras Dam Replacement and Project CUW36702: Peninsula Pipelines Seismic Upgrade

Project CUW37401: Calaveras Dam is currently in construction (NTP issued August 15, 2011) and it is the project controlling the overall completion of the WSIP. Project CUW36702: Peninsula Pipelines Seismic Upgrade was only added to the program when the Commission approved the June 2009 Revised WSIP.

Tracking and Controlling Project Schedules

Although in some cases some project delays cannot be avoided for reasons that are out of the control of the SFPUC (e.g., presence of protected species at work site), the WSIP team has put in place a number of measures to track and control project schedules in an effort to avoid or minimize potential delays. One of the intent of many of the WSIP's procedures is to keep projects on schedule. They include:

- PM Procedure 5.02: WSIP Project Change Management
- PM Procedure 5.03: Schedule Development and Control
- PM Procedure 5.05: Monthly Statusing
- PM Procedure 5.07: Monthly Progress Meetings
- CM Procedure 15: Construction Schedule Management
- CM Procedure 16: Construction Change Management
- CM Procedure 20: Project Construction Progress Reports
- CM Procedure 28: Weekly Project Construction Reports
- CM Procedure 65: CM Project Quarterly Review Meetings
- CM Plan Section 2.2.11: Project Controls

In addition to the enforcement of the above mentioned procedures, the WSIP Management Team is implementing a number of measures aimed at controlling potential schedule delays during construction. These include: (1) minimizing owner-requested changes; (2) proactively pursuing mitigation measures identified in projects' construction risk registers; (3) assigning full-time operations to certain projects requiring a lot of client attention (e.g., treatment plant projects); (4) assigning full-time project engineer in the field to provide timely technical support to the CM team; (5) keeping decision making at the pre-designated levels of authority; and (6) clearly defining early on what constitutes substantial completion on a project-specific basis. Finally, as specified in WSIP contracts, whenever contractors fall behind by more than 15 days they are required to submit a schedule recovery plan. Such a requirement is typically not included in construction contract documents.

Schedule of Project CUW35302: Seismic Upgrade of BDPL Nos. 3 & 4

The California Department of Public Health (CDPH), in a letter dated December 8, 2009, provided comments to the SFPUC's Notice of Changes Report – June 2009 Revised WSIP. One of CDPH's comments was:

Any management, or other, actions taken by SFPUC to assure timely completion of the Seismic Upgrade of BDPL 3 & 4 & Crossover/Isolation Valves (at Hayward Fault) should be reported in the AB 1823 required Annual progress report on Implementation of the WSIP to the Joint Legislative Audit Committee, the CDPH, and the CSSC.

The design of Project CUW35302: Seismic Upgrade of BDPL Nos. 3 & 4 is now 95% complete and the project is on track for the construction documents to be advertised in November 2012 and construction activities to start in May 2012. A number of actions are being taken to ensure timely completion of the project. Some of these actions include:

- Working closely with Caltrans to ensure the timely issuance of the permits for SFPUC and all utility agencies affected by our project.
- Performing preconstruction archaeological investigations prior to construction in an effort to identify and relocate cultural materials (e.g., artifacts, bones) discovered at the site prior to construction and avoid delays during construction.
- Working closely with the Union Sanitary District (USD) to relocate their facilities prior to our construction work.
- Incorporating Alameda County Water District's (ACWD's) waterline relocation work in our contract to ensure proper installation over our facilities and eliminate the need for ACWD to reopen busy Mission Boulevard to install their water line after our project.
- Negotiating the terms and conditions of the one-of-a-kind slip joint with a vendor and incorporating them into the specifications. This will help facilitate the procurement of the slip joint.
- Procuring the two ball joints for the project through a purchase order because of the long-lead time required for fabricating and testing such a one-of-a-kind component.
- Trimming and removing trees from the project area prior to construction to avoid nesting species issues which could delay work for a season.

4.0 ACHIEVEMENTS AND CHALLENGES (FY 2010-2011)

4.1 San Joaquin Region

The status of all regional projects in the San Joaquin Region as of the end of FY 2010-2011 is summarized in Table 4-1.

Table 4-1: Status of San Joaquin Regional Projects as of June 30, 2011

Project No.	Project/Contract Name	Status
CUW36401	Lawrence Livermore WQ Improvement	Closeout (Construction Completed)
CUW37301	SJPL System - Crossovers	Construction - 66% Complete
CUW37301	SJPL System - Western Segment	Construction - 4% Complete
CUW37301	SJPL System - Eastern Segment	Construction - 0% Complete
CUW37302	Rehabilitation of Existing SJPLs - Roselle	Construction - Substantial Completion
CUW38401	Tesla Treatment Facility	Construction - Substantial Completion

As indicated, all projects were in construction as of the end of the reporting period. Actually, one of the projects was in closeout after reaching construction final completion, and two projects had reached construction substantial completion.

Pre-Construction Achievements

The design of the two contract packages (Western Segment and Eastern Segment contracts) for Project CUW37301: SJPL System was completed and a construction NTP was issued for both contracts.

The Final MND and Mitigation, Monitoring and Reporting Plan for Project CUW37302 – Rehabilitation of Existing SJPLs were adopted. These documents cover both WSIP and future non-WSIP work to be performed under the SFPUC Repair and Replacement (R&R) Program.

Pre-Construction Challenges

Obtaining all required land acquisition agreements and permits for the Western Segment construction contract of Project CUW37301: SJPL System was challenging. In order to take advantage of the favorable bidding climate, that contract was advertised without all agreements and permits in place. This was done by incorporating draft agreements and permit conditions into the bid documents.

The pipeline depth for the Eastern Segment construction contract of Project CUW37301: SJPL System was modified in the late stage of design to address concerns with potentially heavy external loading. This change, which increased the scope of bedrock excavation and blasting, were addressed as an addendum to the bid documents. The change delayed the project's environmental permitting. To mitigate potential project delays, the project team issued a phased construction NTP, with the first phase allowing for the start of procurement activities and the processing of required submittals, and the second phase allowing field work to proceed, contingent on the approval of all required permits.

Construction Achievements

Project CUW36401: Lawrence Livermore Water Quality Improvement achieved construction final completion on March 11, 2011. The Commission approved the closeout of the construction contract on June 14, 2011.

Construction substantial completion was achieved on the Roselle Crossover contract for Project CUW37302: Rehabilitation of Existing SJPLs on May 13, 2011 and on the contract for Project CUW38401: Tesla Treatment Facility on June 24, 2011.

Construction Challenges

Field issues were encountered on four active contracts in the San Joaquin Region, namely the Crossovers and Western Segment contracts for Project CUW37301: – SJPL System, the Roselle Crossover contract for Project CUW37302: Rehabilitation of Existing SJPLs, and the contract for Project CUW36401: Lawrence Livermore Water Quality Improvement.

The challenge associated with the Western Segment contract of Project CUW37301: SJPL System project is related to the acquisition of temporary access at two crossings with irrigation district facilities. The contractor had to re-sequence its construction activities when it was determined that pipeline installation at these locations could not be performed until the fall of 2011 when irrigation operations can be interrupted.

Challenges also arose on the Crossover contract of the same project during the winter of FY 2010-2011 when the pipeline work to be performed during a planned system shutdown could not be completed as planned. The failure of pipeline reinforcement improvements during pressure testing on site, followed by the need to perform extensive redesign work resulted in the need for an additional shutdown window in the fall of 2011 to complete the remaining work.

