



HETCH HETCHY

WATER SYSTEM IMPROVEMENT PROGRAM



2009-10

Annual Report

Water System Improvement Program

*Rebuilding Today
for a Better Tomorrow*



September 20, 2010

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) 2009-2010. 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 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 meet water supply objectives until the year 2018.

Significant progress was made on the implementation of the WSIP during FY 2009-2010, especially in the areas of environmental review/permitting, engineering design and construction management. Notable achievements during FY 2009-2010 include:

- Construction of projects valued at \$1.4 billion was completed or underway as of the end of FY 2009-2010;
- Board of Supervisors approved \$1,647,249,198 in appropriations for FY 2010-2011 through FY 2015-2016, which is the balance needed to complete the WSIP.
- Five (5) projects completed the environmental phase and six (6) project-level environmental documents were approved or certified;
- Ten (10) projects completed the design phase;
- Eleven (11) construction contracts were awarded;
- Two (2) Construction Management (CM) contracts were awarded;
- Two Hundred eighty-five (285) CM and contractor staff have received the WSIP CM Program training which include the use of a state-of-the-art Construction Management Information System (CMIS); and
- Four (4) projects completed the construction phase.

Overall, the completion date of the program remains December 2015, with all but six (6) projects completing their construction phase prior to 2015.

Following an extensive re-baselining evaluation of the program in 2009, the SFPUC's fourth change notice report, titled *AB1823: Notice of Changes to Water System Improvement Program*, was submitted to the State of California on September 1, 2009. This report described, in detail, changes to the program since the previously adopted program of February 20, 2008 (described in the March 31, 2008 change notice report).

Following issuance of this notice, the California Department of Public Health (CDPH) and the California State Seismic Commission (CSSC) responded with comments and recommendations in a letter to the Chairman of the Joint Legislative Audit Committee and SFPUC General Manager Ed Harrington. The letters included comments requiring follow-up by SFPUC.

In addition, SFPUC make several commitments to the Bay Area Water Supply and Conservation Agency (BAWSCA) based on their comments to the WSIP changes.

In late 2009, the SFPUC commissioned an Independent Review Panel to review the WSIP. This five (5) member panel of outside experts evaluated the adequacy of the organization, systems, procedures and business processes; the usefulness and accuracy of performance reporting; progress to date; and the greatest challenges and risks to program delivery. In general, the panel provided positive feedback on the organization, systems and procedures, reporting, and progress put in place by the SFPUC. They also provided a number of observations, challenges and risks, and recommendations. The SFPUC developed a point-by-point action plan to address the panel's recommendations. While The WSIP team has processes in place to address most of the panels recommendations, additional actions are being taken to ensure thorough follow up on what was recommended.

Other significant accomplishments during this reporting period are described below in the order they are presented in the report:

- The remaining seven (7) of seventy (70) mitigation measures identified in the WSIP Risk Mitigation Plan were completed. The focus of risk management for WSIP transitioned from a programmatic to a project-specific approach with emphasis on construction and the implementation of an enterprise risk management system. Risk assessment procedures were developed, construction management teams trained and thirteen (13) project risk assessments were completed;
- Program Control improvements continued to build on the initiatives and processes implemented in previous years. This included updating procedures for schedule and budget development, change management, and monthly reporting. A significant revision to the format of the WSIP Quarterly Report was completed in response to recommendations by the WSIP Independent review Panel and the San Francisco Revenue Bond Oversight Committee (RBOC);
- The Project Change Management procedure was revised to include a Change Control Board (CCB). The CCB was established to review and provide recommendations on proposed project and construction changes that exceed threshold limits requiring approval by the WSIP Director.
- Thirteen (13) Quality Assurance (QA) audits were performed on selected projects during the planning and design phases. Seventy-three (73) Quality Control (QC)

reviews of project deliverables were conducted at key planning and design milestones in accordance with the requirements of the WSIP Quality Management Program;

- The WSIP CM Program continued to ramp up with the award of eleven (11) construction contracts totaling \$678 million. Construction of projects valued at \$1.4 billion was completed or underway as of the end of FY 2009-2010. The Construction Management Information System (CMIS) continued to be deployed on construction projects with a total of two hundred eighty-five (285) CM and contractor staff trained in the use of the system. A Construction Phase Cost/Schedule Management System to allow for the integration of contractor schedules for program level analysis and reporting was developed and pilot tested for three (3) projects.;
- Five (5) project Environmental Impact Reports (EIRs) were certified by the San Francisco Planning Commission. Thirteen (13) environmental permits were received and an additional thirty-eight (38) were submitted. Environmental Compliance management and oversight continued on thirteen (13) construction projects and a comprehensive Environmental Inspector training program was developed for SFPUC personnel working as Environmental Inspectors on WSIP projects;
- The WSIP Real Estate/Right-of-Way (ROW) Team obtained two (2) Permits-to-Enter on private properties, which were required to support pre-design activities; completed twenty-nine (29) acquisition appraisals, ten (10) land acquisitions, one (1) lease, and two (2) orders for possession; and cleared eight (8) illegal encroachments from the SFPUC ROW. Fourteen (14) appraisal maps and deeds were also prepared.
- Progress continued on system shutdown planning, to accommodate the construction of WSIP projects. A Shutdown Delivery Team (SDT) continues to review shutdown schedules for WSIP and other SFPUC projects for interrelationships with operational and delivery requirements, and assesses delivery reliability and potential risks from unforeseen events. Contingencies are being developed for unanticipated scenarios, such as construction delays, operational emergencies, water quality events, shutdown staffing deficiencies and other unforeseen events. During FY 2009/2010 25 system shutdowns and hot taps were successfully completed including a major shutdown of the Coast Range Tunnel in late-2009/early-2010;
- As in the previous reporting period, a number of System Engineering reviews at the program and project levels were completed to assure continued compliance with the WSIP's level of service (LOS) goals. Various system hydraulic modeling efforts were undertaken to verify that developments in project designs continue meet operational performance criteria. Analyses included hydraulic reviews of the San Joaquin Pipeline System, Calaveras Dam Replacement (outlet works), San Antonio Back-Up Pipeline, Seismic Upgrade of Bay Division Pipeline (BDPL) Nos. 3 & 4, Baden and San Pedro Valve Lot Improvements, and Peninsula Pipelines Seismic Upgrade projects.
- Outreach efforts included support for the certification of seven (7) project EIRs, two (2) construction groundbreaking events, and numerous presentations to community groups, agencies and elected officials including a WSIP Information Summit on April 30, 2010 in San Mateo County. The WSIP also garnered significant media attention

in the region and throughout the industry. More than a dozen printed and electronic media placements, including *San Francisco Chronicle*, *Mercury News*, *SF Examiner*, *CA Water News*, *SF Business Times* and various TV and radio programs, highlighted WSIP projects.

- WSIP Communications assisted the project team and attorneys finalize negotiations on 9 Memorandums of Agreement (MOA) for both segments of the BDPL Reliability Upgrade – Pipeline project on the Peninsula and in the East Bay; MOAs for both San Joaquin and Stanislaus County, and for several Peninsula projects including 10 separate agreements for the Crystal Springs Pipeline (CSPL) #2 Replacement project. In the Sunol Valley Region, communications continued to coordinate with nearly one hundred (100) homeowners and ranchers to institute an extensive groundwater monitoring program to preserve their source water during construction of the New Irvington Tunnel.
- During FY2009-2010, eleven (11) regional construction contracts totaling \$679 million were awarded. Ten (10) of these contracts are covered by the WSIP Project Labor Agreement (PLA). A key objective of the PLA is the avoidance of work stoppages or other disruptions due to labor disputes through the provision of alternative methods. In FY 2009-2010, forty (40) jurisdiction disputes on sixteen (16) projects were resolved amicably prior to arbitration. The WSIP has provided significant employment opportunities within the San Francisco Bay Area. To date, the regional program provided 1,036,049 hours of employment to 2,949 craft workers in fifteen (15) trades. During FY 2009-2010, 55% of the total work hours performed by the construction craft workforce employed on WSIP PLA covered projects reside within the SFPUC's Water Service territory, apprentice utilization reached 15%, and pre-apprenticeship programs have successfully referred fifty-seven (57) new entrants and sixteen (16) retention placements.

A great deal of progress was made on the implementation of individual WISP projects during this reporting period. As of the end of FY 2009-2010, all projects listed in Assembly Bill (AB) 1823 had moved beyond the planning phase, with two (2) project in design, two (2) in bid & award, five (5) in construction and one (1) project completed. The status of the AB1823 projects as of July 1, 2010 is provided in Table E-1.

Table E-1: Active Phase of AB 1823 Projects as of July 1, 2010

Project	Phase
Calaveras Dam Replacement	95% Design/Environmental
New Irvington Tunnel	Bid and Award
Alameda Siphon # 4	Construction
BDPL Reliability Upgrade – Pipeline	Construction
BDPL Reliability Upgrade – Tunnel	Construction
Seismic Upgrade of BDPL Nos. 3 & 4	95% Design/Environmental
BDPL Nos. 3 & 4 Crossover/Isolation Valves	Completed
BDPL Nos. 3 & 4 Crossovers	Construction
New Crystal Springs Bypass Tunnel	Construction
Crystal Springs/San Andreas Transmission Upgrade	Bid and Award

With the program's greatest project value now in the construction phase, the focus of the WSIP has shifted to the construction activities taking place in the field. The construction completion percentage more than doubled in FY 2009-2010 and is expected to increase more significantly during FY 2010-2011.

At the end of the reporting period, the planning, environmental, design and construction phases of the program were 97.6%, 81.0%, 90.2% and 15.0% complete, respectively. As of the end of FY 2009-2010, there are two (2) regional projects in planning, seven (7) in design, three (3) in bid & award, fourteen (14) in construction, five (5) in close-out; ten (10) regional projects have been completed and all have been initiated; and five (5) regional projects are active in multiple phases. Table E-2 presents a comparison of the number of projects in each phase from July 1, 2009 to July 1, 2010.

Table E-2: Status of WSIP Regional Projects

Phase	No. of Project	
	July 1, 2009	July 1, 2010
Planning	2	2
Design	17	7
Bid & Award	10	3
Construction	6	14
Closeout	2	5
Completed	8	10
Not Initiated	1	0
Multiple Phases	N/A*	5

* For FY 2008-2009, projects active in multiple phases were categorized in of the listed under the specific phase with the greatest work

As part of its ongoing program management practices, the WSIP Team has put in place a number of processes and measures to prevent or minimize project delays. However, there are a number of circumstances and factors, some of which are not always in the control of the WSIP Team, which result in delays that cannot be mitigated. As of July 1, 2010, nineteen (19) projects were forecasted to be behind schedule when comparing the forecasted completion date of these projects to the completion date approved as part of the 2009 Revised WSIP. It should be noted that only five (5) of these project delays will result in additional seismic and/or public health risks as indicated in Section 5 of the report. These projects are:

- San Antonio Backup Pipeline (In Design / 5.7 month delay)
- SVWTP Expansion & Treated Water Reservoir (In Construction / 4.9 month delay)
- New Irvington Tunnel (In Bid & Award / 10.5 month delay)
- HTWTP Long-Term Improvements (In Design / 17.3 month delay)
- Peninsula Pipelines Seismic Upgrade (In Planning / 8.4 month delay)

Table 5.0-1 of the report summarizes the magnitude of the project delays and the general approach for addressing these delays in the context of the reporting requirements of the Wholesale Regional Water System Security and Reliability Act.

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ACRONYMS AND ABBREVIATIONS

AAR	Alternative Analysis Report
AB	Assembly Bill
ARM	Active Risk Manager
BAWSCA	Bay Area Water Supply and Conservation Agency
BDPL	Bay Division Pipeline
CCB	Change Control Board
CDFG	California Department of Fish and Game
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CER	Conceptual Engineering Report
CM	Construction Management
CMIS	Construction Management Information System
CSLC	California State Lands Commission
CSPL	Crystal Springs Pipeline
CSSC	California Seismic Safety Commission
DCR	Design Criteria Report
DRA	Dispute Resolution Advisor
DRB	Dispute Resolution Board
DSOD	California Division of Safety of Dams
EIR	Environmental Impact Report
ECCMP	Environmental Construction Compliance Management Program
FY	Fiscal Year
HCP	Habitat Conservation Plan
HTWTP	Harry Tracy Water Treatment Plant
HRP	Habitat Reserve Program
IAPTF	Interagency Permitting Task Force
IS/MND	Initial Study/Mitigated Negative Declaration
JAC	Joint Administration Committee
JTOP	Jobs and Training Opportunities Program
LBE	Local Business Enterprise Program
LOS	Level of Service
LRCP	Labor Relations and Community Programs

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ACRONYMS AND ABBREVIATIONS (continued)

MMP	Mitigation and Monitoring Plans
MND	Mitigated Negative Declaration
MOA	Memorandum of Agreement
NMFS	National Marine Fisheries Service
NOP	Notice of Preparation
NTP	Notice to Proceed
PCM	Program CM Consultant
PEIR	Programmatic Environmental Impact Report
PLA	Project Labor Agreement
PPPCM	Program, Project, Pre-Construction Management
QA	Quality Assurance
QC	Quality Control
RFP	Request for Proposal
RBOC	Revenue Bond Oversight Committee
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SAPL	San Andreas Pipeline
SDT	Shutdown Delivery Team
SFPUC	San Francisco Public Utilities Commission
SHPO	State Historic Preservation Office
SJCOG	San Joaquin Council of Governments
SJPL	San Joaquin Pipeline
SPUR	San Francisco Planning and Urban Research
SQS	Supplier Quality Surveillance
SSTF	Seismic Safety Task Force
SVWTP	Sunol Valley Water Treatment Plant
TCE	Temporary Construction Easement
TAP	Technical Advisory Panel
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service
USGS	United States Geological Survey
VE	Value Engineering
WEIP	Watershed Environmental Improvement Program
WGCEP	Working Group for California Earthquake Probabilities

ACRONYMS AND ABBREVIATIONS (continued)

WSA	Water Supply Agreement
WSE	Water Systems Engineering
WSIP	Water System Improvement Program

ANNUAL REPORT

WATER SYSTEM IMPROVEMENT PROGRAM

Pursuant to the reporting requirements of the Wholesale Regional Water System Security and Reliability Act, the SFPUC submits this report documenting the progress achieved on the WSIP during FY 2009-2010. 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 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.

Section 1 of the report describes major program-level accomplishments whereas Section 2 focuses on project-level accomplishment in the various WSIP regions. Also included in Sections 3 and 4, respectively, are a summary of the formal WSIP-related actions approved by the San Francisco Board of Supervisors and the SFPUC Commission (Commission), and a brief update on the program's financials. The WSIP Regional Projects 4th Quarterly Report for FY 2009-2010 (*Q4-FY09/10 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 July 1, 2010, and includes the project-level budgets and schedules last approved by the Commission.

