



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan

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Work Plan Part I. Introduction

Introduction

The Upper Santa Clara River (USCR) IRWM Plan Region represents an area of approximately 654 square miles within the Santa Clara River Watershed (Watershed). The Watershed consists of approximately 1,634 square miles and contains the upper reaches of the Santa Clara River, the largest natural river remaining in Southern California. The River travels through two counties: Los Angeles and Ventura. It is the last major undammed river system in Southern California, a situation that makes its preservation extremely important to the stakeholders. The USCR IRWM Plan Region is bounded by the San Gabriel Mountains to the south and southeast, the Santa Susana Mountains to the southwest, the Liebre Mountains and Transverse Ranges to the northeast and northwest, and westward to the Ventura County Line. The USCR Watershed is a logical region for integrated regional water management due to its history of cooperative water management, the topography and geography of the Region and the similarity of water issues facing agencies in the Region.

The Region is diverse, with both urban and rural areas as well as National Forest land. The Region encompasses the City of Santa Clarita, the communities of Castaic, Stevenson Ranch, Fair Oaks Ranch, Saugus, Newhall, West Ranch, Agua Dulce and Acton in unincorporated Los Angeles County, various other unincorporated community areas in Los Angeles County, open space areas of the Santa Monica Mountains Recreation and Conservation Authority and Los Angeles County Department of Parks and Recreation, and portions of the Angeles National Forest. In 2010, the Watershed was home to about 287,650 people with growth projected to increase to close to 400,000 persons by 2030 according to the Castaic Lake Water Agency's (CLWA's) 2010 Urban Water Management Plan (UWMP). CLWA is the wholesale water supplier in the Region and a member of the USCR IRWM Plan Regional Water Management Group (RWMG).

This Proposal directly addresses the key water resource challenges facing the Region. Enhancing regional self-reliance looms as an immediate and immense challenge. Currently, over half of the water supply to meet demand within the Region comes from imported water from the State Water Project (SWP). SWP deliveries are highly variable, with the amount actually available and allocated to SWP contractors each year dependent on a number of factors. The long-term estimated delivery of SWP water is 60 percent; in a dry year SWP supply may be as low as seven percent and that could be affected by climate changes and other factors. In the meantime, population in the Region is anticipated to increase by a factor of 1.8 by year 2050 or almost double by year 2050.

Water quality is also a primary concern for the Region. Water quality issues include chloride as well as the ongoing cost of monitoring and treating perchlorate contamination. The Los Angeles Regional Water Quality Control Board (RWQCB) Basin Plan identifies the Santa Clara River Watershed as impaired by chlorides. The proposed projects are consistent with the Basin Plan and directly address the water quality objectives therein.

This Proposal also includes projects that provide supply or quality benefits addressing invasive species and watershed restoration. By implementing the projects in this Proposal, the Region can advance toward its IRWM Plan objectives of increasing water supply reliability, protecting and improving water quality, and promoting resource stewardship –with successful projects that are cost-efficient, environmentally friendly, and reliable.

In the adopted 2008 USCR IRWM Plan, the Stakeholders ranked their list of priority projects. The USCR IRWM Plan is in the process of being updated and completion is anticipated no later than later 2013. The Stakeholders have already collaborated to complete the ranking process and have produced an updated list of priority projects for the 2013 Updated IRWM Plan. This Proposal was developed from the 2013 Updated



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USCR IRWM Plan priority project list. The projects included in this Proposal address the critical water management challenges in the Region.

The ranking process utilized the project review factors identified in the 2012 IRWM Guidelines; the selected projects represent the highest ranked projects that were ready and feasible to implement. The projects meet the goals and objectives in the Region through the implementation of diverse approaches ranging from conservation to treatment to improved infrastructure and watershed restoration:

1. Santa Clarita Valley Water Use Efficiency Strategic Plan Programs (CLWA-3)
2. Santa Clarita Water Division Water Use Efficiency Programs (SCWD-2)
3. Foothill Feeder Connection (CLWA-8)
4. Pellet Water Softening Treatment Plant - Phase 1 (NCWD-2)
5. Automatic Water Softener Rebate and Public Outreach Program (SCVSD-1)
6. USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1)

Together, these programs incorporate a wide range of water management strategies and address the regional objectives set forth in USCR IRWM Plan.