The challenges experienced on the Crossovers contract mentioned above added difficulties on the Roselle contract for Project CUW37302: Rehabilitation of Existing SJPLs. A delay to address design errors in the control systems of the new Roselle Crossover facility caused final testing on that facility to slip from the fall of 2010 into the winter, at which time the shutdowns had been planned for the Crossovers work (Project CUW37301: SJPL System). The Roselle testing was given second priority, so the problems that prolonged the Crossovers shutdown work also impacted final testing activities on the Roselle contract. Fortunately, the unusually long wet season kept system demands low and extended the acceptable period for pipeline outages, which allowed for the final testing of all of the improvements at the new Roselle Crossover facility to take place in the spring of 2011.

Challenges also arose in the fall of 2010 after construction substantial completion of the contract work on Project CUW36401: Lawrence Livermore Water Quality Improvement. A system for sampling water from the Coast Range Tunnel, via a 300-foot deep shaft, failed due to a series of design and installation problems. The new facilities were kept in operation by employing other sampling equipment, and the project team reworked the system several times, each time correcting a new problem, until finally completing this difficult installation in early 2011.

4.2 Sunol Valley Region

The status of all regional projects in the Sunol Valley Region as of the end of FY 2010-2011 is summarized in Table 4-2.

Table 4-2: Status of Sunol Valley Regional Projects as of June 30, 2011

Project No.	Project/Contract Name	Status
CUW35201	Upper Alameda Creek Filter Gallery	Design - 35% Package
CUW35501	Standby Power Facilities	Completed
CUW35901	New Irvington Tunnel	Construction - 22% Complete
CUW35902	Alameda Siphon #4	Construction - 89% Complete
CUW37001	Pipeline Repair & Readiness Improv.	Completed
CUW37401	Calaveras Dam Replacement	Bid & Award - Contract Awarded
CUW37402	Calaveras Reservoir Upgrades	Completed
CUW37403	San Antonio Backup Pipeline	Design - 95% Package
CUW38101	SVWTP Expansion and TWR	Construction - 44% Complete
CUW38601	San Antonio Pump Station Upgrade	Construction - Substantial Completion

As indicated, three (3) of the ten (10) Sunol Valley projects were completed as of the end of the reporting period and only three (3) projects remained in pre-construction, with one of them in the bid & award phase, a month or so away (as of June 30, 2011) from officially transitioning to construction.

Pre-Construction Achievements

Project CUW37401: Calaveras Dam Replacement achieved several major milestones, including completion of both the environmental and design phases and advertisement and award of the main construction contract. The Final EIR was certified and the contract was advertised in January 2011. Final approval to construct the project was given by the California Division of Safety of Dams (DSOC) in April 2011, and the construction contract was awarded by the Commission in May 2011. The last environmental permit for the project was received on June 30, 2011, and the project team is expected to issue an NTP for the main construction contract in August 2011.

The planning phase of Project CUW35201: Upper Alameda Creek Filter Gallery was completed and the project's final engineering design and environmental review were initiated.

Pre-Construction Challenges

Project CUW37401: Calaveras Dam Replacement had numerous pre-construction challenges in FY 2010-2011 that were successfully resolved. Some of the most significant challenges included working through the responses to comments on the Draft EIR with respect to the restoration of steelhead trout in the Alameda Creek Watershed and the occurrence of NOA at the project site; significant additions to the project as a result of responses to comments, including the addition of a fish ladder and fish screens at the Alameda Creek Diversion Dam (ACDD); the development of a Comprehensive Air Monitoring Program to proactively address the NOA issue; the negotiation of a settlement

agreement with the East Bay Regional Park District (EBRPD) to address coordination of the four (4) years of dam construction with park staff, programs, and public use; and the negotiation of final permit conditions with environmental resource agencies.

Project CUW35201 - Upper Alameda Creek Filter Gallery faced challenges establishing the flow schedule for the planned re-capture facility. This work was significantly delayed during FY 2010-2011 to allow for the final negotiations of flow release schedules from the Calaveras Dam and the ACDD to be completed. The hydrology modeling work necessary to determine appropriate re-capture flow schedules was in progress at the end of FY 2010-2011, and it is anticipated that the Notice of Preparation for the EIR will be released in the fall of 2011.

Construction Achievements

Construction substantial completion was achieved on the contract for Project CUW38601: San Antonio Pump Station Upgrade on June 30, 2011.

Construction on Project CUW35901: New Irvington Tunnel (NIT) was initiated in FY2010-2011. Mobilization and preparatory work for the new tunnel took place in the fall of 2010, which included construction of a 40-foot diameter by 115-foot deep vertical shaft at Vargas Road and actual tunneling activities began in March 2011.

Construction on Project CUW38101: SVWTP Expansion and TWR was initiated at the end of the previous FY (June 2010) and significant progress was made during the reporting period. Specific achievements include completion of the following project elements: soil excavation (over 500,000 cubic yard) for the TWR, chlorine contact tank (CCT) and new flocculation/sedimentation basin; 1,600 cast in drilled hole (CIDH) piles to anchor the TWR and CCT foundation; floor slab and walls for the CCT and TWR; 50-ft high and 1,300-ft long soil nail wall around the TWR; and foundation including floor and slab for the flocculation and sedimentation basin.

All the piping work, including the complex mixing manifold, was completed on Project CUW35901: Alameda Siphon # 4 and construction substantial completion is anticipated in the fall of 2011.

Construction Challenges

The California Division of Occupational Safety and Health (Cal/OSHA) reclassified the tunnel to be built under Project CUW35901: New Irvington Tunnel from a "potentially gassy" to a "gassy" tunnel, slowing progress and increasing costs for the addition of significant improvements to the ventilation systems and full-time gas monitoring at each tunnel heading. The impact of this re-classification was mitigated to a large extent by the project team's foresight to require "permissible" tunneling equipment be utilized by the contractor in the event that a "gassy" tunnel classification were made, eliminating further delay that would have been required to procure permissible equipment. Additional challenges that have slowed tunneling progress include unstable ground at each of the Vargas Shaft headings, harder rock than anticipated at the Alameda West heading, and dewatering the tunnel without impacting residents dependent on groundwater wells along the tunnel alignment. The contractor has gone to additional and extended shifts to mitigate the schedule delays.

Project CUW38101: SVWTP Expansion and TWR has a substantial number of changes to the as-bid project scope as a result of various requests by the SFPUC's Water Enterprise operations staff to provide additional components to the project at the request of. In addition, differing site conditions within the existing plant, as well as a higher percentage of cobbles and boulders in the foundation soils have increased costs and impacted the construction schedule. The project CM team is working with the contractor to accelerate the schedule and negotiate equitable change orders to the contract to address these issues.

A forensic analysis was completed for Project CUW35902: Alameda Siphon # 4 to establish the cause of a breakdown of the micro-tunneling boring machine (TBM) under Alameda Creek in September 2010. Although the results of the analysis were favorable to the SFPUC and tunneling activities resumed within a month, the contractor has stated they intend to submit a claim for differing site conditions. In addition, the presence of alleged larger and more than expected cobbles and boulders in the jacking and receiving pits, and in the soil nail wall area, as well as an extended rainy season, has caused the contractor some delay. Negotiations are underway to determine merit for changed site conditions.