Please note that the content and format of the WSIP Quarterly Report (Appendix A) has changed significantly. The changes to the report were made in response to recommendations made by the WSIP Independent Review Panel (January 2010) and the San Francisco RBOC. The new report format is more concise with expanded use of graphics to communicate program and project status.

The first 5 sections of the WSIP Quarterly Report (Sections 1-5) provide a Program Description, Program Status, Program Cost Summary and Program Schedule Summary, along with a Project Performance Summary in table format that provides project-level information on cost and schedule performance with "traffic light" indicators that highlight various levels of performance. Section 6 (Projects not Within Budget and/or Schedule) provides more detailed information about the status of active projects that are not within approved budget and/or schedule. Sections 7 (Ongoing Constriction), Section 8 (Projects In Closeout), and Section 9 (Completed Projects) provide "at a glance" information on projects in construction, closeout and completed projects, respectively.

In addition, the WSIP Quarterly Report contains a number of appendices:

- Appendix A (Project Descriptions) provides project descriptions;
- Appendix B (WSIP Budget and Expenditures Histogram) includes a histogram by fiscal year of the program's budgets, expenditures and forecast expenditures over the life of the program;

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- Appendix C (WSIP 2009 Approved Project-Level Schedule) provides the program's approved schedule by project and phase;
 - Appendix D (Projects Within Budget and Schedule) provides more detailed information about the status of active projects that are within budget and schedule; and
 - Appendix E (List of Acronyms) consists of a list of acronyms used in the report.

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 for the year 2030, and meet water supply objectives for the year 2018.

1.0 PROGRAM ACCOMPLISHMENTS AND STATUS (FY 2009-2010)

This section describes the program-level accomplishments realized during FY 2009-2010.

1.1 Follow-Up to September 1, 2009 Notice of Changes to WSIP

In early 2009, WSIP Senior Management recognized the need to assess the cumulative effects of the scope, schedule and cost refinements on the December 2007 Revised WSIP, and revised to the program in order to:

- Incorporate the latest available scope, schedule and cost information, risk mitigation measures and value engineering proposals;
- 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;
- Ensure adequate funding is available in future supplemental appropriations; and
- Ensure compliance with the California Water Code § 73502 (c) (Assembly Bills 1823 and 2437).

In addition, several project names were revised to better reflect their scopes and objectives, and several projects were re-aligned within the WSIP regions for management and reporting purposes. The 2009 program revision efforts were completed in June 2009.

The SFPUC's fourth change notice report, titled *AB1823: Notice of Changes to Water System Improvement Program*, was submitted to the State of California on September 1, 2009. This report described, in detail, changes to the program since the previously adopted program of February 20, 2008 (described in the March 31, 2008 change notice report).

Following issuance of this notice, the California Department of Public Health (CDPH) responded with comments and recommendations in a letter to the Chairman of the Joint Legislative Audit Committee and SFPUC General Manager Ed Harrington, dated December 8, 2009. The CDHP concluded that “the changes as reported in the 2009 Change Notice do not significantly change the overall impacts to public health and safety.” In addition, CDPH made specific comments requiring follow-up by the SFPUC, including:

CDPH Comment No. 1:

Compression of the program schedule resulting from project delays in excess of the overall program schedule extension. This requires careful integration between project schedules and planned shutdowns; a highly disciplined program management and support structure, and detailed contingency planning to assure continued and reliable operation of the RWS during construction.

SFPUC Response No. 1:

In late 2009, SFPUC commissioned an Independent review Panel of outside experts to review the WSIP. One of the specific questions asked of this panel was “Is the progress made to date on the WSIP reasonable? The panel concluded that “the progress made to date is reasonable for a multi-billion dollar program for a large municipality.” In addition, the panel reviewed the organization, systems, procedures, and business processes used to deliver the WSIP and stated that “the SFPUC systems, processes and staffing to meet the program needs are impressive.” This was especially noteworthy for construction as the program’s focus transitions to construction of the projects.

CDPH Comment No. 2:

A functional operation plan to activate and operate emergency disinfection facilities at strategic locations where untreated raw water from the local reservoirs can be introduced into the system after a major disaster event.

SFPUC Response No. 2:

The SFPUC is processing a consultant task order to facilitate development of this new plan. The plan will be developed in close collaboration with SFPUC wholesale customers, the CDPH, and other stakeholders. Plan development is scheduled to start in September (allowing the SFPUC and wholesale customer’s time to complete the Water Quality Notification and Communication Plan update spelled out in the new Master Water Sales Agreement) and the Kickoff Meeting will be held by October. The final plan is scheduled to be completed by the end of 2011.

CDPH Comment No. 3:

Ensure substantial completion of Tesla Treatment Facility to provide a full year of on-site testing and commissioning prior to April 1, 2012.

SFPUC Response No. 3:

As of July 1, 2010, the construction phase is 75% complete. The Contractor's July 2010 schedule update shows Substantial Completion on March 4, 2011, which if met, will allow for one year of operational experience prior to the compliance date of April 1, 2012.

CDPH Comment No. 4:

Report progress in the Annual Report on assessing the risk of failure, and on maintaining the Caisson and Pipe Bridge for BDPLs 1 & 2 over San Francisco Bay until the Bay Division Pipeline Reliability projects are completed.

SFPUC Response No. 4:

There has been no change to the risk assessment associated with the Caisson and Pipe Bridge for BDPLs 1 & 2 over San Francisco Bay. Because the BDPL Reliability Upgrade – Pipeline/Tunnel projects are now in construction and remain on schedule, and based on the short-term risk levels, the SFPUC is not planning to undertake other costly interim repairs. It should be noted however that some interim risk reduction measures recommended seismic experts were taken in recent years. For example, during FY 2008-2009, the restraints that were firmly attaching BDPLs 1 & 2 to the trestles were removed to allow for the pipelines to move freely during a seismic event.

CDPH Comment No. 5:

Report in the Annual Report on any actions taken to assure the timely completion of Project CUW35302: Seismic Upgrade of BDPL Nos. 3 & 4.

SFPUC Response No. 5:

With the 65% design submittal completed in October 2009, the project team is working toward 95% design completion. Large-scale laboratory testing of fault-rupture effects on the articulated concrete vault at Cornell University was also completed in May of 2009. The modeled behavior matched the predicted behavior for the designed fault-crossing system and provided further confirmation of the intended behavior of the design concept.

Coordination with CALTRANS, City of Fremont, Alameda County and other utility agencies was initiated early on and is ongoing, with necessary utility relocations and requirements are being included in the contract documents. Pre-purchase of the specialty ball joints and slip joint was initiated to ensure the units meet rigorous factory testing requirements well before construction begins. The pre-purchase contract for the ball joints was awarded in January 2010 and fabrication was underway as of June 2010. The pre-purchase contract for the slip joint is scheduled for advertisement in September 2010.

In addition, the Environmental Impact Report for this project is on an accelerated schedule and certification is expected in December 2010. The project team has been working on the environmental permit applications well in advance and approval for all permits is expected by April 2010.

The California Seismic Safety Commission (CSSC) responded to the *AB1823: Notice of Changes to Water System Improvement Program, dated September 1, 2009*, with

comments and recommendations in a report to the Joint Legislative Audit Committee dated January 29, 2010. The CSSC made specific comments that require follow-up by SFPUC, including:

CSSC Comment No. 1:

Weigh the WSIP's environmental impacts against potentially significant adverse environmental impacts of long-term water system outages caused by earthquakes.

SFPUC Response No. 1:

Since the Notice of Change of March 2008, 10 Final EIRs were certified including the Programmatic EIR (PEIR). There are also currently 4 Draft EIRs out for public review. With only 3 other project EIRs remaining for publication after 2010, 2 of which are for water supply projects, at this juncture of the program it is best to continue with the current environmental review approach.

Undertaking a study to weigh the WSIP's environmental impacts against potentially significant adverse environmental impact of long-term water system outages caused by earthquakes when most of the regional projects have been either advertised for bid or in construction would not be advantageous in helping SFPUC to expedite WSIP's implementation and would not in any way change the WSIP's current delivery strategy.

CSSC Comment No. 2:

The SFPUC should conduct an assessment of the impacts of the latest schedule changes on seismic reliability Levels of Service goals.

SFPUC Response No. 2:

As follow-up to the June 2009 Revised WSIP, the SFPUC has prepared updates to the seismic reliability water delivery charts/graphs that have been previously requested by the CSSC. These charts/graphs show potential increased delivery of water towards meeting the seismic reliability LOS goals following a major earthquake to customers incrementally by year as WSIP improvements are brought into service. These charts/graphs can be made available if requested.

CSSC Comment No. 3:

The CSSC previously recommended that several issues warranted evaluations by external, independent technical reviewers. The following issues are still outstanding from 2009:

- (a) redundancy of the Alameda Siphon project and alternative connections between the Sunol Valley treatment Plant and the Irvington Tunnel*
- (b) Faulting and slope stability issues at the Harry Tracy Water Treatment Plant*
- (c) Fault displacement on the Greenville Fault and the potential for and duration of loss of service while the Coast range Tunnel is repaired after such earthquakes*

The Seismic Safety Task Force (SSTF) is the best qualified and should be granted the discretion and authority to make these and other judgments and conduct independent reviews to their satisfaction.

SFPUC Response No. 3:

- (a) The issue of redundancy of the Alameda Siphon #4 project and alternative connections between the Sunol Valley Water Treatment Plant (SVWTP) and the Irvington Tunnel was thoroughly addressed by the SFPUC and a number of consultants, through a reliability assessment of the overall Sunol Valley system and an evaluation of response capabilities following a seismic event on the Calaveras Fault. Four reports were generated as a result of this work and these reports were summarized in a separate report - Sunol Valley Seismic Reliability Assessment (CH2MHill, October 2009) – and made available for the CSSC’s review.
- (b) The SFPUC has performed extensive reviews using multiple consultants to carefully analyze the faulting and slope stability issues at the Harry Tracy Water Treatment Plant (HTWTP) since 2008. As a result of these reviews, the scope of the HTWTP Long-Term Improvements Project was expanded significantly to address the newly discovered seismic risks. As a matter of fact, the additional improvements to the HTWTP Long-Term Improvements project total more than \$180 million. In addition, the SFPUC engaged two Seismic Safety Task Force (SSTF) members in the review of key analyses related to faulting and slope stability issues for the HTWTP Long-Term Improvements project.
- (c) The SFPUC did not ask the SSTF to consider and comment on SFPUC’s decision to not include the Greenville Fault for design of WSIP projects because of the comparatively low probability of a significant seismic event on that fault, the limited amount of data available on that fault, and the relative difficulty of shutting down the Coast Range Tunnel for any extended duration while still meeting water supply needs. The 2003 and 2007 Working Group for California Earthquake Probabilities (WGCEP)* reports indicate that the 30-year probability of $M \geq 6.7$ events on the Greenville Fault is 3%. These WGCEP reports define the Greenville fault as a Type-B fault – “faults that have slip-rate estimates, but where the data on the distribution and timing of previous events are inadequate.” By comparison the 30-year probability of $M \geq 6.7$ events on the San Andreas, Hayward and Calaveras Faults are 21%, 31% and 7%, respectively. All three of these faults are designated as Type A faults by the WGCEP, which indicates that the greater level of information needed to design engineered solutions to seismic events on these faults is available.

Given the limited resources available to retrofit and upgrade the regional and local water systems, the SFPUC continuously has to make difficult decisions on how best to use these resources. Based on the risk levels mentioned above, it was determined that focusing resources on improvements associated with the Bay Area’s three major faults – San Andreas, Hayward and Calaveras – would provide greater “value” or “return on investment” in terms of the system’s overall seismic reliability. Furthermore, the results from the last full inspection performed in 1995 on the Coast Range Tunnel did not reveal the need for any significant repairs or follow-up special inspections.

* The WGCEP consists of staff from the USGS and California Geological Survey among others.

The above items were addressed at length in a response to the Staff Structural Engineer with the CSSC dated November 2, 2009. SFPUC staff has stated that if the SSTF is in need of information on any WSIP projects, the SFPUC would be more than happy to provide any requested information. Recognizing that SSTF members have significant commitments to other work separate from the WSIP, the SFPUC has tried to be selective in prioritizing the review assignments given to the various SSTF members.

CSSC Comment No. 4:

More extensive communication efforts are required in conjunction with the Bay Area Water Supply and Conservation Agency to ensure that the public fully understands the significance of the WSIP's Level of Service Goals, The SFPUC should proactively alert the public about the expected lengthy loss of water availability if major earthquakes were to occur prior to completion of the WSIP. The CSSC suggests that the SFPUC consider using the same wording in public outreach efforts that is uses in its Quarterly reports.

SFPUC Response No. 4:

Earthquake preparedness continues to be one of the SFPUC's main messages in all outreach efforts to outlying communities. At major events in the East Bay, South Bay and on the Peninsula, the SFPUC has provided materials about the importance of earthquake preparedness, particularly the need to store sufficient water supply for up to 72 hours. SFPUC has made a point of noting that while we are undertaking major seismic improvements, that after earthquake only 70% of the regional system's turnouts may receive water.

Additionally, we annually participate in the Peninsula Emergency Preparedness Fair in the fall and other earthquake related events around the anniversary of the Loma Prieta and 1906 quakes to raise the public's awareness about the need for residents and businesses to prepare themselves for catastrophic events just as the SFPUC is taking major steps to reinforce the regional water system.

The SFPUC Communications Division also works closely with its SFPUC wholesale customers to alert them about performing necessary maintenance and making necessary preparations in advance of the 108 shutdowns that are required to complete the WSIP.

CSSC Comment No. 5:

The SFPUC should consider installing and integrating strong motion instrumentation at key facilities.

SFPUC Response No. 5:

Requirements associated with the revenue bonds issued for the WSIP restricts the use of program funds for general studies that do not result in construction improvements to parts of the water system. Therefore, any consideration to integrate strong motion instrumentation at key facilities would require the use of SFPUC's limited revenue funds currently allocated for needed repair and replacement projects throughout the system. The SFPUC is open to

discussion with the USGS to allow them to install such strong motion instrumentation within SFPUC right of way.

The approval by the SFPUC Commission on July 28, 2009 of the June 2009 Revised WSIP included a commitment to respond to comments and recommendations made by the Bay Area Water Supply and Conservation Agency (BAWSCA). These individual commitments are to:

BAWSCA Commitment No. 1:

Update the system performance analysis with the June 2009 Revised WSIP to confirm that the combination of projects remains consistent with the adopted WSIP objectives and the LOS goals.

SFPUC Response No. 1:

The WSIP Team updated the system performance analyses to confirm that the system including project revisions continues to comply with Seismic Reliability and Delivery Reliability LOS goals. These findings were presented to the Commission on February 23, 2010, and are described in detail in the report Water System Improvement Program Confirmation that Changes are Consistent with Levels of Service Goals (SFPUC WSE Group/CH2MHill/AECOM/JHCE, February 2010).