The RWMG and stakeholders understand that local funding is and will remain central to addressing the Region's water management challenges and all parties are taking active steps through local funding measures and rate adjustments; however, due to the poor local economy, a good portion of these funds will not be available to implement projects for many years. Proposition 84 funding will help the Region continue to implement projects important to maintaining the momentum already built from the initiation of the projects and move these projects towards further addressing the Region's water resource and management needs.

List of Acronyms

AF	acre-feet
AFY	acre-feet per year
AWWA	American Water Works Association
BMPs	Best Management Practices
CCR	Consumer Confidence Report
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CII	commercial, industrial, institutional
CLWA	Castaic Lake Water Agency
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DPH	California Department of Public Health (formerly the Department of Health Services)
DWR	California Department of Water Resources
gpcd	gallons per capita per day
gpm	gallons per minute
GWMP	groundwater management plan
HECW	High-Efficiency Clothes Washer
IPS	Intake Pump Station
IRWM Plan	Integrated Regional Water Management Plan



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LACFC	Los Angeles County Flood Control District
LACSD	Los Angeles County Sanitation District
MCL	Maximum Contaminant Levels
MGD	million gallons per day
mg/L	milligrams per liter
MOU	Memorandum of Understanding
MWD	Metropolitan Water District of Southern California
NCWD	Newhall County Water District
NPDES	National Pollutant Discharge Elimination System
RVWTP	Rio Vista Water Treatment Plant
RWMG	Regional Water Management Group
RWQCB	Regional Water Quality Control Board
SCARP	Upper Santa Clara Arundo River Watershed Removal Plan
SCV	Santa Clarita Valley
SCVSD	Santa Clarita Valley Sanitation District of Los Angeles County
SCWD	Santa Clarita Water Division of Castaic Lake Water Agency
SEA	Significant Ecological Area
SRWS	Self-Generating Water Softeners
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	total dissolved solids
TMDL	Total Maximum Daily Load
US EPA	US Environmental Protection Agency
US FWS	US Fish and Wildlife Service
UWMP	Urban Water Management Plan
VCRCD	Ventura County Resource Conservation District
VWC	Valencia Water Company
WRP	Water Reclamation Plant
WTP	Water Treatment Plant

Proposal Goals and Objectives

This Proposal is comprised of six priority projects that will deliver a strong combination of water demand reduction, water quality and related benefits. These projects were developed through the Region's IRWM planning process and, when implemented, will:

- Reduce water demand on the Delta and on the Region, protect existing supplies, and promote water conservation to increase local water supply reliability;
- Improve water quality through increased use of local water supply and beneficial use of tertiary treated water;
- Reduce the risk of flooding and fire hazard; and
- Preserve open space and native habitats in multiple locations.

In doing so, this Proposal will meet the stated purpose of the USCR IRWM Plan, and help to achieve the goals and objectives that have been identified for the IRWM Plan through the Stakeholder planning process (see Table 3-1).



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TABLE 3-1: PURPOSE OF THE UPPER SANTA CLARA RIVER IRWM PLAN

Goals	
Integrate water and watershed related planning efforts	
Facilitate regional cooperation	
Objectives	
Reduce Water Demand	Implement technological, legislative and behavioral changes that will reduce user demands for water.
Improve Operational Efficiency	Maximize water system operational flexibility and efficiency, including energy efficiency.
Increase Water Supply	Understand future regional demands and obtain necessary water supply sources.
Improve Water Quality	Supply drinking water with appropriate quality; improve groundwater quality; and attain water quality standards.
Promote Resource Stewardship	Preserve and improve ecosystem health; improve flood management; and preserve and enhance water-dependent recreation.

Overview of Projects

Table 3-2 provides an overview of the six projects that comprise this Proposal and that are identified on Figure 1. The project design status is identified by percent complete as of March 29, 2013. Relevant design documents are discussed in each project Work Plan section and provided electronically on CD.