4.3 Bay Division Region

The status of all regional projects in the Bay Division Region as of the end of FY 2010-2011 is summarized in Table 4-3.

Table 4-3: Status of Bay Division Regional Projects as of June 30, 2011

Project No.	Project/Contract Name	Status
CUW35301	BDPL Nos. 3 & 4 Crossover / Isolation Valves	Completed
CUW35302	Seismic Upgrade of BDPL Nos. 3 & 4	Design - 95% Package
CUW36301	SCADA System - Phase II	Closeout (Construction Completed)
CUW36302	System Security Upgrade	Design & Construction
CUW36801	BDPL Reliability Upgrade - Tunnel	Construction - 24% Complete
CUW36802	BDPL Reliability Upgrade - EB Pipeline	Construction - 92% Complete
CUW36802	BDPL Reliability Upgrade - Pen Pipeline	Construction - 60% Complete
CUW36803	BDPL Reliability Upgrade - BDPL Nos. 1 & 2	Completed
CUW38001	BDPL Nos. 3 & 4 Crossovers	Construction - 33% Complete
CUW38901	SFPUC/EBMUD Intertie	Closeout (Construction Completed)
CUW39301	BDPL No. 4 Condition Assessment	Completed

As indicated, only one (1) of the ten (10) Bay Division projects remained in pre-construction. Half of the projects in the region were in construction, while two (2) were in closeout and three (3) were completed as of the end of the reporting period.

Pre-Construction Achievements

The environmental review for Project CUW35302: Seismic Upgrade of BDPL Nos. 3 & 4 was completed in January 2011 and design efforts progressed to a 95% level of completion as of the end of FY 2010-2011.

Pre-Construction Challenges

Several pre-construction issues have had to be addressed on Project CUW35302: Seismic Upgrade of BDPL Nos. 3 & 4. Construction activities cannot be initiated until the USD relocates one of its sewer line that is within the project boundary, and that work cannot in turn start until the completion of archaeological investigation work. In addition, Caltrans requested a joint Encroachment Variance Request to cover all utilities within the Caltrans Freeway Access Area. SFPUC, USD, ACWD, Pacific Gas & Electric (PG&E), and AT&T all own utilities within the Freeway Access Area that will be affected by the project and each agency must approve and sign the Encroachment Variance Request before submittal for Caltrans approval.

Construction Achievements

Project CUW36301: SCADA System Phase II achieved construction final completion on February 28, 2011. The Commission approved the closeout of the construction contract on May 24, 2011.

The pipeline and valve installation work at the Guadalupe site in Santa Clara, which is the first of three (3) crossover facilities to be built as part of Project CUW38001: BDPL Nos. 3 & 4 Crossovers, was completed and the system was returned in service in April 2011. Follow up site improvements were completed a few months later.

The first of three (3) as-needed construction contracts for the installation of security equipment under Project CUW36302: System Security Upgrade was awarded in March 2011 and a NTP for that contract was issued in May 2011. The second as-needed security integration services construction contract for the same project was advertised in June 2011.

A significant milestone was achieved on Project CUW36801: BDPL Reliability Upgrade - Tunnel with the onsite delivery in May 2011 of the TBM that was constructed in Sakai, Japan. Work continues on preparing for actual tunneling operations to begin in August 2011.

As of the end of the reporting period, 10.4 miles of the 16 miles of pipeline to be installed as part of the two construction contracts for Project CUW36802: BDPL Reliability Upgrade - Pipeline had been completed.

Construction Challenges

A number of challenges in the field were encountered on the two construction contracts for Project CUW36802: BDPL Reliability Upgrade - Pipeline. Construction of the pipeline segment in the East Bay was impacted by groundwater contamination that had to be addressed by changing the vertical alignment of the line and/or construction methods. The alignment of the micro-tunnel under the Union Pacific Railroad had to be moved to avoid unforeseen site conditions. Along the Peninsula alignment, construction activities were impacted by a number of archeological discoveries. In one case, the discovery will require the use of micro-tunneling to avoid impacting the discovered archeological artifacts. Progress on the pipeline segment on the Peninsula was also impacted by quality control (QC) and quality assurance (QA) issues that are being addressed with the assistance of the project Dispute Resolution Board (DRB). The level of restoration work along the right-of-

way (ROW) also had to be increased significantly to address potential safety liability and minimize impacts on surrounding communities.

The work at the receiving shaft at Newark in the East Bay for Project CUW36801: BDPL Reliability Upgrade - Tunnel ("Bay Tunnel") remains on hold due to the extension of the construction work on the East Bay contract of Project CUW36802 - BDPL Reliability Upgrade - Pipeline. This constraint due to adjacent construction work by two different contractors is not anticipated to delay the overall schedule of the Bay Tunnel.

4.4 Peninsula Region

The status of all regional projects in the Peninsula Region as of the end of FY 2010-2011 is summarized in Table 4-4.

Table 4-4: Status of Peninsula Regional Projects as of June 30, 2011

Project No.	Project/Contract Name	Status
CUW35401	Lower Crystal Springs Dam Improvements	Construction - 20% Complete
CUW35601	New Crystal Springs Bypass Tunnel	Construction - 98% Complete
CUW35701	Adit Leak Repair - CS/Calaveras	Completed
CUW36101	Pulgas Balancing - Inlet/Outlet Work	Completed
CUW36102	Pulgas Balancing - Discharge Channel Mod	Completed
CUW36103	Pulgas Balancing - Structural Rehabilitation	Construction - 98% Complete
CUW36105	Pulgas Balancing - Dechlorination Facility	Construction - 62% Complete
CUW36501	Cross Connection Controls	Completed
CUW36601	HTWTP Short-Term Improv. - Demo Filters	Completed
CUW36603	HTWTP Short-Term Improv. - Coag & Floc	Completed
CUW36701	HTWTP Long-Term Improvements	Construction - 2% Complete
CUW36901	Capuchino Valve Lot Improvements	Completed
CUW37101	CS/SA Transmission Upgrade	Construction - 10% Complete
CUW37801	CSPL No. 2 Replacement	Construction - 10% Complete
CUW37901	SAPL No. 3 Installation	Construction - Substantial Completion
CUW39101	Baden & San Pedro Valve Lots Improv.	Construction - Substantial Completion
CUW39501	Peninsula Pipelines Seismic Upgrade	Planning - AAR/CER

As indicated, only one (1) of the seventeen (17) Peninsula projects remained in pre-construction as of the end of the reporting period. Nine (9) of the projects in the region were in construction, while seven (7) others were completed.

Pre-construction Achievements

Pre-construction activities were completed, construction contracts were awarded, and NTPs were issued for Project CUW35401: Lower Crystal Springs Dam Improvements, Project CUW37801: Crystal Springs Pipeline No. 2 Replacement, and Project CUW36701: HTWTP Long-Term Improvements on January 31, 2011, March 7, 2011 and March 16, 2011, respectively.

The Draft Alternative Analysis Report (AAR) for Project CUW36702: Peninsula Pipeline Seismic Upgrade was completed, allowing for a better definition of the scope of this project. Also, the project team initiated field investigations to characterize existing environmental site conditions and started work on the project's Conceptual Engineering Report (CER).

Pre-construction Challenges

Findings from geotechnical investigations conducted along the alignment of three different pipelines for Project CUW36702: Peninsula Pipeline Seismic Upgrade indicated a need for an expanded project scope. The project scope was refined to address these needs but additional assessment are needed to determine the exact extent of the work that will be required to meet the system LOS goals.