In addition, as follow-up to the June 2009 Revised WSIP, the WSIP Team prepared updates to the seismic reliability water delivery charts/graphs that have been previously requested by the CSSC. These charts/graphs show potential increased delivery of water following a major earthquake to customers incrementally by year as WSIP improvements are brought into service. These charts/graphs can be made available if requested.

BAWSCA Commitment No. 2:

Present to the SFPUC Commission that additional management actions that the staff is implementing to identify potential schedule delays during the construction phase, and the actions that will be taken to avoid or correct schedule slippages; and confirm that the proposed project construction schedules are not compressed into the final years of the WSIP and, if they are, what steps SFPUC is taking to correct or mitigate potential consequences.

SFPUC Response No. 2:

Our CM processes for schedule management are rigorous and include monthly reviews of the contractor's construction schedules. In addition, our Risk Management Program focuses on construction risks that can affect schedule. These risks are identified for each construction project; mitigation plans developed and managed to reduce the potential for schedule delays.

The WSIP Team also analyzed construction schedules and construction spending plans for the December 2007 Revised WSIP (referred thereafter as "2007 Program") and the June 2009 Revised WSIP (referred thereafter as "2009 Program"). Project-specific construction durations were compared, as were construction completion dates in relation to the WSIP's overall completion date. Construction spending plans were compared for the number of

projects in construction, planned expenditures, and planned % complete during the last five years of the 2007 and 2009 Programs. Based on Evaluation of Construction Schedules and Evaluation of Spending Plan, the WSIP Team concluded that the project construction schedules approved as part of the 2009 Program do not reflect any significant compression into the final years of the WSIP, when compared to the scheduled approved under the 2007 Program. These findings were conveyed to the Commission and BAWSCA on December 14, 2009.

BAWSCA Commitment No. 2:

Report to the SFPUC Commission, on a regular basis, a comparison between construction cost estimates and awards, as well as a summary of construction change orders for each project.

SFPUC Response No. 3:

The first WSIP Construction Bids Summary report for FY2009-2010 / Q1-Q2 that provided bidding information on the WSIP local and regional projects was presented to the Commission and BAWSCA on January 7, 2010. This report is being presented to the Commission in July (for the January through June reporting period) and January (for the July through December reporting period) of each year.

The first quarterly update report on WSIP construction change orders was presented to the Commission and BAWSCA on February 15, 2010 and the report included a summary table that showed the status of construction change orders (COs) for all WSIP regional projects which were in the Construction Phase and mobilized as of January 29, 2010. This report is being presented to the Commission every quarter.

1.2 Update on Previous Commitments to State Agencies

The CDPH and the CSSC submitted comments to the SFPUC in 2008 regarding program changes described in the March 31, 2008 change notice report, titled AB1823: Notice of Changes to Water System Improvement Program. The SFPUC committed to follow-up activities to address these comments; the commitments and actions taken by the SFPUC during FY2008-2009 were reported in the FY2008-2009 Annual Report. Additional follow-up activities performed by the SFPUC during FY2009-2010 include the following:

- The report Sunol Valley Seismic Reliability Assessment (CH2MHill, October 2009) was published, responding to comments by the CDPH to review and ensure reliability of facilities in the Sunol Valley to provide adequate emergency response following a major seismic event.
- The Seismic Safety Task Force (SSTF) was reconvened by the SFPUC to review seismic reliability of projects on an as-needed basis. The SSTF continues to consist of the following members:
 - Dr. Izatt M. Idriss (UC Davis);
 - Dr. Thomas D. O'Rourke (Cornell);

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- Dr. Norman Abrahamson (UC Berkeley); and
 - Dr. Jack P. Moehle (UC Berkeley)
 - Mr. John Littrell (appointed by CSSC)
 - Brian Sadden (SFPUC – non-voting, partial year)
 - Luke Cheng (SFPUC – non-voting)

The SSTF met in September 2009, and reviewed the following design issues:

- a) Seismic Upgrade of BDPL Nos. 3 & 4 at the Hayward Fault Crossing location for seismic reliability of proposed design improvements;
- b) Magnitude of design earthquakes for WSIP projects impacted by the Calaveras Fault; and
- c) Size and consistency of design fault displacements at pipeline crossings.

As follow-up to the June 2009 Revised WSIP, the SFPUC has prepared updates to the seismic reliability water delivery plots that have been previously requested by the CSSC. These plots show potential increased delivery of water following a major earthquake to customers incrementally by year as WSIP improvements are brought into service. These plots are available for CSSC's review if requested.

1.3 Risk Management

In early 2007, the WSIP Team directed its Program Consultant, Parsons Water & Infrastructure, Inc. (Parsons), to perform a comprehensive programmatic risk assessment to identify risk factors and exposures that could lead to schedule delays and cost escalation as the WSIP moves forward from planning and design into construction. This analysis of program risks was undertaken as a proactive measure on the basis that prudent program management and planning must periodically include a thorough examination of existing and future conditions which may have measurable effects on the program.

The Water System Improvement Program Risk Assessment, published September 10, 2007, provided insight into, and broad quantification of potential risks to, the program. The assessment identified twenty-four (24) individual risks in eleven (11) broad categories.

In response to the findings in the WSIP Risk Assessment, the WSIP Program Director committed to aggressively implement mitigation measures, and called for the formulation of a WSIP Risk Mitigation Action Plan. This plan, developed by the WSIP Team with the assistance of Parsons, provided comprehensive step-by-step actions that the SFPUC is taking to address each of the risks described in the WSIP Risk Assessment. The goals of the Risk Mitigation Action Plan were presented to the Commission in October 2007.

This WSIP Risk Mitigation Action Plan included seventy (70) individual mitigation measures. Most of these measures required separate actions to fully implement the objective. There were one hundred forty-three (143) discrete actions identified for the seventy (70) mitigation measures. As of July 1, 2010, all of the mitigation measures had been completed or implemented.

In FY 2008-2009, a WSIP Risk Manager was appointed to manage a newly created formal Risk Management Program as the WSIP transitions into construction. The Risk Management Program in question focuses on risks to individual construction contracts. In early December 2009, the WSIP team issued a procedure for the development and implementation of Risk Management Plans and risk registers, which addresses the following categories of risks:

- Technical issues;
- Management;
- Quality;
- Market Condition;
- Regulatory or environmental compliance;
- Contractual obligation;
- Operations include shutdown;
- Community and public outreach;
- Safety; and
- Security.

As of the end of FY 2009-2010, a total of 13 projects have completed the baseline risk registers for implementation. As of today, there are approximately 400 risks being tracked in all these risk registers.

To support the implementation effort, SFPUC procured an enterprise risk management software system, Active Risk Manager (ARM). This tool allows construction risks to be prioritized, quantified, and tracked at the project, region and program levels. It also allows for the analysis of risk profiles using a Monte Carlo Simulation.

Since the beginning of April 2010, as part of the updating and reporting of the risk registers, the WSIP Risk Manager's team has been meeting with the individual project construction team on a monthly basis to review and update the risk information in ARM. Reports for Upper Management as well as project teams are used to manage and report project risks.

1.4 Program Controls

During this reporting period, new and ongoing efforts and initiatives aimed at improving the WSIP Program Controls system and processes included:

- Provided online "dashboard" access to CM teams to view respective project schedules;
- Provided Dashboard Primavera P6 training to team;
- Developed formal guidelines for uploading cost, schedule, and status of Construction Contracts and CM Contracts information into WSIP P6 schedules;

-
- Updated and WSIP Schedule Development & Budgeting, and Change Management Procedures;
 - Conducted construction scheduling, delay analysis, estimating project duration, contract management, claim avoidance and cost estimating training aimed at helping engineers and CM Teams to better track projects, monitor progress and proactively address potential problems during construction;
 - Upgraded the Program Controls Scheduling software from Primavera P6.1 to P6.2 which allows the WSIP Management Team and individual project teams to have remote access to the program's cost and schedule data via the internet;
 - Continued successful implementation of procedures for monthly updating and reporting of project schedules and costs were finalized and implemented. Various monthly reports including schedule and cost variance reports, trend reports and key milestones were produced each month for WSIP management review, and progress meetings were conducted with regional project teams to discuss schedule and cost variances, and current progress and issues.; and
 - Significantly changed the content and format of the WSIP Quarterly Report in response to recommendations made by the WSIP independent Review Panel (January 2020) and the San Francisco RBOC. The new format was implemented in the Q4 FY2009-2010 Report, which was published August 4, 2010.

1.5 Change Management

The Project Change Management Procedure, which serves as both change control mechanism and traceability tool, was revised in March 2010. This revision was made to include management and controls of changes during construction phase. During the reporting period, the WSIP CCB was established to review proposed pre-construction project changes and construction phase changes that exceed threshold limits as defined by the Change Management Procedure, and to provide recommendations to the WSIP Director on final approval or rejection. The WSIP CCB is comprised of the following members:

- WSIP Deputy Director – Pre-Construction
- WSIP Deputy Director – Construction
- Division Manager, Water Supply & Treatment Division
- WSIP System Engineering Manager
- Program Management Advisor (non-voting member)
- Program Control Manager (non-voting member)
- Board Secretary (non-voting)

During the reporting period, the Program Controls staff held several Regional Change Management Procedures workshops to facilitate the implementation of the procedure

1.6 Quality Management

QA audits were performed on selected projects in the planning, design and construction phases, while QC reviews were conducted at key planning and design milestones in accordance with the requirements of the WSIP Quality Management Program.

Four design phase and nine (9) construction phase QA audits were performed on regional projects to confirm that these projects are being delivered in accordance with WSIP CM and SFPUC Infrastructure Division procedures, including the following key procedures: Responsibility Matrix, Project Development Process, Project Management Plan, Environmental Coordination, and Project Change Management. Deficiencies identified as part of the audits were recorded in Correction Action Reports, which require the implementation of corrective actions.

The WSIP Quality Management Program mandates that specific QC reviews be conducted at various planning and design milestones. The five (5) reviews required for all projects are: (1) Technical Peer Review, (2) Cost Estimate Review, (3) Independent Technical Review, (4) Constructability Review, and (5) Steering Committee Review. Three reviews are optional: Technical Advisory Panel (TAP) Review, Value Engineering (VE) Review, and Project Management Review. Five well-established design consulting firms have shared to provide 19 Independent Technical Reviews. A summary of the QC reviews conducted during FY 2009-2010 is provided in Table 1.6-1. Four additional Constructability Reviews were also conducted at 100% Design.

Each Project Manager is required to complete a Project Review Checklist that documents all the QC reviews performed at the various planning and design milestones. A WSIP project cannot be advertised for construction unless the WSIP Program Director has reviewed and signed-off on this checklist.

Table 1.6-1: WSIP QC Reviews Conducted in FY 2009-2010

Type	AAR	CER	DCR	35%	65%	95%
Required Review						
Technical Peer	0	1	0	2	7	8
Cost Estimate				5		8
Independent Technical				2	8	9
Constructability				1	5	7
Steering Committee	0	3				4
Optional Review						
TAP	0	0	0	0	1	2
Value Engineering		0	0	0		
Project Management	0	0	0	0	1	1

Notes: AAR: Alternative Analysis Report
 CER: Conceptual Engineering Report
 DCR: Design Criteria Report
 35%, 65%, and 95%: Design deliverable milestones

In addition to the technical reviews outlined above, project-specific guidance of Technical Advisor Panels (TAPs) comprised of industry experts and academics contribute to the technical soundness of WSIP projects.

1.7 Construction Management

Eleven (11) WSIP construction contracts totaling \$679M were awarded during FY 2009-2010 and the WSIP CM Program was fully activated to manage these projects.

The fundamental elements defining the WSIP CM Program consist of:

- WSIP CM Plan (CM organizational structure, staff roles and responsibilities, and CM approach to construction contract management);
- WSIP CM Procedures;
- WSIP Safety Approach;
- WSIP CM Staffing Plans;
- CM Consultant Contracting Strategy and Plan;
- WSIP Construction Division 0 and 1 Specifications;
- WSIP CM Consultant Request for Proposals (RFP)/Contracts;
- WSIP Construction Management Information System (CMIS);
- WSIP Program CM Consultant;
- WSIP Supplier Quality Surveillance Program; and
- WSIP Construction Phase Cost/Schedule Management System.

In FY 2009-2010, further revisions to the WSIP Construction Contracts Division 0 and 1 Specifications, and development and implementation of the WSIP CMIS continued. CMIS was fully deployed and implemented for all active WSIP construction projects and is being used by eighteen (18) contractors and CM Teams. Through July 1, 2010, WSIP CMIS training has been provided to the Program CM Team and all Project CM Teams as they mobilized to construction sites. A CMIS Help Desk continues to support CMIS implementation for all users. A total of two hundred eighty-five (285) CM staff and contractor staff have been trained on CMIS.

Implementation of the CM Consultant Contracting Strategy and Plan continued with further CM consultant contracts awarded in FY2009-2010 including: CS-916 Peninsula Region; CS-918 New Irvington Tunnel. In addition, project-specific CM Consultant RFPs were advertised: CS-911R Calaveras Dam Replacement and CS-919 Harry Tracy Water Treatment Plant.

A Dispute Resolution Board (DRB) and Dispute Resolution Advisor (DRA) Program is being established on every new construction contract and so is Partnering with every Contractor, CM Team and SFPUC staff. During FY 2009-2010, thirty-two (32) partnering sessions were conducted on eighteen (18) different construction projects.

The Program CM Consultant (PCM), which provides management oversight support of WSIP construction at the program level to assure compliant WSIP CM Program Plan implementation, was activated in FY2009-2010. The PCM held multiple sessions with 193 WSIP CM staff as part of the WSIP CM Orientation and Training Program during FY 2009-10.

The WSIP CM Procedures, CMIS Business Processes, and the WSIP CM Plan are being fully utilized and continue to be revised, updated and augmented as construction progresses. The PCM began to implement procedural compliance audits on all active construction projects in FY 2009-2010.

The PCM completed piloting and began rollout of a new WSIP Construction Phase Cost/Schedule P6 Management System which will upload the detailed contractor construction schedule monthly updates to allow for programmatic management analyses and progress reporting.

The WSIP Safety Approach was fully implemented on all active WSIP construction projects. The PCM completed full mobilization of the construction safety oversight team comprising a Program Safety Manager and four (4) Regional Safety Managers in FY 2009-2010. The oversight team has conducted WSIP safety orientation for all active construction contractors and CM Teams and continues to monitor WSIP Safety Approach implementation and compliance at all project sites. As of the end of FY 2009-2010, 16 WSIP contractors working under the WSIP Safety Approach worked a total of 590,073 man-hours with a safety incident rate of 1.7, which is well below the industry average of 4.7.