TABLE 3-2: PROPOSAL PROJECT LIST

<i>Santa Clarita Valley Water Use Efficiency Strategic Plan Programs (CLWA-3)</i>	<i>Design Status</i>	<i>Implementing Agency</i>
	<i>100%</i>	<i>Castaic Lake Water Agency</i>
<p>The proposed program is based on the analysis of the 2008 CLWA Santa Clara Valley Water Use Efficiency Strategic Plan (CLWA Strategic Plan) which identified programs that will most effectively reduce per capita water use in the Santa Clarita Valley. CLWA has been implementing these recommendations and is proposing to expand its programs in light of the new State water conservation requirements. The Project includes expansion of the following programs: (1) Large Landscape Audit and Incentives, (2) Commercial, Industrial and Institutional (CII) Audit and Customized Incentives, (3) Landscape Contractor Certification and Weather-Based Irrigation Controllers, (4) High-Efficiency Clothes Washer (HECW) Rebates, and (5) Cash for Grass. Implementation of all five programs will yield avoided SWP imports of 380 acre-feet per year (AFY).</p>		



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<i>Santa Clarita Water Division Water Use Efficiency Programs (SCWD-2)</i>	Design Status <i>100%</i>	Implementing Agency <i>Santa Clarita Water Division</i>
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The elements identified in this program originate in SCWD’s Water Use Efficiency Strategic Plan (SCWD Strategic Plan). The SCWD Strategic Plan was developed in July 2012 to identify, analyze and provide a roadmap for implementing programs that will allow SCWD to achieve its State water conservation requirements and reduce dependence on imported water sources. The SCWD Strategic Plan specifies ten water use efficiency incentive programs that, when fully implemented, will save 4,437 AF of water by 2020 at a cost of approximately \$1.83 million a year. Combining the implementation efforts with supporting outreach and education programs will allow SCWD to achieve its goals. SCWD-2 is requesting funding to help implement three of the programs identified in the SCWD Strategic Plan: (1) High-Efficiency Irrigation Nozzle Distribution, (2) High-Efficiency Clothes Washer (HECW) Machine Rebate Program and Residential and Commercial Program Rebate, and (3) Large Landscape Water Budgets. The first two programs are currently being implemented and SCWD would like to expand these efforts based on their success to date and the recommendations made in their Strategic Plan. The large landscape program represents a new effort with a focus on irrigation, which is a significant use of water in the Santa Clarita Valley. Full project benefits will accrue beginning in 2015. At this time, water conservation resulting from the three programs will yield avoided SWP imports of 156 AFY.

<i>Foothill Feeder Connection (CLWA-8)</i>	Design Status <i>100%</i>	Implementing Agency <i>Castaic Lake Water Agency</i>
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CLWA’s Foothill Feeder Connection Project will provide initially 6 million gallons per day (MGD) of additional capacity to CLWA’s potable water system (up to a maximum of 30 MGD additional capacity when the Rio Vista Water Treatment Plant [RVWTP] is expanded in the future), consequently improving system reliability. The project will replace the current connection, which is undersized for the recently expanded RVWTP, and thus allow CLWA to utilize the full treatment plant capacity. Also, the current connection was designed as a temporary structure so a permanent connection increases infrastructure reliability.

<i>Pellet Water Softening Treatment Plant - Phase 1 (NCWD-2)</i>	Design Status <i>10%</i>	Implementing Agency <i>Newhall County Water District</i>
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This project includes the first phase of the construction and implementation of the three phase treatment system. This Phase 1 effort consists of completing a water quality analysis for two of NCWD groundwater wells, establishing the treatment criteria and feasibility of pellet softening technology, determining the size of the treatment plant, treatment chemicals needed, and capital and operational cost estimates as well as conceptual design and an initial environmental study. The Phase 2 project (not part of this proposed grant project) completes the CEQA requirements for the project, engineering design of the pellet treatment plant, and public outreach to community for acceptance of the necessary rate increase for pre-softened water (Prop 218) and pellet usage. The Phase 3 project (not part of this proposed grant project) will complete the construction of the pellet treatment plant and initial start-up activities. Funding is being requested for Phase 1 only, which includes the engineering and planning associated with complete water quality analysis of NCWD Wells 12 and 13 to establish the treatment criteria and feasibility of pellet softening technology.