A constructability review of the contract documents for Project CUW36701: HTWTP Long-Term Improvements revealed the need to extend the construction schedule by about a year to four (4) years. This was driven primarily by the need to maintain the plant operational during construction, constraining the construction schedule as a result of limited periods for the shutdown of individual plant facilities. In addition, the nature of the site with its constricted layout and the plant's limited access required a modification to the sequence and duration of some of the construction activities.

Construction Achievements

Construction substantial completion was achieved on the contracts for Project CUW37901: SAPL No. 3 Installation and for Project CUW39101: Baden & San Pedro Valve Lots Improvements on March 29, 2011 and March 31, 2011, respectively.

Two additional projects - Project CUW35601: New Crystal Springs Bypass Tunnel and Project CUW36103: Pulgas Balancing - Structural Rehabilitation and Roof Replacement Projects - are expected to reach substantial completion early in FY 2011-2012. The team of Project CUW35601: New Crystal Springs Bypass Tunnel successfully coordinated one of the WSIP's most risky shutdowns in 2010. The shutdown of the Crystal Springs Bypass System, which was necessary to connect the newly build tunnel to the system, was completed in only 12 days instead of the 30 days allowed in the contract. The early completion of the shutdown and the early commissioning of the tunnel added to the system reliability and avoided a major risk that may have jeopardized the water deliveries to our Peninsula and City customers.

Construction Challenges

The schedule of Project CUW35401: Lower Crystal Springs Dam Improvements, Project CUW37101: Crystal Springs / San Andreas Transmission System Upgrades, and Project CUW36103: Pulgas Balancing - Structural Rehabilitation and Roof Replacement was impacted by the exceptionally wet weather experienced in the San Francisco Bay Area during the winter of FY 2010/-011. Various efforts, including re-sequencing of the work and extending the work schedule, were implemented to minimize the schedule impact on both projects.

In addition, as the work progressed in the Crystal Springs Watershed, various protected fish and birds were encountered resulting in some delays to the construction activities of Project

CUW35401: Lower Crystal Springs Dam Improvements and CUW37101: Crystal Springs / San Andreas Transmission System Upgrade. The discovery of contaminated soil at the site of Project CUW35401: Lower Crystal Springs Dam Improvements resulted in additional soil testing and disposal efforts.

All the ongoing projects in the region also encountered various degrees of differing site conditions including undocumented underground utilities, abandoned buried facilities, and unexpected soil conditions. Recovery plans have been developed for each project in construction and are underway to minimize the net impact of the delays due to weather conditions, differing site conditions and the additional implementation of environmental mitigation measures.

4.5 San Francisco (Regional) Region

The status of all regional projects in the San Francisco Region as of the end of FY 2010-2011 is summarized in Table 4-5.

Table 4-5: Status of San Francisco Regional Projects as of June 30, 2011

Project No.	Project/Contract Name	Status
CUW30103	Regional Groundwater Storage & Recovery	Design - 65% and 95% Packages
CUW35801	Sunset Reservoir - North Basin	Completed
CUW37201	University Mound Reservoir - North Basin	Construction - Substantial Completion

As indicated, one (1) San Francisco regional project remains in design, while construction substantial completion was reached on another and a third was completed as of the end of the reporting period.

Pre-construction Achievements

Utility surveys for all sixteen (16) planned well sites, 35% design documents and a first administrative draft of the project EIR were completed for Project CUW30103: Regional Groundwater Storage and Recovery. In addition, the 95% design documents for the construction of test wells at six (6) of the sixteen (16) well sites were issued. The construction contract for the test wells is expected to be advertised in September 2011. These test wells will provide important water quality and well capacity information for completing the project's environmental review and final engineering design.

Pre-construction Challenges

Progress on the overall delivery of Project CUW30103: Regional Groundwater Storage and Recovery was impacted due to the delay in reaching an agreement with the project's partner agencies (Cities of San Bruno and Daly City, and California Water Service Company) on the long-term groundwater pumping amounts. In addition, preparation of the Draft EIR was delayed to allow time for the Westside Groundwater Model to be revised and issued by Daly City. The revised Model was issued in May 2011; however, using the revised Groundwater Model for the analysis of the project is still on hold pending an agreement with the partner agencies. Meetings with managers from the partner agencies and the SFPUC are ongoing in an attempt to resolve the outstanding issues and resolution is expected in the early part of FY 2011-2012.

Construction Achievements

Construction substantial completion was achieved on the contract for Project CUW37201: University Mound Reservoir - North Basin on May 25, 2011 and the reservoir was tested and disinfected shortly thereafter.

Construction Challenges

The construction substantial completion of Project CUW37201: University Mound Reservoir - North Basin was delayed by a few months as a result of the need to re-sequence some work and the impact of inclement weather on roof waterproofing activities during the winter and spring of FY 2010-2011. Unforeseen site conditions also resulted in the need to the abatement of hazardous material and extended spall/crack repair. The project CM team proactively coordinated with the contractor to remedy these challenges and minimize their schedule and cost impacts.

5.0 STATUS OF AB1823 PROJECTS

The status of the ten (10) projects identified in AB 1823 is summarized in Table 5.1. As of July 1, 2011, one (1) project is in the design phase; one (1) is in the bid & award phase; seven (7) are in the construction phase; and one (1) project has been completed. Project CUW37401: Calaveras Dam Replacement is now in construction, as the construction NTP for this project was issued on August 15, 2011.

Table 5.1: Status of AB 1823 Projects as of July 1, 2011

Project No.	Project Name	Status
CUW35901	New Irvington Tunnel	Construction - 22% Complete
CUW35902	Alameda Siphon # 4	Construction - 89% Complete
CUW37401	Calaveras Dam Replacement	Bid & Award - Contract Awarded
CUW35301	BDPL Nos. 3 & 4 Crossover / Isolation Valves	Completed
CUW35302	Seismic Upgrade of BDPL Nos. 3 & 4	Design - 95% Package
CUW36801	BDPL Reliability Upgrade - Tunnel	Construction - 24% Complete
CUW36802	BDPL Reliability Upgrade - Pipeline	Construction - 92%/60% Complete
CUW38001	BDPL Nos. 3 & 4 Crossovers	Construction - 33% Complete
CUW35601	New Crystal Springs Bypass Tunnel	Construction - 98% Complete
CUW37101	CS/SA Transmission Upgrade	Construction - 10% Complete

The original list of projects in AB1823 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, is currently under construction as part of Project CUW36801: BDPL Reliability Upgrade - Tunnel and Project CUW36802: BDPL Reliability Upgrade - Pipeline. The CDPH, in a letter dated December 8, 2009, provided comments to the SFPUC's Notice of Changes Report – June 2009 Revised WSIP. One of CDPH's comments was:

Progress on assessing the condition and risk of failure and maintaining the caisson and pipe bridge for Bay Division Pipelines 1&2 should be reported in the AB 1823 required Annual progress report on Implementation of the WSIP to the Joint Legislative Audit Committee, the CDPH, and the CSS.

As stated in previous communications with the State, a condition assessment of the BDPL Nos. 1 and 2, pipe bridge, caisson, wood trestles, and submarine crossing from the Newark Valve House to Ravenswood Valve House was performed by OPAC, G&E Engineering Systems, and William Lettis and Associates. The findings were summarized in a series of reports completed in August 2006.