During FY 2009-2010, the Supplier Quality Surveillance (SQS) Program continued to provide third-party quality assurance on construction contractor or SFPUC-procured long-lead equipment and materials at their place of fabrication to assure that they meet quality and schedule requirements when delivered on site for installation. SQS Plans are developed, detailed and updated as construction contracts are awarded and mobilized. Through the end of FY 2009-2010, a total of four hundred fifteen (415) SQS inspection visits were made to thirty-four (34) different factory locations.

1.8 Environmental Review, Permitting and Compliance

Environmental work for the WSIP progressed on three fronts: California Environmental Quality Act (CEQA) approvals permit acquisition from the resource agencies, and environmental construction compliance.

CEQA Approvals

CEQA review for WSIP projects includes EIR, Mitigated Negative Declarations (MND), and Statutory or Categorical Exemptions. During the FY 2009-2010 reporting period, 5 Final EIRs were certified by the San Francisco Planning Commission, and six (6) projects were approved by the SFPUC Commission. Projects that completed CEQA review in FY 2009-2010 are listed below.

EIRs Certified by Planning Commission

- Bay Division Reliability Upgrade – Pipeline and Tunnel
- San Joaquin Pipeline System
- New Irvington Tunnel
- SVWTP Expansion & Treated Water Reservoir
- Crystal Springs/San Andreas Transmission Upgrade

Projects Approved by SFPUC Commission

- Bay Division Reliability Upgrade
- San Joaquin Pipeline System
- New Irvington Tunnel
- SVWTP Expansion & Treated Water Reservoir
- Crystal Springs/San Andreas Transmission Upgrade
- Pulgas Balancing – Modifications of the Existing Dechloramination Facility

Resource Agency Permitting

Many WSIP projects require permits from federal, state, and local agencies, including but not limited to the US Army Corps of Engineers (USACE), the US Fish and Wildlife Service (USFWS), the California Department of Fish and Game (CDFG), the State Historic Preservation Office (SHPO), and the Regional Water Quality Control Board (RWQCB). The SFPUC Interagency Permitting Task Force (IAPTF) continued to meet to expedite WSIP permit approvals. Thirteen (13) permits were received during the reporting period, and an additional thirty-eight (38) permits were submitted.

Environmental Construction Compliance Management Program (ECCMP)

The SFPUC's Environmental Construction Compliance Manager continues to oversee implementation of the environmental construction compliance program for the thirteen (13) projects currently in construction. During this reporting period fifty-four (54) Minor Project Deviations were processed in compliance with WSIP CM Procedures.

Several training programs have been developed and are being implemented relating to the ECCMP. Two levels of training have been developed and implemented related to the CM environmental procedures: a general overview for CM, and a more focused detailed review for Regional Environmental Compliance Managers. Project team supervisory-level personnel are also attending environmental compliance training presentation that include an overview of project specific requirements related to erosion and sediment control, dust control, noise and vibration control, hazardous material management and spill response, fire protection, cultural and paleontological resources, and wildlife. Additionally, at the project level, all project personnel are required to attend a crew-level training that is an abbreviated version of the environmental training presented to supervisory-level personnel.

A comprehensive Environmental Inspector Training Program was also developed for use in training SFPUC personnel who will be working as Environmental Inspectors on WSIP projects. This program includes: (1) one-day classroom overview of environmental construction compliance program and review of construction management procedures, (2) one-day classroom overview of what to watch for in the field and permit review, (3) one-day classroom training on CMIS (i.e., database reporting), and (4) minimum of two-days of training in field with a Project Environmental Inspector.

1.9 Real Estate

During FY 2009-2010, the SFPUC made progress on a number of real estate related issues. Real estate accomplishments are listed below.

Pre-CEQA General Plan Referrals

As required under the Government Code, two General Plan Referrals were prepared and approved by the City. These documents were for the New Irvington Tunnel and San Joaquin Pipeline System projects.

Permits to Enter

During the reporting period, the SFPUC obtained two (2) Permits to Enter. Both permits were required for the Regional Groundwater Storage and Recovery project (for Phase I and II monitoring wells).

Appraisals

Appraisals or detailed appraisal estimates were completed for six (6) separate projects.

- San Joaquin Pipeline System: 19 appraisals
- New Irvington Tunnel: 1 appraisal
- BDPL Reliability Upgrade Pipeline: 2 appraisals.
- BDPL Nos. 3 and 4 Crossovers: 1 appraisal
- Crystal Springs Pipeline No.2 Replacement: 4 appraisals
- Habitat Reserve Program: 2 appraisals

Land Acquisitions

A number of land acquisitions were completed or are underway. Eight (8) settlements were negotiated for the San Joaquin Pipeline System project; while six (6) more agreements are in process. Real estate efforts on the New Irvington Tunnel project were accelerated at the Project Manager's request. All property interest for New Irvington Tunnel were certified in time to accommodate the expedited schedule either through eminent domain (settlement via stipulated agreement) or negotiated settlement. For the BDPL Reliability Upgrade – Tunnel all property interest have been certified in accordance with the schedule. Initiation of eminent domain actions was coordinated and approved in a timely manner on 3 properties. Of the 2 required long-term leases with USFWS lease and the California State Lands Commission (CSLC), the CSLC lease has been negotiated and executed. The United States Fish and Wildlife Service Lease is procedurally complete with final executed

pending approved language for a long term easement. Negotiations continue on 3 property interests for the BDPL Nos. 3 and 4 Crossovers project.

Encroachment Removal

For the FY 2009-2010, the WSIP Real Estate/ROW Team cleared an additional eleven (11) illegal encroachments for WSIP construction. Through the end of FY 2009-2010, the ROW Team has managed a total of three hundred twenty-seven (327) encroachments for two (2) pipeline projects; BDPL Reliability Upgrade - Pipeline and San Joaquin Pipeline System. For the BDPL Reliability Upgrade project, the ROW Team cleared two hundred twenty-eight (228) of the two hundred sixty (260) total encroachments for the project. For the San Joaquin Pipeline System project, the ROW Team cleared eleven (11) of the sixty-seven (67) total encroachments.

Land Surveys and ROW Engineering

A summary of the surveying and ROW engineering work completed during FY 2009-2010 is outlined below.

- San Joaquin Pipeline System: three (3) Records of Survey Maps submitted, two (2) temporary construction easements (TCE) and access easements revised, one (1) fee parcel created, two (2) new access easements created, and access across Tracy Golf and Country Club revised.
- CSPL No. 2 Replacement: surveys for seven (7) TCEs completed and appraisal maps prepared. BDPL Nos. 3 and 4 Crossovers: Guadalupe River and Bear Gulch sites surveyed and appraisal maps and deed descriptions prepared.
- Habitat Reserve Program: surveying initiated.
- Seismic Upgrade of BDPL Nos. 3 & 4: survey for TCE at Mission Blvd. and Highway 680 in Fremont completed with appraisal map and deed description.
- Regional Groundwater Storage and Recovery: preliminary survey work began on sixteen (16) sites. New Irvington Tunnel: TCE prepared for "tie-backs" on the Garcia property, existing TCE on Garcia's land revised, and new survey for Calaveras Road boundary initiated.
- San Andreas Pipeline (SAPL) No. 3 Installation: easement exchange description created.

1.10 System Engineering and Operations

During FY 2009-2010, significant progress continued on planning the system shutdowns that will be needed to accommodate the construction of WSIP projects. Additional Systems Engineering reviews and hydraulic modeling were also performed to verify compliance with WSIP LOS goals and project-specific operational performance criteria.

System Shutdown Coordination

Progress continued on system shutdown planning, to accommodate the construction of WSIP projects. The SDT continues to (1) review shutdown schedules for WSIP and other SFPUC operational activities for interrelationships with delivery requirements and (2) assess delivery reliability and potential risks from unforeseen events. Contingencies are

being developed for unanticipated scenarios, such as construction delays, equipment delivery delays, operational emergencies, water quality events, shutdown staffing deficiencies, and other unforeseen events. The matrix of WSIP shutdown schedules is continually reviewed and the SDT coordinates with all WSIP project teams to reschedule future shutdowns as deemed necessary.

One Hundred Thirteen (113) system shutdowns and hot taps will be required to complete the construction of WSIP regional projects. Since the shutdown of certain major system components can only be completed during periods of low system demands to minimize operational risks, the windows of opportunity for performing these shutdowns is limited. The seasonal limitations on certain system shutdowns and the large number of required shutdowns create a scheduling inter-dependence among multiple projects. In addition, environmental approvals are required before lands and ROWs can be acquired, and before construction can begin. Once construction has started, Minor Project Modifications may be necessary if the project footprint or environmental conditions change. These interdependencies are the primary cause of schedule revisions as reflected in the June 2010 schedules.

During FY 2009-2010, twenty-five (25) system shutdowns and hot taps were successfully completed. A significant achievement during the fiscal year was the successful completion of the Coast Range Tunnel Shutdown associated with the Alameda Siphon #4, Tesla Treatment Facility, and Rehabilitation of Existing San Joaquin Pipelines projects. This complicated shutdown involved four contractors working at four locations, necessitated an intricate shutdown plan, required ventilation of the Coast Range Tunnel to prevent methane buildup to dangerous levels, and necessitated activation of interties with both East Bay Municipal Utility District and the Santa Clara Valley Water District.

Also during the fiscal year, the SDT reviewed multiple contractor System Outage Requests and SFPUC Operational Change Requests for the following projects: Baden and San Pedro Valve Lot Improvements, Rehabilitation of Existing San Joaquin Pipelines, New Crystal Springs Bypass Tunnel, Bay Division Pipeline 3 and 4 Crossover/Isolation Valves, Lake Merced Pump Station, San Antonio Pump Station Upgrade, Alameda Siphon # 4, Tesla Treatment Facility, and New Irvington Tunnel.

The SDT conducts monthly planning meetings to review shutdown schedules, develop resource requirements, discuss customer outreach initiatives, review system hydraulics, and evaluate specific project shutdown coordination requirements. Also, the SDT conducts special monthly shutdown coordination meetings for the critical December 2011 New Crystal Springs Bypass Tunnel project shutdown.

A shutdown planning matrix tool is used to track both WSIP and operational shutdowns as they are approved by the SDT. As required by the WSIP Risk Mitigation Action Plan, the WSIP Master Shutdown Schedule is updated monthly and the shutdown business process is updated to include a work-around plan, which is a contingency plan in case a project shutdown needs to be rescheduled among the dozens of other shutdowns.

The WSIP Master Shutdown Schedule is shared with BAWSCA so that that the regional customer's impact from shutdowns can be assessed, and to assist with customer

notifications. The SDT addresses BAWSCA's inquiries about the shutdowns, develops customer notification materials for the regional customers, and informs customers about shutdowns at regional customer meetings.

Water System Engineering

The Water System Engineering (WSE) Group continued to review WSIP projects throughout development and implementation to assure that LOS objectives and system performance criteria are effectively and efficiently met, and to evaluate effects of changes to the program. The WSE Group evaluates all WSIP projects for their contribution to meeting LOS goals and recommends changes in some project scopes to more efficiently meet LOS within WSIP budget requirements. On an ongoing basis, the WSE Group reviews project objectives outlined in environmental documents, and the project design criteria established for individual projects, to assure ability to meet LOS and system-wide operational performance requirements.

Two (2) high-level analyses were completed by the WSE Group to review adequacy of existing planned projects to meet seismic and delivery reliability goals. As part of the review of the December 2007 Revised WSIP that was approved by the Commission in February 2008, BAWSCA requested that the CDPH and the CSSC examine and comment on the seismic reliability of facilities in the Sunol Valley. In response to this request, the SFPUC published the final report Sunol Valley Seismic Reliability Assessment (CH2MHill, October 2009), including a review of the seismic reliability provided by existing projects and operations in the Sunol Valley, as well as discussing potential minor project additions/modifications that could be implemented to increase seismic reliability in this area.

In response to the request made by the Commission on July 28, 2009 related to the June 2009 Revised WSIP, the SFPUC has updated system performance analyses to confirm that the system including project revisions continues to comply with Seismic Reliability and Delivery Reliability LOS goals. These findings were presented to the Commission on February 23, 2010, and are described in detail in the report Water System Improvement Program Confirmation that Changes are Consistent with Levels of Service Goals (SFPUC WSE Group/CH2MHill/AECOM/JHCE, February 2010).

Hydraulic analyses were performed for the following projects to verify adequacy of facility capacities and performance criteria: San Joaquin Pipeline System, Calaveras Dam Replacement (outlet works), San Antonio Back-Up Pipeline, Seismic Upgrade of BDPL Nos. 3 & 4, Baden and San Pedro Valve Lot Improvements, and Peninsula Pipelines Seismic Upgrade.

Improvements were made to the transmission system hydraulic model, including model calibration and verification against real-time data, and updating customer demands and customer diurnal patterns. New or evolving project features were added to the model to more accurately reflect post-WSIP system performance. The model was used to analyze system configurations during required shutdowns proposed for 2009, 2010, 2011 and 2012 to assure that the water system can meet customer demands and other performance requirements during WSIP construction.

1.11 Public Outreach

WSIP Communications efforts centered on helping transition more projects into construction with project construction active in six (6) counties. This required extensive coordination with local jurisdictions, neighboring residents and businesses, as well as the media. At the same time, the Communications Regional Teams continue to work closely with Project Teams throughout the environmental review process for some of our largest and most controversial projects.

In the Fall 2009, the WSIP Communications staff planned and organized the kick-off of University Mound Reservoir Seismic Retrofit during the commemoration of the Loma Prieta 20th Anniversary. WSIP also garnered significant media as the New Crystal Springs Bypass Tunnel lowered the boring machine into the shaft. Additionally, staff worked with reporters on regional media coverage of the Calaveras Dam Replacement Project around the publication of the Draft EIR. Finally, the San Francisco Examiner ran a five-part series about WSIP during December 2009. In the second half of the year, WSIP was highlighted in local and industry press for its Infrastructure and Planning Award by the San Francisco Planning and Urban Research (SPUR) and for the Award for Excellence in Environmental Planning Integration from the National Association of Environmental Professionals, as well as for moving larger projects into construction. CA Water News, SF Business Times and WaterWorld were among publications to highlight WSIP as a feature story.

Communications staff readied the community, property and governmental stakeholders for WSIP's largest construction project to date: BDPL Reliability Upgrade – Pipeline (East Bay and Peninsula contracts). The groundbreaking for the East Bay pipeline project drew many local governmental officials and also allowed the agency to secure necessary regional agreements with Alameda County that will benefit all WSIP projects within the Sunol Valley and Bay Division regions.

WSIP Communications assisted the Project Team and attorneys in their negotiations of seven (7) MOAs for the BDPL Reliability Upgrade – Pipeline project on the Peninsula and in the East Bay. In the Sunol Valley Region, WSIP Communications staff continued to coordinate with nearly one hundred (100) homeowners and ranchers to institute an extensive groundwater monitoring program to preserve their source water during construction the New Irvington Tunnel.