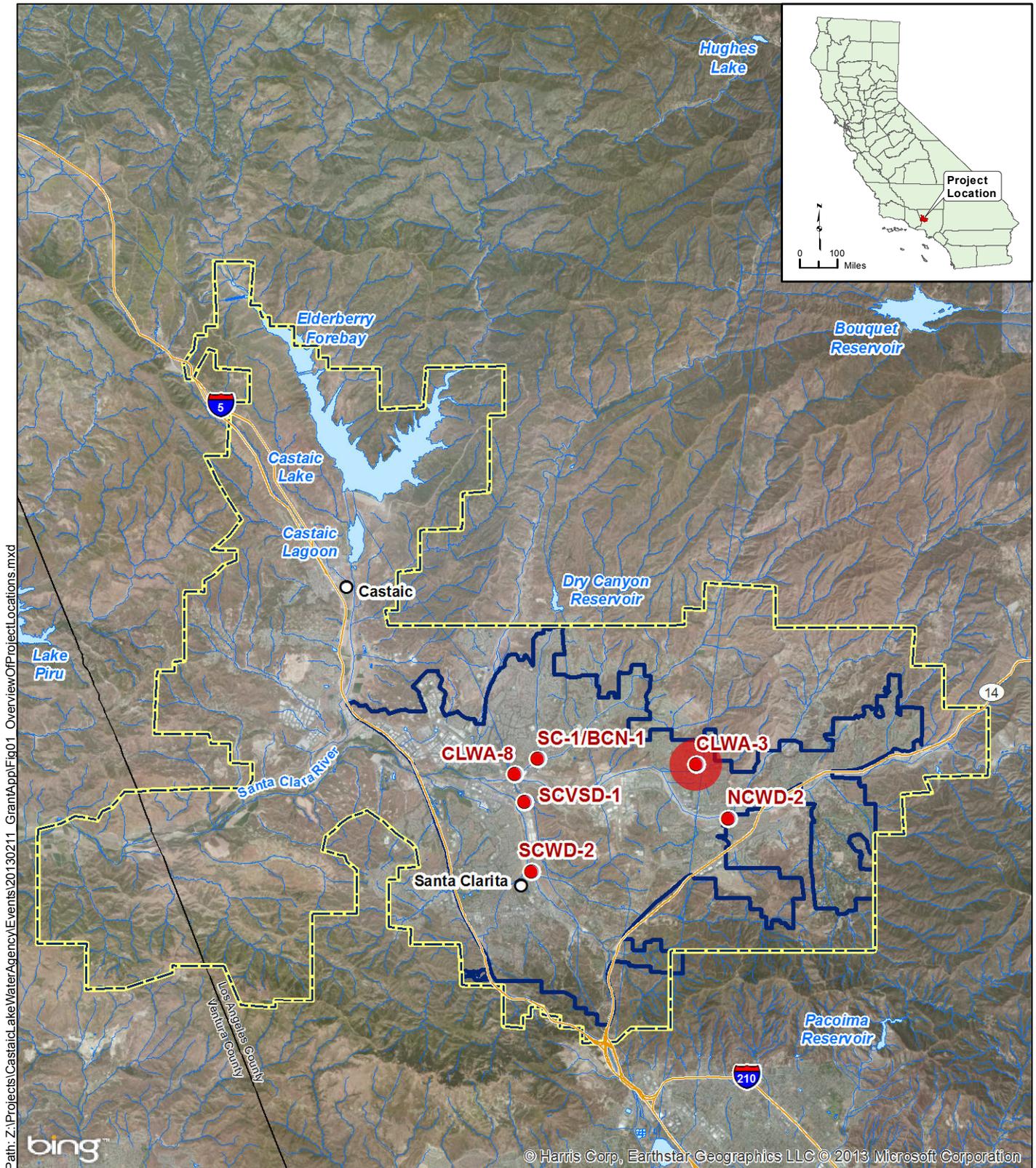
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<i>Automatic Water Softener Rebate and Public Outreach Program (SCVSD-1)</i>	Design Status <i>100%</i>	Implementing Agency <i>Santa Clarita Valley Sanitation District</i>
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This Project builds on a ground breaking, nationally recognized multi-pronged approach by the Sanitation District to reduce chloride sources in all customer sectors, promoted innovation, spurred three local ordinances and more. These efforts were initiated in response to the development of the USCR Chloride Total Maximum Daily Load (TMDL) requiring the Sanitation District to reduce chloride levels in the discharges from its two water reclamation plants in 2002. The Program will focus on removing the remaining automatic water softeners in the Santa Clarita Valley through a combination of activities including: home inspections, issuing Notices of Violations to residents that still have automatic water softeners, issuing rebates to residents that remove their automatic water softeners, chloride monitoring, and public outreach. The goal of the project is to remove all remaining automatic water softeners in the Sanitation District’s service area. The multi-faceted effort is expected to achieve an additional reduction in the chloride discharged from the water reclamation plants (WRPs) by up to 5 mg/L, keep awareness of the chloride problem high in the community and prevent backsliding (residents installing and/or using illegal automatic water softeners), minimize the size of future chloride compliance facilities and help the Sanitation District comply with the USCR chloride TMDL.