The Water Enterprise and WSIP Team reviewed the findings of the conditions assessment and determined that performing some of the recommended repairs were either unfeasible given the environmental restrictions and shutdown requirements associated with the work, or would result in stranded costs that would provide little reliability benefits since the improvements could not be completed much earlier than the addition of a fifth conduit, which is currently under construction. The SFPUC did however follow up on one of the recommended repairs and removed the pipe restraints on the pipe bridge to allow BDPL Nos. 1 & 2 to move horizontally during a seismic event. The removal of these rigid connections was completed in December 2008.

If an eminent deficiency were identified during one of the Water Enterprises regular inspections that could endanger public safety, repairs would be made immediately under an emergency order. For other deficiencies found during inspections, repairs would be scheduled as early as possible to minimize impact to water supply operations. It should be noted that the SFPUC has operational options should a failure of BDPL Nos. 1 and 2 occur. Specifically, the SFPUC has the ability to back-feed impacted customers from the HTWTP via the Pulgas Tunnel.

APPENDIX A

WATER SYSTEM IMPROVEMENT PROGRAM (WSIP) Regional Projects Q4 / FY 2010-2011 Quarterly Report (Program Status as of July 1, 2011)

Please access subject report posted on the SFPUC Website at the following address:

<http://sfwater.org/modules/showdocument.aspx?documentid=1238>

APPENDIX B

WATER SYSTEM IMPROVEMENT PROGRAM (WSIP)

June 2011 Revised WSIP Schedule for Regional Projects

ATTACHMENT 5: June 2011 Revised WSIP - Project-Level Schedules

Project Name	Start	Finish	FY2007		FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2					
Regional Improvement Projects			31-Mar-00 A	29-Jul-16																																						
San Joaquin Region			01-Jul-02 A	25-Mar-14																																						
CUW36401	Lawrence Livermore Water Quality Impro	02-Feb-04 A	14-Sep-11																																							
CUW37301	San Joaquin Pipeline System	19-Aug-02 A	25-Mar-14																																							
CUW37302	Rehabilitation of Existing San Joaquin Pip	03-Jul-06 A	12-Mar-14																																							
CUW38401	Tesla Treatment Facility	01-Jul-02 A	28-Sep-12																																							
Sunol Valley Region			19-Dec-01 A	29-Jul-16																																						
CUW35201	Upper Alameda Creek Filter Gallery	30-Sep-03 A	15-Jul-16																																							
CUW35501	Standby Power Facilities - Various Locatio	11-Jul-02 A	22-Dec-10 A	COMPLETED																																						
CUW35901	New Irvington Tunnel	19-Dec-01 A	31-Oct-14																																							
CUW35902	Alameda Siphon #4	19-Dec-01	12-Jun-12																																							
CUW37001	Pipeline Repair & Readiness Improvement	21-Apr-03 A	16-Apr-09 A	COMPLETED																																						
CUW37401	Calaveras Dam Replacement	03-Sep-02 A	29-Jul-16																																							
CUW37402	Calaveras Reservoir Upgrades (Completed)	19-Nov-03 A	28-Jul-06 A	COMPLETED																																						
CUW37403	San Antonio Backup Pipeline	17-Dec-03 A	09-Mar-15																																							
CUW38101	SVWTP Expansion & Treated Water Rese	22-Apr-05 A	05-Dec-13																																							
CUW38601	San Antonio Pump Station Upgrade	01-Jul-04 A	07-Dec-11																																							
Bay Division Region			19-Dec-01 A	13-Nov-15																																						
CUW35301	BDPL Nos. 3 & 4 Crossover/Isolation Val	06-Jan-03 A	31-Jul-09 A	COMPLETED																																						
CUW35302	Seismic Upgrade of BDPL Nos. 3 & 4	22-Oct-04 A	26-Apr-15																																							
CUW36301	SCADA System - Phase II	22-Apr-05 A	24-Feb-12																																							
CUW36801	BDPL Reliability Upgrade - Tunnel	19-Dec-01 A	13-Nov-15																																							
CUW36802	BDPL Reliability Upgrade - Pipeline	19-Dec-01 A	05-Mar-13																																							
CUW36803	BDPL Reliability Upgrade - Relocation of	24-Apr-06 A	28-May-10 A	COMPLETED																																						
CUW38001	BDPL Nos. 3 & 4 Crossovers	17-Feb-04 A	17-May-13																																							
CUW38901	SFPUC/EBMUD Intertie	24-Jun-02 A	30-Dec-11																																							
CUW39301	BDPL No. 4 Condition Assessment PCCP	04-Aug-06 A	06-Feb-09 A	COMPLETED																																						
Peninsula Region			01-Nov-00 A	06-Jul-16																																						
CUW35401	Lower Crystal Springs Dam Improvements	01-Nov-00 A	27-Sep-12																																							
CUW35601	New Crystal Springs Bypass Tunnel	07-Jan-02 A	29-Mar-12																																							
CUW35701	Adit Leak Repair - Crystal Springs/Calave	01-Apr-05 A	31-Jul-08 A	COMPLETED																																						
CUW36101	Pulgas Balancing - Inlet/Outlet Work (Com	15-May-02 A	11-May-06 A	COMPLETED																																						
CUW36102	Pulgas Balancing - Discharge Channel Mo	01-Apr-05 A	30-Jul-10 A	COMPLETED																																						
CUW36103	Pulgas Balancing - Structural Rehabilitatio	03-Apr-06 A	24-Feb-12																																							
CUW36105	Pulgas Balancing - Modifications of the Ex	02-Apr-07 A	30-May-12																																							
CUW36501	Cross Connection Controls (Completed)	01-Jul-03 A	30-Apr-09 A	COMPLETED																																						
CUW36601	HTWTP Short-Term Improvements (Dem	04-Sep-02 A	14-Nov-06 A	COMPLETED																																						
CUW36603	HTWTP Short-Term Improvements - Coag	03-Jul-06 A	28-Jul-10 A	COMPLETED																																						
CUW36701	HTWTP Long-Term Improvements	01-Jul-03 A	01-Dec-15																																							
CUW36702	Peninsula Pipelines Seismic Upgrade	01-Jul-09 A	06-Jul-16																																							
CUW36901	Capuchino Valve Lot Improvements (Com	22-Apr-05 A	19-Aug-08 A	COMPLETED																																						
CUW37101	Crystal Springs/San Andreas Transmission	18-Aug-03 A	23-Apr-14																																							
CUW37801	Crystal Springs Pipeline No. 2 Replacemen	15-Jan-04 A	25-Sep-13																																							
CUW37901	San Andreas Pipeline No. 3 Installation	15-Jan-04 A	21-Nov-11																																							
CUW39101	Baden and San Pedro Valve Lots Improvem	03-Oct-05 A	01-Aug-12																																							