Communications is also assisting with helping finalize MOAs in both San Joaquin and Stanislaus County and for several Peninsula projects including ten (10) separate agreements for the CSPL #2 Replacement project. Additionally both these regions have ROW issues involving encroachment removals and TCEs that demand attention from Communications staff.

To augment our proactive Communications outreach program, WSIP updated our SFPUC website: <http://sfwater.org/WSIP> to Web 2.0. Project updates are now also available on Twitter, Facebook and other regional communications avenues. A 24/7-answering line was also implemented with weekly if not daily reports on calls or complaints received and follow-up response by WSIP Communications staff. Additionally, blogs and constant contact email are features that continue to help staff get the word out about construction impacts and help

the public minimize inconvenience or delays. New spot videos about our construction projects are also being introduced for use on YouTube and other municipal and community websites. The WSIP brochure has been updated to reflect the progress made with an emphasis of construction activities taking place in the field. This piece is being distributed widely to stakeholders and other interested parties at town hall meetings, community briefings, schools and regional water agencies.

One of our most successful outreach events was held in April 2010 and included nearly one hundred (100) attendees representing organizations throughout the Peninsula. This event, in collaboration with San Mateo County, allowed us to introduce the multiple construction projects WSIP will stage at a popular recreational area in San Mateo County. Follow-up surveys praised the staff and organization for this proactive, informational event. Another first was a library exhibit about WSIP in the Daly City Library. This exhibit can be used throughout communities where we are working and will move to another site in the fall. Additionally, as a regular member of the SDT, outreach staff has been involved in communications with our wholesale customers around the Coast Range Tunnel shutdown and other shutdowns throughout the regions.

Our Program Communications Consultant audited our Communications planning and execution in all regions, and worked with regional teams to refine action plans and procedures for WSIP communications in the field. Rapid response and other media trainings followed. The Communications regional teams became fully staffed with the addition of a full-time Peninsula Region Communications Liaison in mid-February 2010.

1.12 Labor Relations and Community Benefits

The SFPUC's Labor Relations and Community Programs (LRCP) Group is responsible for labor relations, including the administration of the WSIP Project Labor Agreement (PLA) executed in March of 2007, community benefit programs, and construction contractor outreach efforts.

WSIP construction valued at \$5 million or greater is covered by the PLA. During FY 2009-2010, ten (10) regional projects totaling \$677 million in construction value were awarded under the WSIP PLA, bringing the WSIP regional project total to eighteen (18) with a value of \$918 million. The low end of the cumulative engineers' estimates for these projects was \$843 million reflecting a cost savings of \$166 million dollars. The data indicates that the inclusion of the WSIP PLA in the construction program has no discernible impact on bid pricing. Additionally, both union and non-union firms have bid and been awarded work under the WSIP PLA.

At the same time, while the WSIP PLA appears to have no negative impact on contractor participation or bid pricing, the core purpose of the Agreement, which is avoidance of work stoppages or other disruptions due to labor disputes through the provision of alternative methods for resolution of disputes, is now well-established.

WSIP PLA administrative staff engaged in multiple and multi-craft discussions and informal mediation during the reporting period resulting in multiple instances of dispute resolution prior to trigger of the arbitration provisions contained in the WSIP PLA. This effort is

supported by the Joint Administration Committee (JAC), a standing owner/union committee established by the WSIP PLA to provide guidance and support to all parties for the consistent and clear application of the WSIP PLA.

As a result, of these efforts, despite forty (40) jurisdiction disputes on sixteen (16) projects registered with the WSIP PLA Administrator in FY 2009-2010, all have been resolved amicably and prior to referral to arbitration.

Workplace Safety

The WSIP PLA contains a uniform pre-hire drug testing policy for all craft workers. The program is now well-established, requiring on-site testing prior to clearance for work. The rate of on-site tests that do not meet the standards for clearance to work is under 2%.

During FY 2009-2010, the SFPUC expanded the pool of pre-qualified third party administrators through the issuance of a request for qualifications and certification, resulting in the addition to the pool of a local business enterprise certified by the San Francisco Human Rights Commission. To ensure equitable assignment of work, the SFPUC assigned the Local Business Enterprise (LBE) Firm all third party administrator responsibilities for the New Irvington Tunnel Project.

Employment and Training Opportunities

Since the inception of the WSIP, and the negotiation of the WSIP PLA, the construction sector in the Bay Area and California generally was robust, resulting in a relative scarcity of available craft labor for the WSIP. This has changed significantly with the overall decline in economy activity in California and nationally. Unemployment in the construction industry is now at an all-time high. As a result, employment opportunities afforded by the WSIP have come into sharp focus, as the WSIP is one of the few construction significant construction programs underway.

The LRCP Group maintains a model for projecting craft employment under the WSIP; the current estimate is approximately 10 million craft hours. To date, the WSIP regional projects provided 1,036,049 million hours of employment to 2,949 craft workers in fifteen (15) trades. It should be noted that these figures do not include employment under the WSIP Local Program, which is significantly higher due to the volume of work in construction.

As previously reported, in light of changing labor market conditions, and in response to numerous consultations with contractors, their associations, signatory unions and community-based construction craft worker training programs consensus has developed for the following priorities: (1) retention of unemployed or underemployed crafts persons residing within the Hetch Hetchy water system service territory; (2) skills advancement through the strict adherence to apprenticeship utilization requirements; (3) promotion of entry-level training and development opportunities; and (4) employment opportunities for returning veterans through the Helmets to Hardhats program. These priorities are consistent with the enabling contractual language in the WSIP PLA.

These priorities are applied on a project-by-project basis, and memorialized in project-based employment agreements negotiated and subsequently monitored for compliance by the LRCP Group.

In FY 2009-2010 the JAC, in consultation with consultation contractor associations, signatory unions and pre-apprenticeship and apprenticeship programs, adopted the Job Opportunities and Training Program (JTOP). The JTOP established a network of pre-apprenticeship programs in the SFPUC Water Service territory (which includes San Francisco), as well as procedures for development and implementation of project-based labor plans that address each of the priorities enumerated above.

At the conclusion of the FY 2009-2010 reporting period, 55% of the 385,747 total work hours performed by the construction craft workforce employed on WSIP PLA-covered projects reside within the SFPUC's Water Service territory; apprentice utilization is 15%; and pre-apprenticeship programs in the JTOP network have successfully referred fifty-seven (57) new entrants, and sixteen (16) retention placements low-income, first-time apprentices to WSIP projects.

2.0 PROJECT ACCOMPLISHMENTS AND STATUS (FY 2009-2010)

This section describes the project-level accomplishments realized during FY 2009-2010.

2.1 Progress Summary

A great deal of progress has been made on the implementation of the WSIP during the reporting period. As a whole, the program is tracking close to the approved schedule with an actual completion of 26.8% compared to a planned completion of 30.4%. The minor delay recorded against the overall approved program schedule is attributed mostly to three (3) large projects – New Irvington Tunnel, SVWTP Expansion & Treated Water Reservoir, and San Joaquin Pipeline System. It should be noted that the approved schedule for all three (3) projects were not revised under the June 2009 Revised WSIP and that the first of mentioned projects are now in construction.

The overall schedule performance as measured by the major project phases is presented on Table 2.1-1. Important developments to note at this time are that 97.6% of the planning, 81% of the environmental, 90.2% of the design, and 66% of the bid & award, have been completed. The program's completion date remains at December 2015 (within June 2009 Revised WSIP schedule), with all but six (6) projects completing their construction phase prior to 2015.

Table 2.1-1: WSIP Regional Project Performance

Phase	July 1, 2009		July 1, 2010	
	% Planned	% Actual	% Planned	% Actual
Project Management	42.6%	42.8%	57.1%	53.4%
Planning	97.3%	96.4%	100.0%	97.6%
Environmental	70.1%	66.5%	89.9%	81.0%
Right-of-Way	33.4%	30.4%	51.7%	45.2%
Design	75.8%	74.6%	96.3%	90.2%
Bid & Award	39.0%	39.9%	67.1%	66.0%
Construction Management	6.1%	6.1%	20.7%	17.4%
Construction	6.1%	6.2%	18.5%	15.0%
Close-Out	23.4%	21.8%	25.8%	26.3%
Program Management	36.0%	35.9%	46.0%	45.9%
Program Cumulative	16.7%	16.6%	30.4%	26.8%

Additionally the program is rapidly transitioning from the design and environmental phases into the construction phase. The status of the WSIP Regional projects is presented in Table 2-1.2. The table compares the number of projects within each of the major phases of the program as of July 1, 2009 and July 1, 2010.

Table 2.1-2: Status of WSIP Regional Projects

Phase	No. of Project	
	July 1, 2009	July 1, 2010
Planning	2	2
Design	17	7
Bid & Award	10	3
Construction	6	14
Closeout	2	5
Completed	8	10
Not Initiated	1	0
Multiple Phases	N/A	5

* For FY 2008-2009, projects actives in multiple phases were categorized in of the listed under the specific phase with the greatest workload.

During the reporting period, a number of projects transitioned from one phase to another or achieved major milestones. Table 2.1-3 provides a program summary of the major project milestones achieved during FY 2009-2010.

Table 2.1-3: Summary of FY2009-2010 Major Project Milestones

Project Milestone	No. of Projects
Planning Phase Completed	1
Environmental Phase Completed	5
Design Phase Completed	10
Construction Contract Advertised	9
Construction Contract Awarded	11
Construction Phase Completion	4

The status of the ten (10) projects specifically identified in AB 1823 is summarized in Table 2.1-4. Two (2) projects are in the Design/ Environmental Phases; two (2) are in the Bid & Award Phase; five (5) are in the Construction Phase; and one (1) project has been completed.

Table 2.1-4: Active Phase of AB 1823 Projects as of July 1, 2010

Project	Phase
Calaveras Dam Replacement	95% Design/Environmental
New Irvington Tunnel	Bid and Award
Alameda Siphon # 4	Construction
BDPL Reliability Upgrade – Pipeline	Construction
BDPL Reliability Upgrade – Tunnel	Construction
Seismic Upgrade of BDPL Nos. 3 & 4	95% Design/Environmental
BDPL Nos. 3 & 4 Crossover/Isolation Valves	Completed
BDPL Nos. 3 & 4 Crossovers	Construction
New Crystal Springs Bypass Tunnel	Construction
Crystal Springs/San Andreas Transmission Upgrade	Bid and Award

2.2 San Joaquin Region

Actual completion for the San Joaquin Region as of July 1, 2010 is 33.6% compared to a planned completion of 37.2% per the June 2010 Revised WSIP. Key project milestones achieved during FY 2009-2010 are listed in Table 2.2-1.

Table 2.2-1: Project Milestones for San Joaquin Region (FY 2009-2010)

Key Milestones	Projects in San Joaquin Region	
	CUW No.	Name
Environmental Phase Completed		N/A
Design Phase Completed	38401	Tesla Treatment Facility
Construction Contract Advertised	37301	San Joaquin Pipeline System (Package A, Crossovers)
Construction Contract Awarded	36401	Lawrence Livermore Water Quality Improvements
	37301	San Joaquin Pipeline System (Package A, Crossovers)
	37302	Rehab of Existing San Joaquin Pipeline (Roselle Crossovers Improvements)

The primary focus of work in the San Joaquin Region has been coordination of construction at the Tesla Portal and Roselle Crossover facilities with operation and maintenance of the Regional Water System, while continuing design, environmental permitting, ROW acquisition, procurement and construction contracting for pipeline work. Four (4) of the Region's major pipeline shutdowns, including a full Hetch Hetchy Aqueduct outage, were performed, one (1) of the Region's construction contracts were advertised and was awarded for construction. Two (2) procurement contracts for City furnished valves were advertised and awarded. Design, environmental ROW of way acquisition continued on the remaining projects in the Region.

More detail on major San Joaquin Region accomplishments and challenges in the various phases of project development is provided below.

Planning

The majority of planning work for projects in the San Joaquin Region has been completed. However, the planned scope of communications facilities to be provided as part of the SJPL System project was revisited as work toward valve facilities design neared conclusion. In order to maintain the schedule for contracting and construction of the crossovers, communications work related to these facilities has been deferred and conceptually designed for review by WSIP Management and potential inclusion in one of the project's subsequent construction contract packages.

Planning activities by Hetch Hetchy Water & Power continue with respect to the assessment of existing pipeline condition and determination of rehabilitation priorities that may be addressed by the Rehabilitation of Existing San Joaquin Pipelines project.

Environmental

The San Francisco Planning Commission certified the Final EIR for the SJPL System project and preparation for publication and review of the preliminary Initial Study/Mitigated Negative Declaration (IS/MND) for the Rehabilitation of Existing San Joaquin Pipelines project was completed.

A "no take" concurrence was obtained from the USFWS for the Crossovers construction contract package. A USFWS "no take" concurrence was also obtained for a majority of the geotechnical investigation required to complete design of the SJPL System East Segment construction contract package.

Environmental construction compliance inspections continued throughout the year on the Tesla Treatment Facility and Lawrence Livermore Water Quality Improvement projects. The Tesla Treatment Facility project contractor was issued a non-compliance notice for stormwater management deficiencies during an unusually heavy series of rainstorms that resulted in offsite discharges in January and February. Additional stormwater management measures were promptly implemented and confidence in the project's Storm Water Pollution Prevention Plan was restored.

Design

The design for Tesla Treatment Facility was completed by the Design-Build Contractor and work continues on the design of Tesla Portal protection upgrades to be issued as a separate construction contract package.

Design work also continues the SJPL System project toward phased completion and contracting of work in three (3) packages. The design was completed and construction and procurement contracts issued for large diameter valves and work at Pelican and Emery Crossovers, the first of the three (3) packages. The project design team remains focused on completion of design of the remaining two (2) packages, while continuing to support the environmental permitting process and ROW acquisition efforts.

Construction

The pipeline manifold for the Tesla Treatment Facility project was completed and was connected to the SJPLs during a full Hetch Hetchy Aqueduct shutdown in January and February 2010. In addition, a majority of civil, structural, mechanical and electrical components of the new treatment facilities were completed over the past year, bringing work under the design-build contract to 80% complete as of July 1, 2010.

Construction of work at Thomas Shaft under the Lawrence Livermore Water Quality Improvements project progressed to just under 90% complete, and the work at the Roselle Crossover Facility under the Rehabilitation of Existing SJPLs project was 55% complete as of the close of this reporting period.

2.3 Sunol Valley Region

Actual completion for the Sunol Valley Region as of July 1, 2010 is 17.2% compared to a planned completion of 26.2% per the June 2009 Revised WSIP. Key project milestones achieved during FY 2009-2010 are listed in Table 2.3-1.