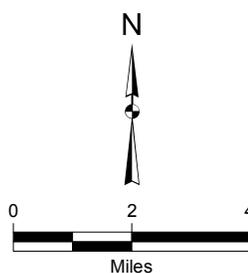
<i>USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1)</i>	Design Status <i>100%</i>	Implementing Agency <i>City of Santa Clarita</i>
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The City of Santa Clarita is working with a group of homeowners to undertake a regional arundo/tamarisk eradication project along the tributaries of the Santa Clara River: the Bouquet Canyon Creek and San Francisquito Creek. The Project will restore riparian habitat through the removal of these invasive plant species, improve water quality, and increase water supply by increasing the available surface and subsurface water that can be utilized for beneficial purposes.



Legend

- Project Location
- Service Area Wide
- Castaic Lake Water Agency Service Area
- City Santa Clarita Boundary



Kennedy/Jenks Consultants

Castaic Lake Water Agency
Los Angeles County, California

**Vicinity Map
Overview of Project Locations**

K/J 1389003*00
March 2013

Figure 1



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Purpose and Need

The purpose of this Proposal is to develop and implement regional projects and programs that will further the regional goals and objectives the IRWM Plan. Those objectives are listed above and include reducing water demand, improving water quality, improving operational efficiency, increasing water supply, and promoting resource stewardship. They also include the three new objectives identified in the 2013 Update IRWM Plan process (not yet adopted) that address Flooding/Hydromodification and taking action within the watershed to adapt to climate change, and promoting projects and actions that reduce greenhouse gas emissions.

The need for the Proposal projects is framed by challenges faced in the State as a whole, as well as challenges unique to the Region. To meet the Region's challenges and needs, this Proposal presents a combination of projects that offer a variety of ways of addressing these issues and move the Region toward realizing its IRWM Plan objectives. Local water resources are optimized with proposed project's water use efficiency programs that reduce demand, infrastructure improvements that increase and optimize capacity, and watershed restoration projects that increase the available surface and groundwater that can be utilized for beneficial purposes. Water quality standards are met with projects that reduce calcium water hardness through development of innovative and efficient technologies, source control programs and watershed restoration programs that employ natural and engineered improvements to treatment. Finally, natural processes and habitats are protected, restored, and enhanced with projects remove invasive species.

The following subsections provide more detail on why the projects are necessary and how they address the primary needs of the Region.

Water Demand Reduction

One of most significant challenges in the Region is the uncertainty of imported water supplies. Ecosystem concerns in the Bay-Delta resulted in legal and regulatory actions that have reduced the SWP supplies since 2008 and this trajectory is exacerbated by ongoing uncertainties related to climate change and drought. The 2011 SWP Delivery Reliability Report from DWR projects SWP deliveries from 9 percent to 70 percent of the maximum contract amount over an 82-year simulation period under current conditions. Deliveries are expected to average 61 percent of maximum contract amount under current conditions, but decrease to approximately 35 percent of maximum contract amount over multiple dry years.

Implementing the programs in this Proposal will assist the Region in reducing their existing water demand and increasing water supply reliability. The **Santa Clarita Valley Water Use Efficiency (SCV WUE) Strategic Plan Programs (CLWA-3)** and **Santa Clarita Water Division Water Use Efficiency (SCWD WUE) Programs (SCWD-2)** are expected to reduce imported water supply demand by 536 AFY. The conservation programs will also help the Region meet its State water conservation requirements of Senate Bill 7 of Special Extended Session 7 (SBX7-7), building on significant recent efforts to analyze demand, identify potential water savings and develop an implementation plan. By reducing demand through conservation, the Region can optimize use of existing supplies, and reduce the dependence on imported supplies. The **Foothill Feeder Connection (CLWA-8)** creates flexibility in the water conveyance system by sizing a critical connection to meet expanded WTP capacity. In addition the **USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1)** will remove approximately 42 acres of arundo and will increase the water supply as these invasive plants utilizes large quantities of surface and groundwater.