Revision Date: 06/10/11

ATTACHMENT 5: June 2011 Revised WSIP - Project-Level Schedules

Project Name	Start	Finish	FY2007				FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2			
San Francisco Regional Region	31-Mar-00 A	17-Jun-16																																										
CUW30103 Regional Groundwater Storage and Recov	01-Jun-03 A	17-Jun-16	[Gantt bar showing project phases: Planning, Design, Bid & Award, Construction, Closeout]																																									
CUW35801 Sunset Reservoir - North Basin (Complete	31-Mar-00 A	10-Sep-10 A	[Gantt bar showing project phases: Planning, Design, Bid & Award, Construction, Closeout] COMPLETED																																									
CUW37201 University Mound Reservoir - North Basin	24-Oct-05 A	11-Jan-12	[Gantt bar showing project phases: Planning, Design, Bid & Award, Construction, Closeout]																																									
Support Projects	13-Apr-04 A	29-Jul-16																																										
CUW36302 System Security Upgrades	07-Jan-06 A	29-Apr-16	[Gantt bar showing project phases: Planning, Design, Bid & Award, Construction, Closeout]																																									
CUW38801 Programmatic EIR (Completed)	13-Apr-04 A	30-Jun-09 A	[Gantt bar showing project phases: Planning, Design, Bid & Award, Construction, Closeout] COMPLETED																																									
CUW38802 Bioregional Habitat Restoration	06-Sep-06 A	24-Jun-16 A	[Gantt bar showing project phases: Planning, Design, Bid & Award, Construction, Closeout]																																									
CUW39201 Program Management Project	01-Aug-05 A	29-Jul-16	[Gantt bar showing project phases: Planning, Design, Bid & Award, Construction, Closeout]																																									
CUW39401 Watershed Environmental Improvement P	02-Jan-07 A	27-Jun-14	[Gantt bar showing project phases: Planning, Design, Bid & Award, Construction, Closeout]																																									

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

Revision Date: 06/10/11

ATTACHMENT 6: June 2011 Revised WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007		FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	
Regional Improvement Projects																																										
San Joaquin Region																																										
CUW36401 Lawrence Livermore Water Quality Impro																																										
Project Management	02-Feb-04 A	14-Sep-11	[Grey bar]																																							
Planning	02-Feb-04 A	28-Sep-07 A	[Cyan bar]																																							
Environmental	31-Aug-06 A	25-Feb-09 A	[Blue bar]																																							
Design	01-Oct-07 A	31-Mar-09 A	[Yellow bar]																																							
Bid & Award	01-Dec-08 A	25-Aug-09 A	[Orange bar]																																							
Construction Management	27-Feb-09 A	11-Mar-11 A	[Dark Red bar]																																							
Construction	26-Aug-09 A	11-Mar-11 A	[Green bar]																																							
Closeout	14-Mar-11 A	14-Sep-11	[Grey bar]																																							
CUW37301 San Joaquin Pipeline System																																										
Project Management	19-Aug-02 A	25-Mar-14	[Grey bar]																																							
Planning	19-Aug-02 A	28-Dec-06 A	[Cyan bar]																																							
Environmental Review	17-Feb-04 A	22-Jun-11 A	[Blue bar]																																							
Right of Way	02-Jan-07 A	30-Dec-11	[Red bar]																																							
Design	02-Jan-07 A	23-Mar-11 A	[Yellow bar]																																							
Bid & Award	27-Apr-09 A	09-Aug-11	[Orange bar]																																							
Construction Management	03-Feb-09 A	20-Sep-13	[Dark Red bar]																																							
Construction	13-Oct-09 A	20-Sep-13	[Green bar]																																							
Closeout	06-Feb-12	25-Mar-14	[Grey bar]																																							
CUW37302 Rehabilitation of Existing San Joaquin Pip																																										
Project Management	03-Jul-06 A	12-Mar-14	[Grey bar]																																							
Planning	03-Jul-06 A	28-Sep-11	[Cyan bar]																																							
Environmental Review	26-Sep-06 A	30-Nov-12	[Blue bar]																																							
Design	31-Jul-06 A	31-Mar-11 A	[Yellow bar]																																							
Bid & Award	02-May-08 A	31-Mar-11 A	[Orange bar]																																							
Construction Management	03-Jul-06 A	31-Jul-11	[Dark Red bar]																																							
Construction	02-Oct-06 A	07-Sep-13	[Green bar]																																							
Closeout	01-Aug-11	12-Mar-14	[Grey bar]																																							
CUW38401 Tesla Treatment Facility																																										
Project Management	01-Jul-02 A	28-Sep-12	[Grey bar]																																							
Planning	01-Jul-02 A	29-Jun-07 A	[Cyan bar]																																							
Environmental	30-Jun-06 A	25-Feb-09 A	[Blue bar]																																							
Right of Way	17-Mar-08 A	16-Oct-08 A	[Red bar]																																							
Design	15-Feb-07 A	20-Nov-09 A	[Yellow bar]																																							
Bid & Award	30-Jan-08 A	10-Nov-08 A	[Orange bar]																																							
Construction Management	02-Feb-09 A	28-Jun-12	[Dark Red bar]																																							
Construction	08-Sep-08 A	28-Jun-12	[Green bar]																																							
Closeout	29-Jun-12	28-Sep-12	[Grey bar]																																							
Sunol Valley Region																																										
CUW35201 Upper Alameda Creek Filter Gallery																																										
Project Management	30-Sep-03 A	15-Jul-16	[Grey bar]																																							
Planning	30-Sep-03 A	30-Jun-10 A	[Cyan bar]																																							
Environmental Phase	23-Apr-10 A	14-Mar-14	[Blue bar]																																							