Table 2.3-1: Project Milestones for Sunol Valley Region (FY 2009-2010)

Key Milestones	Projects in San Joaquin Region	
	CUW No.	Name
Planning Phase Completed	35201	Upper Alameda Creek Filter Gallery
	35902	Alameda Siphon #4
Environmental Phase Completed	38101	SVWTP Expansion & Treated Water Reservoir
	35901	New Irvington Tunnel
Design Phase Completed	38101	SVWTP Expansion & Treated Water Reservoir
	35901	New Irvington Tunnel
Construction Contract Advertised	38101	SVWTP Expansion & Treated Water Reservoir
	35901	New Irvington Tunnel
Construction Contract Awarded	38101	SVWTP Expansion & Treated Water Reservoir
	38601	San Antonio Pump Station Upgrade
	35501	Standby Power Facilities - Various Locations
Construction Final Completion	35501	Standby Power Facilities - Various Locations

The project formerly known Alameda Creek Fishery Enhancement (Project CUW35201) has been re-named Upper Alameda Creek Filter Gallery.

One (1) Sunol Valley Region project completed the planning phase prior to the end of the FY 2009-2010 reporting period, and two (2) continued with design and environmental review through the end of the reporting period. Two (2) projects were advertised for construction and four (4) projects had construction contracts awarded within the reporting period. One (1) project reached the final construction completion milestone.

Three of the Region's largest projects (Calaveras Dam Replacement, New Irvington Tunnel, and SVWTP Expansion & Treated Water Reservoir) constitute 88% of the forecast construction cost for the Region. Delays associated with these three (3) projects explain the overall schedule variance for the Region.

The major accomplishments and challenges associated with the projects in the Sunol Valley Region during the reporting period are summarized below.

Planning

The Upper Alameda Creek Filter Gallery project continued in the Planning Phase during most of the reporting period, and the Planning Phase was completed before the end of the reporting period with the publication of the Conceptual Engineering Report on June 30, 2010. Therefore, all Planning Phase work for all projects in the Sunol Valley Region is now complete.

Environmental

Several significant milestones occurred in FY 2009-2010. The responses to public comments received on the Draft EIRs were published and the Final EIRs for the New Irvington Tunnel and the SVWTP Expansion & Treated Water Reservoir projects were certified in FY 2009-2010. All environmental permits for the SVWTP Expansion & Treated Water Reservoir project and most major environmental permits for the New Irvington Tunnel were obtained before the end of the reporting period. The public Draft EIR for the Calaveras Dam Replacement project was issued within the reporting period, and an administrative draft EIR was issued for the San Antonio Backup Pipeline project for internal review. Finally, the Environmental Phase was initiated for the Upper Alameda Creek Filter Gallery project within the FY 2009-2010 reporting period.

As reported previously, the most significant challenge that remains is completing the environmental review and obtaining all necessary permits for the Calaveras Dam Replacement project. The Project Team is currently implementing a proactive strategy in consultation with the National Marine Fisheries Service (NMFS) and the USACE to address the effects of SFPUC operations in the Alameda Creek watershed on future restored populations of steelhead trout; however, the schedule is still considered somewhat aggressive to address the possible future effects of the project on this endangered species. A number of new tasks have been added to the project to address this issue.

Design

Notable design achievements in FY 2009-2010 include completion of draft 95% design milestone for the San Antonio Backup Pipeline project; and completion of 95% and 100% design milestones for the SVWTP Expansion & Treated Water Reservoir and New Irvington Tunnel projects. In addition, the California Division of Safety of Dams (DSOD) has provided final comments for the design milestones and technical memoranda for the Calaveras Dam

Replacement project, which has been incorporated into the draft 100% design package to be completed in the first quarter of the following reporting period.

Construction

The construction of the Standby Power Facilities – Various Locations project, which is taking place at various sites, is now complete. The construction contracts for the New Irvington Tunnel and the Sunol Valley Water Treatment Plant Expansion & Treated Water Reservoir projects were advertised within the reporting period, and both of these projects, in addition to the Alameda Siphon #4 and San Antonio Pump Station Upgrade projects had construction contracts awarded within the reporting period.

2.4 Bay Division Region

Actual completion for the Bay Division Region as of July 1, 2010 is 25.7% compared to a planned completion of 27.8% per the June 2009 Revised WSIP. Key project milestones achieved during FY 2009-2010 are listed in Table 2.4-1.

Table 2.4-1: Project Milestones for Bay Division Region (FY 2009-2010)

Key Milestone	Projects in Bay Division Region	
	CUW	Name
Environmental Phase Completed	36301	SCADA System – Phase II
	36802	BDPL Reliability Upgrade – Pipeline
Design Phase Completed	36301	SCADA System – Phase II
	36801	BDPL Reliability Upgrade – Tunnel
	36802	BDPL Reliability Upgrade – Pipeline
	38001	BDPL Nos 3 & 4 Crossovers
Construction Contract Advertised	36301	SCADA System – Phase II
	36801	BDPL Reliability Upgrade – Tunnel
	36802	BDPL Reliability Upgrade - Pipeline (East Bay & Peninsula)
Construction Contract Awarded	36301	SCADA System – Phase II
	36801	BDPL Reliability Upgrade – Tunnel
	36802	BDPL Reliability Upgrade - Pipeline (East Bay & Peninsula)

Significant progress was made on the design of all projects within the Bay Division Region.

The major challenge for the region was the completion of environmental reviews for the BDPL Reliability Upgrade – Pipeline/Tunnel projects. Actions to mitigate the delay were implemented including focused reviews to reduce review time and adding resources to assist the San Francisco Planning Department. These actions did not diminish the quality of the environmental documents as demonstrated by the minimal number of public comments received during the comment period.

The major accomplishments and challenges associated with the projects in the Bay Division Region during the reporting period are summarized below.

Planning

Planning is 100% complete for all projects in the region.

Environmental

Significant Environmental Phase milestones that occurred in FY 2009-2010 are the certification of the EIR for the Bay Division Reliability Upgrade – Tunnel/Pipeline projects and the publication of the Draft EIR for the Seismic Upgrade of BDPL Nos. 3 & 4 project.

Design

The Design Phase of the BDPL Reliability Upgrade - Tunnel, BDPL Reliability Upgrade - Pipeline, and SCADA System- Phase II projects were completed. Other notable achievements in FY 2009-2010 include the completion of the 65% design and the advertisement for the Ball Joint Purchase Order for the Seismic Upgrade of BDPL Nos. 3 & 4 project, and the completion of security designs for various contracts under System Security Upgrades project.

Construction

Notice To Proceed (NTP) for construction were issued for five (5) construction contracts in the Bay Division Region: BDPLs 3 & 4 Crossovers, BDPL Reliability Upgrade – Tunnel, BDPL Reliability Upgrade- Pipeline (East Bay and Peninsula Pipeline contracts), and SCADA System Upgrades. In addition, the shutdowns of BDPLs 3 and 4 were successfully completed at the Guadalupe Site for the BDPLs 3 & 4 Crossovers project.

2.5 Peninsula Region

Actual completion for the Peninsula Region as of July 1, 2010 is 26.0% compared to a planned completion of 24.9% per the June 2009 Revised WSIP. Key project milestones achieved during FY 2009-2010 are listed in Table 2.5-1.

Work activities in the Peninsula Region continued to focus on completion of design documents and environmental reviews. Major activities also included the development of the construction bid packages and resolution of bidders' questions, on two projects.

Table 2.5-1: Project Milestones for Peninsula Region (FY 2009-2010)

Key Milestone	Projects in Peninsula Region	
	CUW No.	Name
Environmental Phase Completed	36105	Pulgas Balancing - --Modifications of the Existing Dechloramination Facility
Design Phase Completed	36103	Pulgas Balancing - Structural Rehabilitation and Roof Replacement
	36105	Pulgas Balancing - --Modifications of the Existing Dechloramination Facility
	37101	Crystal Springs/San Andreas Transmission Upgrade
Right of Way Phase Completed	35401	Lower Crystal Springs Dam Improvement
	37101	Crystal Springs/San Andreas Transmission Upgrade
	37901	San Andreas Pipeline No. 3 Installation
Construction Contract Advertised	36105	Pulgas Balancing - Modifications of the Existing Dechloramination Facility
	37101	Crystal Springs/San Andreas Transmission Upgrade
Construction Contract Awarded	36103	Pulgas Balancing - Structural Rehabilitation & Roof Replacement
Construction Final Completion	36102	Pulgas Balancing - Discharge Channel Modifications
	36603	HTWTP Short-Term Improvements - Coagulation & Flocculation/ Remaining Filters

The major accomplishments and challenges associated with the projects in the Peninsula Region during the reporting period are summarized below.

Planning

The only project in the planning phase is the recently added Peninsula Pipelines Seismic Upgrade project. Field investigations are ongoing and the Project Team is working on the Alternatives Analysis Report (AAR).

Environmental

Environmental review was completed on the Crystal Springs / San Andreas Transmission System Upgrades project. .

Preparation of EIRs on the remaining three projects (Lower Crystal Springs Dam Improvements, HTWTP Long-Term Improvements, and Crystal Springs Pipeline No. 2 Replacement), is progressing as planned.

Design

Design activities were completed, and construction contracts were advertised for two (2) projects - Crystal Springs / San Andreas Transmission System Upgrades and Pulgas Balancing - Modifications of the Existing Dechloramination Facility

Design has essentially been completed and is awaiting certification of the Final EIRs for the Lower Crystal Springs Dam Improvements, HTWTP Long-Term Improvements, and Crystal Springs Pipeline No. 2 Replacement projects.

Construction

Substantial completion and closeout was achieved for two (2) projects: Pulgas Balancing – Discharge Channel Modifications and Harry Tracy Water Treatment Plant – Short Term Improvements. As of July 1, 2010, construction of the New Crystal Springs Bypass Tunnel project is 74% complete, Pulgas Balancing Reservoir Structural Rehabilitation and Roof Replacement is 5% complete, San Andreas Pipeline No. 3 Installation is 77% complete, and Baden and San Pedro Valve Lots Improvements is 55% complete.

2.6 San Francisco (Regional) Region

Actual completion for the San Francisco (Regional) Region as of July 1, 2010 is 62.9% compared to a planned completion of 64.9% per the June 2009 Revised WSIP. Key project milestones achieved in the San Francisco (Regional) Region during FY 2009-2010 are listed in Table 2.6-1.

Table 2.6-1: Project Milestones for San Francisco (Regional) Region (FY 2009-2010)

Key Milestone	Projects in San Francisco (Regional) Region	
	CUW No.	Name
		N/A

Overall progress in this region remains on schedule as planned. Work in the San Francisco (Regional) Region focused on completing the current project phase efforts on the three (3) projects in this region: Regional Groundwater Storage and Recovery, Sunset Reservoir - North Basin, and University Mound Reservoir - North Basin.

The major accomplishments and challenges associated with the projects in the San Francisco (Regional) Region during the reporting period are summarized below.

Planning

The planning phase for all three (3) projects is complete.

Environmental

The Environmental Phase for the two reservoir projects is complete. Environmental activities continue on the Regional Groundwater Storage and Recovery with the issuance of a Notice of Preparation (NOP) and scoping meetings. Biological field surveys were also completed at the proposed well sites.

Design

The Design Phase for the two reservoir projects is complete. Design phase activities on the Regional Groundwater Storage and Recovery continued with the completion of utility surveys, geotechnical studies, and installation of groundwater monitoring wells for all but two (2) of the sixteen (16) preferred well station sites.

Construction

Construction on the University Mound Reservoir - North Basin project started during this past fiscal year and is progressing on schedule. Final completion of the security upgrades was also achieved for the Sunset Reservoir - North Basin project.

2.7 System-Wide Region

The projects and initiatives in the System-Wide Region benefit the entire program and include the following: PEIR, Habitat Reserve Program (HRP), and Watershed and Environmental Improvement Program (WEIP). The WSIP Program Management budget is also included as part of this group of project.

Actual completion for the System-Wide Region as of July 1, 2010 is 37.1% compared to a planned completion of 41.0% per the June 2009 Revised WSIP. Key project milestones achieved during FY 2009-2010 are listed in Table 2.7-1.

Table 2.7-1: Project Milestones for System-Wide Region (FY 2009-2010)

Key Milestone	Projects in System-Wide Region	
	CUW No.	Name
		N/A

The WSIP incorporated the HRP as a way to coordinate and consolidate compensation for habitat impacts that would result from program implementation. During FY 2009-2010, the HRP Project Team concluded environmental review, submitted permit applications, completed draft Mitigation and Monitoring Plans for compensation sites, implemented compensation for WSIP projects through credit acquisition, completed a Mitigated Negative Declaration for field work in the Peninsula Watershed, completed field studies in Alameda and Peninsula watersheds to support design conducted interactive meetings with Resource Agencies to refine compensation site designs and completed preliminary compensation site design. The HRP Project Team coordinated project design changes with other environmental initiatives, including the SFPUC Water Enterprise Habitat Conservation Plan (HCP) and the WSIP WEIP.

The major accomplishments and challenges associated with the HRP and the WEIP during the reporting period are summarized below.

Planning

The Planning Phase for HRP was completed in FY 2007-2008. The Planning Phase for the WEIP continued during the reporting period. Outreach efforts in the upper Alameda Creek Watershed continued with several workshops being conducted that focused on land protection opportunities. Staff finalized the outreach strategy for the development of conservation easements in the upper Alameda Watershed. Staff also completed developing the goals and objectives for the conservation easements as well as designing a template that can be used as a starting point to begin discussing conservation easements with landowners. The WEIP began funding a half-time biologist to help with the development and implementation of projects in the Alameda Creek Watershed. Bi-annual surveys of the Niles Gage Weir were conducted and show that the structure is continuing to move.

Environmental

The HRP Project Team completed environmental surveys for cultural and biological resources and documented the findings in technical reports; concluded environmental analysis and incorporated results into relevant environmental impact reports; submitted permit applications for implementation of seven compensation sites to USACE, USFWS, CDFG and San Francisco RWQCB; and completed preparation of draft Mitigation and Monitoring Plans (MMP) for eleven (11) of eighteen (18) compensation sites, as required for WSIP Project permits. The HRP Project Team completed a MND for geotechnical exploration of Peninsula Watershed compensation sites.

Design

The HRP Project Team conducted field work at eight (8) compensation sites and completed 100% design for two (2) compensation sites, 95% design for one compensation site, 35% design for three (3) compensation sites and preliminary design for one (1) compensation site. The HRP Project Team met with the resource agencies between September 2009 and June 2010 to review compensation site designs and incorporated resource agency comments in several iterations of design revisions and reviews.

Construction

The Construction Phase for the HRP commenced in FY 2008-2009 with payment to the San Joaquin Council of Governments (SJCOG) to compensate for the impacts of the Tesla Treatment Facility project. In FY 2009-2010, the Construction Phase also included payments for endangered species mitigation credits with the Ohlone Preserve Conservation Bank for the Alameda Siphons #4 project. Construction of three compensation sites will commence in FY 2010-2011.