Water Quality

Water Quality is also a primary issue for the Region. This Proposal is consistent with the Basin Plan for the Los Angeles Region which identifies water quality objectives for water bodies within the Region.



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Salinity and nutrient management concerns in the Upper Santa Clara River Watershed are primarily driven by salt sensitive crops located downstream. High chloride levels are of particular concern since high value, chloride sensitive crops like strawberries and avocados grown in the lower watershed utilize surface waters or ground water influenced by surface water for irrigation. Findings from previous reports cite the sources of chloride as source waters and residential self-regenerating water-softeners (SRWS). In 2003, SCVSD passed an ordinance banning the installation of all new SRWSs, and by passage of Senate Bill 475, SCVSD has authority to remove all SRWSs remaining in the Santa Clarita Valley that were installed prior to 2003.

A TMDL for chloride in the Upper Santa Clara River (Reaches 5(EPA 303(d) list Reach 7) and Reach 6 (EPA 303(d) list Reach 8) was adopted by the Los Angeles RWQCB and became effective on May 5, 2005. The Basin Plan Amendment for the chloride TMDL in the Upper Santa Clara River was unanimously adopted by the RWQCB on December 11, 2008. The TMDL established waste load allocations of 100 mg/L for the Saugus and Valencia WRPs. The TMDL implementation schedule allows for several special studies to determine whether existing Water Quality Objectives (WQOs) and waste-load allocations for chloride can be revised, and provides for an 11-year schedule to attain compliance with the final water quality objectives and waste-load allocations for chloride.

Wastewater discharges from the Saugus and Valencia WRPs were determined to be the principal source, making up an estimated 70 percent of the chloride load. Efforts have been ongoing since that time to address these issues. The proposed ***Automatic Water Softener Rebate and Public Outreach (SCVSD-1)*** is a continuation of those efforts to directly address the Basin Plan's Chloride reduction goal.

Some of the programs included in the Proposal provide benefits to the key water quality challenges and objectives addressed in the Basin Plan. The ***Pellet Water Softening Treatment Plant - Phase 1 (NCWD-2)*** and ***Automatic Water Softener Rebate and Public Outreach (SCVSD-1)*** programs both use markedly different approaches with the former (once the complete project is constructed) focuses on the development of innovative technology and the latter addresses removing the source of the chloride problem. In other words, one program removes the water softeners that contribute to the chloride problem and the other program treats the water so the softeners are not needed.

The ***SCV WUE Strategic Plan Programs (CLWA-3) and SCWD WUE Programs (SCWD-2)*** also have water quality implication in their landscape-focused programs which will reduce non-point source pollution and runoff from landscape irrigation.

Invasive Species

Invasive species can irrevocably modify and disrupt the ecological systems in which they spread, causing harm to native species through sudden increased competition for the same resources. The resulting reduction in ecological diversity makes the native ecosystems more susceptible to further disturbances and reduces their ability to provide valuable ecological services. Considering the high diversity of the USCR and numerous special status species in the Region, the control of invasive species is considered important to sustain and enhance the existing natural systems and ecological processes in the Region. Invasive species are particularly an issue in floodplain areas. The restoration of riparian habitat through the removal of these invasive plant species is the primary focus of the ***USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1)***. The program also reduces the risk of flooding and fire hazard.

Table 3-3 further identifies how each of the projects will address these goals and objectives.