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ATTACHMENT 6: June 2011 Revised WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007				FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2			
Environmental	16-May-05 A	29-Jul-11	[Gantt bar: Environmental phase from FY05 to FY11]																																									
Design	14-Nov-05 A	28-Jul-11	[Gantt bar: Design phase from FY05 to FY11]																																									
Bid & Award	27-Dec-10 A	29-Jul-11	[Gantt bar: Bid & Award phase in FY11]																																									
Construction Management	01-Aug-11	30-Jul-15	[Gantt bar: Construction Mgmt phase from FY11 to FY15]																																									
Construction	04-Apr-11	29-Jan-16	[Gantt bar: Construction phase from FY11 to FY16]																																									
Closeout	01-Feb-16	29-Jul-16	[Gantt bar: Closeout phase in FY16]																																									
CUW37402 Calaveras Reservoir Upgrades (Completed)	19-Nov-03 A	28-Jul-06 A	COMPLETED																																									
Project Management	19-Nov-03 A	28-Jul-06 A	[Gantt bar: Project Mgmt for CUW37402]																																									
Planning	19-Nov-03 A	18-Nov-05 A	[Gantt bar: Planning for CUW37402]																																									
Environmental	21-May-04 A	18-Nov-05 A	[Gantt bar: Environmental for CUW37402]																																									
Design	16-Dec-04 A	18-Nov-05 A	[Gantt bar: Design for CUW37402]																																									
Bid & Award	28-Jan-05 A	18-Nov-05 A	[Gantt bar: Bid & Award for CUW37402]																																									
Construction Management	27-Jun-05 A	14-Feb-06 A	[Gantt bar: Construction Mgmt for CUW37402]																																									
Construction	27-Jun-05 A	14-Feb-06 A	[Gantt bar: Construction for CUW37402]																																									
Close Out	07-Oct-05 A	28-Jul-06 A	[Gantt bar: Close Out for CUW37402]																																									
CUW37403 San Antonio Backup Pipeline	17-Dec-03 A	09-Mar-15	[Gantt bar: Project Mgmt for CUW37403]																																									
Project Management	17-Dec-03 A	09-Mar-15	[Gantt bar: Project Mgmt for CUW37403]																																									
Planning	17-Dec-03 A	11-May-07 A	[Gantt bar: Planning for CUW37403]																																									
Environmental	02-Oct-06 A	06-Jul-12	[Gantt bar: Environmental for CUW37403]																																									
Design	01-Mar-07 A	14-Jun-12	[Gantt bar: Design for CUW37403]																																									
Bid & Award	18-May-11	26-Oct-12	[Gantt bar: Bid & Award for CUW37403]																																									
Construction Management	29-Oct-12	05-Sep-14	[Gantt bar: Construction Mgmt for CUW37403]																																									
Construction	29-Oct-12	05-Sep-14	[Gantt bar: Construction for CUW37403]																																									
Close Out	08-Sep-14	09-Mar-15	[Gantt bar: Close Out for CUW37403]																																									
CUW38101 SVWTP Expansion & Treated Water Rese	22-Apr-05 A	05-Dec-13	[Gantt bar: Project Mgmt for CUW38101]																																									
Project Management	22-Apr-05 A	05-Dec-13	[Gantt bar: Project Mgmt for CUW38101]																																									
Planning	22-Apr-05 A	29-Jun-07 A	[Gantt bar: Planning for CUW38101]																																									
Environmental Review	21-Jul-06 A	30-Jun-10 A	[Gantt bar: Environmental Review for CUW38101]																																									
Right of Way	03-Jul-06 A	16-Jun-09 A	[Gantt bar: Right of Way for CUW38101]																																									
Design	16-Jan-07 A	10-Dec-09 A	[Gantt bar: Design for CUW38101]																																									
Bid & Award	23-Nov-09 A	22-Jun-10 A	[Gantt bar: Bid & Award for CUW38101]																																									
Construction Management	30-Apr-10 A	31-May-13	[Gantt bar: Construction Mgmt for CUW38101]																																									
Construction	23-Jun-10 A	02-Jun-13	[Gantt bar: Construction for CUW38101]																																									
Closeout	03-Jun-13	05-Dec-13	[Gantt bar: Closeout for CUW38101]																																									
CUW38601 San Antonio Pump Station Upgrade	01-Jul-04 A	07-Dec-11	[Gantt bar: Project Mgmt for CUW38601]																																									
Project Management	01-Jul-04 A	07-Dec-11	[Gantt bar: Project Mgmt for CUW38601]																																									
Planning	01-Jul-04 A	12-Jan-07 A	[Gantt bar: Planning for CUW38601]																																									
Environmental (CatEx)	02-Jan-07 A	21-Jun-07 A	[Gantt bar: Environmental for CUW38601]																																									
Design	06-Jul-07 A	15-May-09 A	[Gantt bar: Design for CUW38601]																																									
Bid & Award	14-Apr-09 A	30-Oct-09 A	[Gantt bar: Bid & Award for CUW38601]																																									
Construction Management	02-Nov-09 A	01-Sep-11	[Gantt bar: Construction Mgmt for CUW38601]																																									
Construction	02-Nov-09 A	01-Sep-11	[Gantt bar: Construction for CUW38601]																																									
Close-Out	04-Aug-11	07-Dec-11	[Gantt bar: Close-Out for CUW38601]																																									
Bay Division Region	19-Dec-01 A	13-Nov-15	COMPLETED																																									
CUW35301 BDPL Nos. 3 & 4 Crossover/Isolation Val	06-Jan-03 A	31-Jul-09 A	COMPLETED																																									
Project Management	06-Jan-03 A	31-Jul-09 A	[Gantt bar: Project Mgmt for CUW35301]																																									

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

Revision Date: 06/10/11

ATTACHMENT 6: June 2011 Revised WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007				FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2			
Environmental	18-Sep-03 A	09-Oct-08 A	[Gantt bar: Environmental phase]																																									
Right of Way	03-Jul-06 A	16-Sep-08 A	[Gantt bar: Right of Way phase]																																									
Design	01-Jun-04 A	05-Jun-08 A	[Gantt bar: Design phase]																																									
Bid & Award	05-Jun-08 A	01-Dec-08 A	[Gantt bar: Bid & Award phase]																																									
Construction Management	01-Dec-08 A	28-Sep-11	[Gantt bar: Construction Management phase]																																									
Construction	01-Dec-08 A	28-Sep-11	[Gantt bar: Construction phase]																																									
Close Out	29-Sep-11	29-Mar-12	[Gantt bar: Close Out phase]																																									
CUW35701 Adit Leak Repair - Crystal Springs/Calave	01-Apr-05 A	31-Jul-08 A	COMPLETED																																									
Project Management	01-Apr-05 A	31-Jul-08 A	[Gantt bar: Project Management phase]																																									
Planning	01-Apr-05 A	27-Mar-06 A	[Gantt bar: Planning phase]																																									
Environmental	01-Jul-05 A	30-Jun-06 A	[Gantt bar: Environmental phase]																																									
Design	01-Sep-05 A	15-Sep-06 A	[Gantt bar: Design phase]																																									
Bid & Award	28-Aug-06 A	30-Mar-07 A	[Gantt bar: Bid & Award phase]																																									
Construction Management	02-Apr-07 A	05-Mar-08 A	[Gantt bar: Construction Management phase]																																									
Construction	09-Apr-07 A	05-Mar-08 A	[Gantt bar: Construction phase]																																									
Close Out	12-Mar-08 A	08-Jul-08 A	[Gantt bar: Close Out phase]																																									
CUW36101 Pulgas Balancing - Inlet/Outlet Work (Com	15-May-02 A	11-May-06 A	COMPLETED																																									
Project Management	01-Jul-03 A	11-May-06 A	[Gantt bar: Project Management phase]																																									
Planning	15-May-02 A	01-Aug-05 A	[Gantt bar: Planning phase]																																									
Environmental	02-May-04 A	02-May-04 A	[Gantt bar: Environmental phase]																																									
Bid & Award	05-Mar-04 A	06-Sep-05 A	[Gantt bar: Bid & Award phase]																																									
Construction Management	07-Sep-05 A	02-Feb-06 A	[Gantt bar: Construction Management phase]																																									
Construction	06-Sep-05 A	02-Feb-06 A	[Gantt bar: Construction phase]																																									
Close Out	03-Feb-06 A	11-May-06 A	[Gantt bar: Close Out phase]																																									
CUW36102 Pulgas Balancing - Discharge Channel Mo	01-Apr-05 A	30-Jul-10 A	COMPLETED																																									
Project Management	01-Apr-05 A	30-Jul-10 A	[Gantt bar: Project Management phase]																																									
Planning	01-Apr-05 A	15-Sep-06 A	[Gantt bar: Planning phase]																																									
Environmental	17-Aug-06 A	03-Apr-09 A	[Gantt bar: Environmental phase]																																									
Design	16-Apr-07 A	03-Nov-08 A	[Gantt bar: Design phase]																																									
Bid & Award	04-Nov-08 A	03-Apr-09 A	[Gantt bar: Bid & Award phase]																																									
Construction Management	06-Apr-09 A	07-Dec-09 A	[Gantt bar: Construction Management phase]																																									
Construction	02-Apr-09 A	07-Dec-09 A	[Gantt bar: Construction phase]																																									
Close Out	08-Dec-09 A	30-Jul-10 A	[Gantt bar: Close Out phase]																																									
CUW36103 Pulgas Balancing - Structural Rehabilitatio	03-Apr-06 A	24-Feb-12	COMPLETED																																									
Project Management	03-Apr-06 A	24-Feb-12	[Gantt bar: Project Management phase]																																									
Planning	03-Apr-06 A	11-Dec-07 A	[Gantt bar: Planning phase]																																									
Environmental	03-Jul-07 A	16-Jul-09 A	[Gantt bar: Environmental phase]																																									
Design	11-Jan-08 A	01-Jul-09 A	[Gantt bar: Design phase]																																									
Bid & Award	06-Apr-09 A	30-Nov-09 A	[Gantt bar: Bid & Award phase]																																									
Construction Management	30-Nov-09 A	25-Aug-11	[Gantt bar: Construction Management phase]																																									
Construction	30-Nov-09 A	25-Aug-11	[Gantt bar: Construction phase]																																									
Close Out	26-Aug-11	24-Feb-12	[Gantt bar: Close Out phase]																																									
CUW36105 Pulgas Balancing - Modifications of the Ex	02-Apr-07 A	30-May-12	COMPLETED																																									
Project Management	02-Apr-07 A	30-May-12	[Gantt bar: Project Management phase]																																									
Planning	02-Apr-07 A	17-Mar-09 A	[Gantt bar: Planning phase]																																									
Environmental	19-Nov-07 A	04-Mar-10 A	[Gantt bar: Environmental phase]																																									