3.0 FORMAL ACTIONS (FY 2009-2010)

The following actions related to the WSIP were taken by the San Francisco Public Utilities Commission and the San Francisco Board of Supervisors and the Commission during the reporting period.

San Francisco Public Utilities Commission

The following formal actions related to the WSIP were taken by the SFPUC Commission during the reporting period.

- Authorized the San Francisco Public Utilities Commission (SFPUC) General Manager to request that the Mayor recommend to the Board of Supervisors approval of a supplemental appropriation in the amount of \$1,647,249,198 for funding the Water System Improvement Program (WSIP) through the end of the program in December 2015, including capital projects of \$1,448,149,337 and related financing costs of \$199,099,861. (Resolution No. 10-0026 dated February 11, 2010)
- Authorized the issuance of up to a principal amount of \$950,000,000 in Water Revenue Bonds under Proposition E to fund the Water System Improvement Program (Resolution No. 10-0070, dated April 27, 2010)

Also during this period, the Commission approved eleven (11) Construction Contract Awards, two (2) Construction Management Services Awards, two (2) Construction contract modifications, three (3) Construction Close-Outs, sixteen (16) Amendments to Professional Services agreements, two (2) Resolutions of Necessity for Acquisition of Real Property, and formally approved six (6) projects and their environmental findings. These various approvals are summarized below.

Eleven (11) Construction Contract Awards:

- Project CUW36401: Lawrence Livermore Laboratory & Phase II Thomas Shaft Improvement Project, WD-2597 (Resolution No. 09-0112, dated July 14, 2009)
- Project CUW37302: Roselle Crossover Improvements, HH-914R (Resolution No. 09-0111, dated July 14, 2009)
- Project CUW38601: San Antonio Pump Station Upgrades, WD-2566 (Resolution No. 09-0145, dated September 8, 2009)
- Project CUW36103: Pulgas Balancing Reservoir Structural Rehabilitation and Roof Replacement, WD-2573 (Resolution No. 09-0161, dated September 22, 2009)
- Project CUW36301: Supervisory Control and Data Acquisition SCADA System Phase II, WD-2589 (Resolution No. 09-0182, dated October 27, 2009)
- Project CUW 36802: Bay Division Pipelines Reliability Upgrade – East Bay Reaches, WD-2541 (Resolution No. 09-0181, dated October 27, 2009)
- Project CUW36802: Bay Division Pipelines Reliability Upgrade – Peninsula Reaches, WD-2542 (Resolution No. 09-0204, dated December 8, 2009)

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- Project CUW 36801: Bay Division Pipelines Reliability Upgrade – Bay Tunnel WD-2531 (Resolution No. 09-0207, dated December 18, 2009)
 - Project CUW37301: San Joaquin Pipeline System – Crossovers, HH-935A (Resolution No. 10-0058, dated April 13, 2010)
 - Project CUW38101: Sunol Valley Water Treatment Plant and Treated Water Reservoir, WD-2582 (Resolution No. 10-0071 , dated April 27, 2010)
 - Project CUW35901: New Irvington Tunnel, WD-2581 (Resolution No. 10-0095, dated June 8, 2010)

Two (2) Construction Management Services Awards:

- Construction Management Services for Peninsula Region, CS-916 (Resolution No. 09-0142, dated August 11, 2009)
- Construction Management Services for Calaveras Dam Replacement, CS-911R (Resolution No. 10-0096, dated June 8, 2010)

Two (2) Construction Contract Modifications:

- Project CUW35501: Standby Power Facilities Various Locations, Modification No. 5, WD-2511 (October 27, 2009)
- Project CUW36401: Lawrence Livermore Water Quality Improvement, Modification No. 3, WD-2511 (Resolution No. 10-0077, dated May 11, 2010)

Three (3) Approved Construction Close-Outs:

- Project CUW35801: Sunset Reservoir North Basin Seismic Retrofit, Close-out with Modification, WD-2406R (Resolution No. 09-0116, dated July 14, 2009)
- Project CUW3660: Harry Tracy Water Treatment Plant – Short Term Improvements Phases 2 & 3, Close-out with Modification, WD-2564 (Resolution No. 10-0089, dated June 8, 2010)
- Project CUW36102: Pulgas Discharge Channel Modification, Close-out, WD-2563 (Resolution No. 10-0088, dated June 8, 2010)

Sixteen (16) Professional Services Amendments and Award:

- Project CUW35902: Alameda Siphon No. 4, Amend No. 4, CS-804 (Resolution No. 10-0097, dated June 8, 2010)
- Amend Agreement No. CS-846, Survey and Right of Way Engineering Services (Resolution No. 10-0066, dated April 27, 2009)
- Project CUW36702, Peninsula Pipeline Seismic Upgrade Environmental Contract Award, CS-116A (Resolution No. 10-0072, dated April 27, 2009)
- Project CUW36702, Peninsula Pipeline Seismic Upgrade Design Services Award, CS-101 (Resolution No. 10-0036, dated March 9, 2010)

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- Increase the resources available to the Interagency task Force for priority review of the permits (Resolution No. 10-0045, dated March 16, 2010)
 - Award Agreement No. CS-968, Environmental Analysis Services for the Upper Alameda Creek Filter Gallery Project (Resolution No. 10-0012, dated January 26, 2010)
 - Amendment to Agreement No. CS-834B11, Environmental Analysis Services for the San Antonio Backup Pipeline Project (Resolution No. 09-0136, dated August 11, 2009)
 - Amendment to Agreement No. CS-834B12, Crystal Springs Pipeline No. 2 Replacement Project (CSPL 2 (Resolution No. 09-0137, dated August 11, 2009)
 - Amendment to Agreement No. CS-834B13, Environmental Analysis Services for the Seismic Upgrade of BDPL Nos. 3 & 4 Project (Resolution No. 09-0138, dated August 11, 2009)
 - Amendment to Agreement No. CS-873, Cooperative Research and Development Agreement (CRADA) with U.S. Geological Survey (USGS) (Resolution No. 09-0139, dated August 11, 2009)
 - Amendment to Agreement No. CS-820, New Irvington Tunnel Project, (Resolution No. 09-0126, dated July 28, 2009)
 - Amendment to Agreement No. CS-834B5, WSIP Habitat Reserve Program, (Resolution No. 09-0127, dated July 28, 2009)
 - Amendment to Agreement No. CS-847, Right of Way Services, (Resolution No. 09-0128, dated July 28, 2009)
 - Amendment to Agreement No. CS-855, Engineering Services for University Mound Reservoir, (Resolution No. 09-0129, dated July 28, 2009)
 - Amendment to Agreements Numbered CS-879.A-D, for engineering design services for multiple projects (Resolution No. 09-0130, dated July 28, 2009)
 - Amendment to Agreement Nos. CS-884A and CS-884B, As-Needed Engineering Design Services (Resolution No. 09-0131, dated July 28, 2009)

Two (2) Resolution of Necessity for Acquisition of Real Property:

- Project CUW36801, Bay Division Pipeline Reliability Upgrade–Tunnel (Resolution No. 10-0176, dated October 17, 2009)
- Project CUW35901, New Irvington Tunnel (Resolution No. 10-0057, dated April 27, 2010)

Six (6) Adopted EIRs:

- Project CUW37301: San Joaquin Pipeline System Adoption of CEQA Findings, Project Approval (EIR) (Resolution No. 09-0119, dated July 14, 2009)
- CUW37101: Crystal Springs/San Andreas (CS-SA) Transmission Upgrade Project, Adoption of CEQA Findings, Project Approval (EIR) (Resolution No. 10-0081, dated May 11, 2010)
- CUW36105: Pulgas Balancing - Modifications of the Existing Dechloramination Facility, amendment to the Project Approval (EIR) (Resolution No. 09-0153, dated September 22, 2009)
- CUW38101: Sunol Valley Water Treatment Plant (the "SVWTP") Expansion and Treated Water Reservoir Project, Adoption of CEQA Findings, Project Approval (EIR) (Resolution No. 10-0203, dated December 8, 2009)
- Project CUW36801: Bay Division Pipeline Reliability Upgrade–Tunnel and Project CUW36802, Bay Division Pipeline Reliability Upgrade–Pipeline and CUW36803 Bay Division Pipeline Reliability Upgrade–Relocation of BDPL 1 & 2 in Fremont, Adoption of CEQA Findings, Project Approval (EIR) (Resolution No. 09-0120, dated July 14, 2009)
- Project CUW35901: New Irvington Tunnel Project, Adoption of CEQA Findings, Project Approval (EIR) (Resolution No. 09-0190, dated November 10, 2009)

San Francisco Board of Supervisors

The following formal actions related to the WSIP were taken by the San Francisco Board of Supervisors during the reporting period.

Resolutions

- *File# 090637, Resolution No. 316-09 [Professional services agreement to provide professional engineering services for SFPUC Calaveras Dam Project.]*

Resolution authorizing the General Manager of the San Francisco Public Utilities Commission to execute an amendment to increase the amount of a professional services agreement with URS Corporation by \$9,689,663, for a total revised agreement amount of \$24,000,000, and extend the agreement term by seven years for a total revised agreement term of thirteen years, pursuant to San Francisco Charter Section 9.118.

- *File# 090869, Resolution No. 343-09 [Approval of SFPUC New Irvington Tunnel Construction Management Contract.]*

Resolution authorizing the General Manager of the San Francisco Public Utilities Commission to execute Water System Improvement Program-funded Professional Service Agreement No. CS-918, New Irvington Tunnel Construction Management Services, with Hatch Mott MacDonald, for an amount not to exceed \$15,000,000 with a term of up to five (5) years, pursuant to San Francisco Charter Section 9.118.

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- *File# 090980, Resolution No. 369-09 [CEQA Findings for SFPUC Water System Improvement Program San Joaquin Pipeline System Project.]*

Resolution adopting findings under the California Environmental Quality Act (CEQA), including the adoption of a mitigation monitoring and reporting program and the statement of overriding considerations related to the San Joaquin Pipeline System Project, Project No. CUW37301; and directing the Clerk of the Board of Supervisors to notify the Controller of this action.

- *File# 090879, Resolution No. 370-09 [Approving amendment to engineering services agreement for SFPUC New Irvington Tunnel Project.]*

Resolution approving and authorizing the General Manager of the San Francisco Public Utilities Commission to execute an amendment to increase the amount of a professional services agreement with URS Corporation by \$3,900,000, for a total revised agreement amount of \$13,898,561, and extend the agreement term by one year for a total revised agreement term of eight years, pursuant to San Francisco Charter Section 9.118.

- *File# 090979, Resolution No. 371-09 [CEQA Findings for SFPUC Water System Improvement Program Bay Division Pipeline Reliability Upgrade Project in Alameda and San Mateo Counties.]*

Resolution adopting findings under the California Environmental Quality Act (CEQA), including the adoption of a mitigation monitoring and reporting program and a statement of overriding considerations related to the Bay Division Pipeline Reliability Upgrade Project, CUW 36801, 36802 and 36803; and directing the Clerk of the Board of Supervisors to notify the Controller of this action.

- *File# 091055, Resolution No. 382-09 [Resolution adopting Findings related to San Francisco Public Utilities Commission Water System Improvement Program (WSIP) Pulgas Balancing Reservoir Structural Rehabilitation and Roof Replacement Project.]*

Resolution adopting findings under the California Environmental Quality Act (CEQA), CEQA Guidelines and San Francisco Administrative Code Chapter 31, including the adoption of mitigation monitoring and reporting program related to the funding of the Pulgas Balancing Reservoir Structural Rehabilitation and Roof Replacement Project, and directing the Clerk of the Board of Supervisors to notify the Controller of this action.

- *File# 091068, Resolution No. 404-09 [Approve amendments to four SFPUC professional engineering services agreements.]*

Resolution authorizing the General Manager of the San Francisco Public Utilities Commission to execute amendments to increase four professional engineering services agreements for Water System Improvement Program (WSIP) funded

projects with total revised agreement amounts in excess of \$10,000,000 each, pursuant to Charter Section 9.118.

- *File# 091056, Resolution No. 405-09 [Approve SFPUC Peninsula Region Construction Management Contract.]*

Resolution authorizing the General Manager of the San Francisco Public Utilities Commission to execute Water System Improvement Program-funded Professional Service Agreement No. CS-916, Peninsula Region Construction Management Services, with HDR Engineering, Inc, for an amount not to exceed \$22,000,000 with a term of up to 55 months, pursuant to San Francisco Charter Section 9.118.

- *File# 091279, Resolution No. 471-09 [Resolution To Acquire Real Property Interests By Eminent Domain-Water System Improvement Program-Funded Bay Division Pipeline Reliability Upgrade - Tunnel.]*

Resolution authorizing acquisition of subsurface tunnel easements in real property in Alameda County and San Mateo County, consisting of portions of Alameda County Assessor's Parcels 537-0551-028, 537-0551-020 and 537-0551-021-01 in the City of Newark, Alameda County Assessor's Parcel 537-0852-008 in the City of Fremont, San Mateo County Assessor's Parcels 063-590-060 and 096-230-110 in the City of Menlo Park, and in real property owned by San Mateo County Transit District in the City of Menlo Park, located east of University Avenue between Assessor's Parcels 093-600-010 and 063-590-060, by eminent domain, for the public purpose of constructing the Public Utilities Commission Water System Improvement Program-Funded Project CUW36801, Bay Division Pipeline Reliability Upgrade - Tunnel; adopting environmental findings under the California Environmental Quality Act ("CEQA"), CEQA Guidelines, and Administrative Code Chapter, and adopting findings of consistency with the General Plan and under City Planning Code Section 101.1.

- *File# 091326, Resolution No. 505-09 [CEQA Findings for SFPUC New Irvington Tunnel Project in Alameda County and Fremont.]*

Resolution adopting findings under the California Environmental Quality Act (CEQA), including the adoption of a mitigation monitoring and reporting program and a statement of overriding considerations related to the New Irvington Tunnel Project, CUW 35901; and directing the Clerk of the Board of Supervisors to notify the Controller of this action.

- *File# 091478, Resolution No. 25-10 [CEQA Findings for SFPUC Sunol Valley Water Treatment Plant Project in Alameda County.]*

Resolution adopting findings under the California Environmental Quality Act (CEQA), including the adoption of a mitigation monitoring and reporting program and a statement of overriding considerations related to the Sunol Valley Water Treatment Plant and Treated Water Reservoir Project, Water System Improvement Program

(WSIP) funded Project No. CUW38101; and directing the Clerk of the Board of Supervisors to notify the Controller of this action.

- *File# 091472, Resolution No. 51-10 [Agreement to Purchase A Road Easement Over Portions of APN 011-001-028 Located in Stanislaus County.]*

Resolution approving and authorizing an agreement for the purchase of a 0.48 acre permanent road easement over portions of Assessor's Parcel No. 011-001-028 located in Stanislaus County, required for the San Joaquin Pipeline System Project No. CUW37301 for a purchase price of \$500; adopting findings under the California Environmental Quality Act; adopting findings that the conveyance is consistent with the City's General Plan and Eight Priority Policies of City Planning Code Section 101.1; and authorizing the Director of Property to execute documents, make certain modifications and take certain actions in furtherance of this resolution.

- *File# 100167, Resolution No. 83-10 [Agreement to Purchase Two Access Road Easements over Portions of APN 016-002-014 located in Stanislaus County.]*

Resolution approving and authorizing an agreement for the purchase of two permanent access road easements totaling 1.07 acres over portions of Assessor's Parcel Number 016-002-014 located in Stanislaus County required for the San Joaquin Pipeline System Project No. CUW37301 (the "Project") for a purchase price of \$2,900; adopting findings under the California Environmental Quality Act (CEQA); adopting findings that the conveyance is consistent with the City's General Plan and Eight Priority Policies of City Planning Code Section 101.1; and authorizing the Director of Property to execute documents, make certain modifications and take certain actions in furtherance of this resolution.

- *File # 100222, Resolution No. 203-10 [Resolution To Acquire Real Property Interests By Eminent Domain-Water System Improvement Program-CUW 35901, New Irvington Tunnel Project.]*

Resolution authorizing acquisition of the following interests in real property in Alameda County: (1) a temporary construction easement in a portion of Assessor's Parcel #513-0065-011-02 in Fremont, owned by Malik A. Alarab, Trustee, and Barbara E. Alarab, Trustee, (2) a temporary construction easement in a portion of Assessor's Parcel # 096-0001-020-03 in Sunol, owned by Kenneth and Janice Mackin, and (3) a temporary construction easement and a permanent subsurface soil nail easement in portions of Assessor's Parcel # 096-0080-004 in Sunol, owned by Carolyn Marie Garcia and Stanley A. Garcia, Trustees, by eminent domain, for the public purpose of constructing the San Francisco Public Utilities Commission Water System Improvement Program-Funded Project CUW35901, New Irvington Tunnel Project; adopting environmental findings under the California Environmental Quality Act (CEQA), CEQA Guidelines, and Administrative Code Chapter 31; and adopting findings of consistency with the General Plan and under City Planning Code Section 101.1.

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- *File# 100492, Resolution No. 211-10 [Supplemental Agreement to Install an Additional Water Pipeline over Union Pacific Railroad Company Property in Stanislaus County.]*

Resolution approving and authorizing a Supplemental Agreement with Union Pacific Railroad Company to install an additional water pipeline within an existing easement area over Railroad property near the City of Oakdale in Stanislaus County required for the San Joaquin Pipeline System Project No. CUW37301 for a fee of \$2,500; adopting findings under the California Environmental Quality Act; adopting findings that the conveyance is consistent with the City's General Plan and Eight Priority Policies of City Planning Code Section 101.1; and authorizing the Director of Property to execute documents, make certain modifications and take certain actions in furtherance of this resolution.

- *File# 100456, Resolution No. 268-10 [Agreement to Purchase Easements in Connection with the New Irvington Tunnel Project in Alameda County.]*

Resolution approving and authorizing an Agreement for Purchase and Sale of Real Estate to acquire for \$57,500 a permanent well easement and a temporary construction easement in Alameda County for the public purpose of constructing the San Francisco Public Utilities Commission New Irvington Tunnel Project; adopting findings under the California Environmental Quality Act (CEQA); adopting findings that the purchase is consistent with the City's General Plan and Eight Priority Policies of City Planning Code Section 101.1; and authorizing the Director of Property to execute documents, make certain modifications and take certain actions in furtherance of this resolution.

- *File# 100855, Resolution 327-10 [Approve San Francisco Public Utilities Commission Calaveras Dam Replacement Construction Management Contract.]*

Resolution authorizing the General Manager of the San Francisco Public Utilities Commission to execute Water System Improvement Program-funded Professional Service Agreement No. CS-911 R, Calaveras Dam Replacement Construction Management Services, with Black and Veatch, for an amount not-to-exceed \$38,000,000 with a term of up to five years and six months, pursuant to San Francisco Charter Section 9.118.

Ordinances

- *File# 090886, Ordinance No. 189-09 [Water Revenue Bond Issuance.]*

Ordinance approving the issuance and sale of water revenue bonds by the San Francisco Public Utilities Commission (the Commission) to finance various projects under the Water System Improvement Program pursuant to amendments to the Charter (the Charter) of the City and County of San Francisco (the City) enacted by the voters on November 5, 2002 as Proposition E (Proposition E); and ratifying previous actions taken in connection therewith.

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- *File# 100341, Ordinance No. 89-10 [Water Revenue Bond Issuance - Not to Exceed \$1,737,724,038]*

Ordinance approving the issuance and sale of water revenue bonds by the San Francisco Public Utilities Commission not to exceed \$1,737,724,038 to finance various projects under the Water System Improvement Program and the Capital Improvement Program, including but not limited to the Commission's Advanced Meter Infrastructure System, pursuant to amendments to the Charter of the City and County of San Francisco enacted by the voters on November 5, 2002, as Proposition E; and ratifying previous actions taken in connection therewith.

- *File# 100337, Ordinance No. 92-10 [Appropriating \$1,647,249,198 of proceeds from debt for the Water System Improvement Program at the Public Utilities Commission for Fiscal Year 2010-2011 through Fiscal Year 2015-2016.]*

Ordinance appropriating \$1,647,249,198 of proceeds from debt for the San Francisco Public Utilities Commission (SFPUC) Water System Improvement Program (WSIP) for Fiscal Year 2010-2011 through Fiscal Year 2015-2016, and placing the entire appropriation of \$1,647,249,198 by project on Controller's reserve subject to SFPUC's and Board of Supervisors' discretionary approval following completion of project-related analysis pursuant to the California Environmental Quality Act (CEQA), where required, and receipt of proceeds of indebtedness, placing on Budget and Finance Committee reserve the funds for construction costs of any project with costs in excess of \$100,000,000 and \$116.863.924 related to funding for project construction starting after June 30, 2012, and adopting environmental findings.

4.0 FINANCIAL ASPECTS AND STATUS (FY 2009-2010)

4.1 Budget Update

The total estimated cost for the WSIP is \$4.6 billion; this includes \$4.1 billion for capital projects and approximately \$472 million for financing costs. At the end of FY 2009-2010, the total \$4.6 billion has been appropriated for WSIP and approximately \$1.1 billion expended. A summary of the WSIP budget and appropriations through FY 2009-2010 is provided in Table 4.1-1

Table 4.1-1: WSIP Budget Summary through FY 2009-2010 (in \$ millions)

	Estimated Total Project Costs ⁽¹⁾	Total Budgeted Appropriations to Date	Expended to Date ⁽²⁾	Encumbered but Unexpended	Appropriated but not yet Encumbered	Future Appropriations
Regional Projects	3,514	3,506	774	697	2,035	0
Local Projects	600	608	276	41	291	0
Financing Costs	472	472	47	0	425	0
Total	4,586	4,586	1,097	738	2,751	0

(1) Total project costs reflect the "June 2009 Revised WSIP Approved Budget" which was approved by the Commission on July 28, 2009.

(2) Expenses reflect unaudited totals for FY 2009-2010.

4.2 Debt Update

During FY 2009-2010, the SFPUC had three (3) separate competitive revenue bond sales totaling \$1.24 billion to fund the WSIP as summarized in Table 4.1-2

Table 4.4-2: SFPUC Revenue Bond Sales through FY 2009-2010 (in \$ millions)

Bond Sale Date	Amount	True Interest Cost
8/11/2009	412.0	4.82%
9/1/2009	412.0	4.54%
6/9/2010	417.7	3.87%

In August 2009, the SFPUC refunded \$229.6 million in commercial paper as a part of a revenue bond sale. No new commercial paper was issued during FY 2009-2010 and none is outstanding as of June 30, 2010. For FY2010-2011, the SFPUC has already had one (1) additional bond sale in July 2010 of \$447 million and expects two additional bond sales later in the year. Total bond sales in FY 2010-2011 are expected to total approximately \$1.4 billion.

4.3 Rate Update

The SFPUC has increased its retail water rates on a regular, predictable basis to fund the costs of WSIP. Shown in Table 4.3-1 below are the adopted retail rate increases as well as rate increases for wholesale customers, which are approved on an annual basis. Rates charged to the Wholesale Customers are subject to the new 25-year Water Supply Agreement (WSA) which became effective on July 1, 2009.

Under their previous contract, Wholesale Customers paid annual depreciation and return over the useful lives of assets constructed. Spreading capital costs over a longer period of time resulted in Wholesale Customer rate increases that have lagged behind the rate increases applicable to City retail customers, who under the utility method had to front all costs of asset construction until the asset is placed in service. The WSA employs the cash method for all customers to pay for Regional Water System capital costs by tying repayment of the capital cost to the outstanding debt repayment schedules. The impact will be faster wholesale revenue growth and rate increases to cover WSIP debt service costs than would have occurred under the previous contract.

Table 4.3-1: Retail and Wholesale Water Rate Increases

Fiscal Year	Retail Rate Increase	Wholesale Rate Increase
2006	15.0%	0.0%
2007	15.0%	18.8%
2008	15.0%	6.3%
2009	15.0%	9.5%
2010	15.0%	15.7%
2011	15.0%	15.2%
2012	12.5%	10.2% (estimated)
2013	12.5%	29.2% (estimated)
2014	6.5%	5.3% (estimated)

5.0 PROJECTS BEHIND SCHEDULES

As part of its ongoing program management practices, the WSIP Team has put in place a number of processes and measures to prevent or minimize project delays. However, there are a number of circumstances and factors, some of which are not always in the control of the WSIP Team, which result in delays that cannot be mitigated. As of July 1, 2010, nineteen (19) projects were forecasted to be behind schedule when comparing the forecasted completion date of these projects to the completion date approved as part of the 2009 Revised WSIP. It should be noted that only five (5) of these project delays will result in additional seismic and/or public health risks as indicated in Table 5.0-1. That table summarizes the magnitude of the project delays and the general approach for addressing these delays in the context of the reporting requirements of the Wholesale Regional Water System Security and Reliability Act.

Table 5.0-1 indicates that a recovery plan will be implemented to make up the shorter delays currently forecasted for three (3) projects. A brief description of these recovery plans follows.

San Antonio Pump Station Upgrade

The Construction Phase of this project is 21% complete. The 57-day delay forecasted for this project will be recovered by initiating the Close-out Phase at Construction Substantial Completion instead of at Construction Final Completion.

BDPL Reliability Upgrade – Tunnel

The Construction Phase of this project is 3% complete. The 82-day delay forecasted for this project will be recovered by initiating the Close-out Phase at Construction Substantial Completion instead of at Construction Final Completion.

Seismic Upgrade of BDPL Nos. 3 & 4

The Environmental and Design Phases of this project are 80% and 72% complete, respectively. Construction on this project is anticipated to begin in March 2012. The Project Team will re-evaluate the construction schedule at 95% Design during which it will identify options to reduce the overall project schedule. The 69-day delay forecasted for this project will be recovered by shortening the overall construction schedule time and/or by overlapping closeout activities with the end of construction activities as proposed for the two above projects.

The general schedule for approving revised project schedules in July 2011 is as follows.

- Publish 30- Day Notice of Changes 06/10/2011
- SFPUC Commission Approval of the 2011 Revised Program 07/12/2011
- Submit Notice of Changes Reports to the State 09/01/2011

Table 5.0-1: Projects Behind Schedule as of July 1, 2010

Project Name	Phase	July 2009 Approved Completion Date	June 2010 Forecasted Completion Date	Variance (Months)	Approach to Address Delay
Projects Completed - No Remaining Risks					
Pipeline Repair & Readiness Improvements (Completed)	Completed	31-Dec-08	16-Apr-09	3.5	None Required
BDPL Nos. 3 & 4 Crossover/Isolation Valves (Completed)	Completed	30-Sep-08	31-Jul-09	10.0	None Required
Cross Connection Controls [Completed]	Completed	27-Feb-09	30-Apr-09	2.1	None Required
Projects with Construction Completed - No Remaining Risks					
Lawrence Livermore Water Quality Improvement*	Construction	21-Dec-10	23-Mar-11	3.1	None Required
SFPUC/EBMUD Intertie	Close-out	30-Jun-08	30-Sep-10	27.0	None Required
Sunset Reservoir - North Basin	Close-out	06-May-09	05-Aug-10	15.0	None Required
Projects with No Seismic and Public Health Risks					
Habitat Reserve Program	Multiple Phase	24-Aug-11	04-Dec-15	52.4	Approve Revised Schedule in July 2011
Watershed Environmental Improvement Program	Planning	28-Jun-13	27-Jun-14	12.0	Approve Revised Schedule in July 2011
Upper Alameda Creek Filter Gallery	Design	22-Aug-14	04-Jun-15	9.4	Approve Revised Schedule in July 2011
Regional Groundwater Storage and Recovery	Multiple Phase	08-Sep-14	30-Nov-15	14.7	Approve Revised Schedule in July 2011
System Security Upgrades	Multiple Phase	24-Feb-12	31-Aug-15	42.2	Approve Revised Schedule in July 2011
Projects with Recovery Plan - No Additional Seismic and Public Health Risks					
San Antonio Pump Station Upgrade	Construction	07-Dec-11	02-Feb-12	1.8	Recovery Plan
BDPL Reliability Upgrade - Tunnel	Construction	14-Aug-15	04-Nov-15	2.7	Recovery Plan
Seismic Upgrade of BDPL Nos. 3 & 4	Design	18-Dec-14	25-Feb-15	2.2	Recovery Plan
Projects with No Recovery Plan and Increased Risks					
San Antonio Backup Pipeline	Design	31-Dec-13	19-Jun-14	5.7	Approve Revised Schedule in July 2011
SVWTP Expansion & Treated Water Reservoir	Construction	09-Jul-13	05-Dec-13	4.9	Approve Revised Schedule in July 2011
New Irvington Tunnel	Bid & Award	16-Dec-13	31-Oct-14	10.5	Approve Revised Schedule in July 2011
HTWTP Long-Term Improvements	Design	12-Jun-14	20-Nov-15	17.3	Approve Revised Schedule in July 2011
Peninsula Pipelines Seismic Upgrade	Planning	18-Dec-14	31-Aug-15	8.4	Approve Revised Schedule in July 2011

* Construction of the Lawrence Livermore Water Quality project was substantially completed on 8/31/2010.

APPENDIX A

SFPUC REGIONAL WATER PROGRAM WSIP FY 2009-2010 Quarterly Report – 4th Quarter (Through July 1, 2010)

Please access the report on the SFPUC website at the following address:
<http://tinyurl.com/23qf7kl>