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ATTACHMENT 6: June 2011 Revised WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007		FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2					
San Francisco Regional Region																																										
CUW30103 Regional Groundwater Storage and Recov																																										
Project Management	01-Jun-03 A	17-Jun-16	[Gantt bar]																																							
Planning	01-Jun-03 A	31-Jan-08 A	[Gantt bar]																																							
Environmental	15-Oct-07 A	18-Dec-13	[Gantt bar]																																							
Right of Way	07-Apr-08 A	19-Sep-13	[Gantt bar]																																							
Design	02-Jan-08 A	22-Apr-13	[Gantt bar]																																							
Bid & Award	11-Mar-09 A	18-Dec-13	[Gantt bar]																																							
Construction Management	04-Mar-08 A	18-Dec-15	[Gantt bar]																																							
Construction	01-Jul-03 A	18-Dec-15	[Gantt bar]																																							
Closeout	21-Dec-15	17-Jun-16	[Gantt bar]																																							
CUW35801 Sunset Reservoir - North Basin (Complete)																																										
COMPLETED																																										
Project Management	31-Mar-00 A	10-Sep-10 A	[Gantt bar]																																							
Planning	31-Mar-00 A	28-Sep-01 A	[Gantt bar]																																							
Environmental	21-May-04 A	21-Dec-04 A	[Gantt bar]																																							
Design	01-Oct-01 A	12-Apr-06 A	[Gantt bar]																																							
Bid & Award	22-Oct-04 A	10-Oct-06 A	[Gantt bar]																																							
Construction Management	11-Apr-05 A	26-Mar-09 A	[Gantt bar]																																							
Construction	11-Apr-05 A	09-Nov-09 A	[Gantt bar]																																							
Close Out	13-Nov-06 A	10-Sep-10 A	[Gantt bar]																																							
CUW37201 University Mound Reservoir - North Basin																																										
Project Management	24-Oct-05 A	11-Jan-12	[Gantt bar]																																							
Planning	24-Oct-05 A	06-Apr-07 A	[Gantt bar]																																							
Environmental	26-Dec-06 A	18-Jul-07 A	[Gantt bar]																																							
Design	07-Apr-07 A	24-Mar-09 A	[Gantt bar]																																							
Bid & Award	02-Feb-09 A	31-Jul-09 A	[Gantt bar]																																							
Construction Management	03-Aug-09 A	01-Aug-11	[Gantt bar]																																							
Construction	27-Jul-09 A	01-Aug-11	[Gantt bar]																																							
Close Out	02-Aug-11	11-Jan-12	[Gantt bar]																																							
Support Projects																																										
CUW36302 System Security Upgrades																																										
Project Management	19-Jun-06 A	29-Apr-16	[Gantt bar]																																							
Planning	19-Jun-06 A	08-Jul-09 A	[Gantt bar]																																							
Environmental	19-Jun-06 A	28-Mar-12	[Gantt bar]																																							
Right of Way	26-Nov-08 A	26-Nov-08 A	[Gantt bar]																																							
Design	19-Jun-06 A	09-Aug-12	[Gantt bar]																																							



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ATTACHMENT 6: June 2011 Revised WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007		FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	
Bid & Award	07-Jan-06 A	16-Oct-12	[Gantt bar: Bid & Award]																																							
Construction Management	13-Nov-06 A	22-Jan-16	[Gantt bar: Construction Management]																																							
Construction	13-Nov-06 A	24-Jan-16	[Gantt bar: Construction]																																							
Close Out	24-Sep-07 A	29-Apr-16	[Gantt bar: Close Out]																																							
CUW38801 Programmatic EIR (Completed)	13-Apr-04 A	30-Jun-09 A	COMPLETED																																							
Project Management	13-Apr-04 A	30-Jun-09 A	[Gantt bar: Project Management]																																							
Planning	13-Apr-04 A	28-Feb-07 A	[Gantt bar: Planning]																																							
Environmental Review	15-Jun-04 A	30-Jun-09 A	[Gantt bar: Environmental Review]																																							
CUW38802 Bioregional Habitat Restoration	06-Sep-06 A	24-Jun-16	[Gantt bar: Bioregional Habitat Restoration]																																							
Project Management	01-Nov-06 A	24-Jun-16	[Gantt bar: Project Management]																																							
Planning	06-Sep-06 A	31-Dec-07 A	[Gantt bar: Planning]																																							
Environmental Review	03-Jan-07 A	31-Aug-11	[Gantt bar: Environmental Review]																																							
Right of Way	02-Jul-08 A	08-Nov-13	[Gantt bar: Right of Way]																																							
Design	16-Jul-07 A	01-Dec-11	[Gantt bar: Design]																																							
Bid & Award	04-Dec-09 A	09-Jan-12	[Gantt bar: Bid & Award]																																							
Construction Management	22-Jun-10 A	29-Mar-16	[Gantt bar: Construction Management]																																							
Construction	06-Mar-09 A	29-Mar-16	[Gantt bar: Construction]																																							
Closeout	09-Jun-14	24-Jun-16	[Gantt bar: Closeout]																																							
CUW39201 Program Management Project	01-Aug-05 A	29-Jul-16	[Gantt bar: Program Management Project]																																							
CUW39401 Watershed Environmental Improvement P	02-Jan-07 A	27-Jun-14	[Gantt bar: Watershed Environmental Improvement P]																																							
Project Management	02-Jul-07 A	27-Jun-14	[Gantt bar: Project Management]																																							
Planning	02-Jan-07 A	29-Jul-11	[Gantt bar: Planning]																																							
Environmental	01-Aug-11	29-Jun-12	[Gantt bar: Environmental]																																							
Right of Way	14-Mar-11 A	28-Mar-14	[Gantt bar: Right of Way]																																							
Design	31-May-11	31-May-11	[Gantt bar: Design]																																							
Bid & Award	31-May-11	31-May-11	[Gantt bar: Bid & Award]																																							
Construction Management	31-May-11	31-May-11	[Gantt bar: Construction Management]																																							
Construction	31-May-11	31-May-11	[Gantt bar: Construction]																																							
Closeout	31-Mar-14	27-Jun-14	[Gantt bar: Closeout]																																							

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

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