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TABLE 3-3: HOW PROJECTS ADDRESS PROPOSAL AND IRWM PLAN GOALS AND OBJECTIVES

PROJECT	Integrate water and watershed related planning efforts	Facilitate regional cooperation	Reduce Water Demand	Improve Operational Efficiency	Increase Water Supply	Improve Water Quality	Promote Resource Stewardship
Santa Clarita Valley Water Use Efficiency Strategic Plan Programs (CLWA-3)	●	●	●	●	●	●	●
Santa Clarita Water Division Water Use Efficiency Programs (SCWD-2)	●	●	●	●	●	●	●
Foothill Feeder Connection (CLWA-8)	●	●		●			
Pellet Water Softening Treatment Plant - Phase 1 (NCWD-2)	●	●				●	
Automatic Water Softener Rebate and Public Outreach program (SCVSD-1)	●	●	●			●	●
USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1)	●	●	●		●	●	●

Integrated Elements of the Proposal

While each project provides its own unique benefits, this collection of projects will compound benefits and enhance the reliability of existing supplies within the Santa Clarita Valley by reducing water demand, increasing water supply, improving water quality and watershed health. The Proposal as a whole will also:

- Spur further support for the IRWM planning process
- Create projects that demonstrate multiple benefits to the community and provide incentives for agencies to pass local funding measures; and
- Develop water management partnerships for coordinated implementation of regional projects

The following section describes the synergies or linkages between projects that result in added value or require coordinated implementation. The projects are integrated in two ways: (1) through cooperation between multiple agencies, leveraging the resources of each to multiply the value added to the project. Of the Proposal’s 6 projects, all six enlist the cooperation of multiple agencies and/or stakeholders, and (2) through projects that achieve a common objective.

The projects address IRWM Plan objectives in the following ways:

1. Santa Clarita Valley (SCV) WUE Strategic Plan Programs (CLWA-3) - reduces demands on the regional water supply and benefits from cooperation of all four retailers and builds on previous successful efforts in conservation: both in planning and implementation. This collaboration will increase the reach and success of the program as the combined resources will allow for a broader



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messaging; Valley residents are provided with a consistent message and suite of implementation options. The landscape-focused programs will also address non-point source pollution from runoff. Finally, these programs will support the Region's efforts to meet its SBX7-7 requirements.

2. SCWD WUE Programs (SCWD-2) - reduces demands on the regional water supply and is complementary to CLWA-3 in that it provides for programs not covered within those efforts and expands on those that have proven successful, building on the conservation master plan analysis. The landscape-focused high-efficiency irrigation nozzle and large landscape budget programs will also address non-point source pollution by reducing runoff from irrigation.
3. Foothill Feeder Connection (CLWA-8) – the project will improve supply and system reliability by providing 6 MGD of additional capacity initially (and up to 30 MGD of additional capacity when the RVWTP is expanded) to CLWA's water system and replace a temporary pipeline.
4. Pellet Water Softening Treatment Plant - Phase 1 (NCWD-2) – The full project (Phases 1-3) improves drinking water quality through reduction of calcium carbonate hardness, protects the availability of surface and groundwater supplies. This Phase 1 will provide the critical engineering information and design, including: 1) a water quality analysis, 2) conceptual treatment plant design to determine appropriate sizing, treatment chemical need, and capital and Operational & Maintenance (O&M) costs, and land requirements and 3) a rate study and consumer demand analysis. The complete NCWD-2 project will decrease water hardness at the source and will complement SCVSD-1 by decreasing the need for water softeners by consumers.
5. Automatic Water Softener Rebate and Public Outreach program (SCVSD-1) – strives to meet the chloride TMDL limits that have been set by the Los Angeles RWQCB. SCVSD-1 will reduce, ultimately the goal to eliminate, automatic water softeners which will reduce the chloride load entering the Water Reclamation Plants.
6. USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1) - decreases loss of local water supply to noxious non-native weeds. The restoration of riparian habitat through the removal of these invasive plant species, some of which have colonized in large extents of the Upper Santa Clara River watershed, improves water quality and increases water supply by increasing the available surface and subsurface water that can be utilized for beneficial purposes, promotes resource stewardship and also reduces the risk of flooding and fire hazard.

Regional Map

The six projects are shown on Figure 1. Figures 2 and 3 provide the IRWM Plan Region boundary and the hydrological features within the Region. During development of the 2008 IRWM Plan, no communities that met the definition as defined in the Water Code of a Disadvantaged Community (DAC) were identified. As such, none have been identified on the regional map.

Completed Work

This section identifies the status of work items for each project. For the Application, three status conditions are considered:

1. Work item complete as of application submittal date (March 29, 2013)
2. Work item is not complete as of application submittal date, but will be complete by October 1, 2013.
3. Work item will be completed after October 1, 2013.



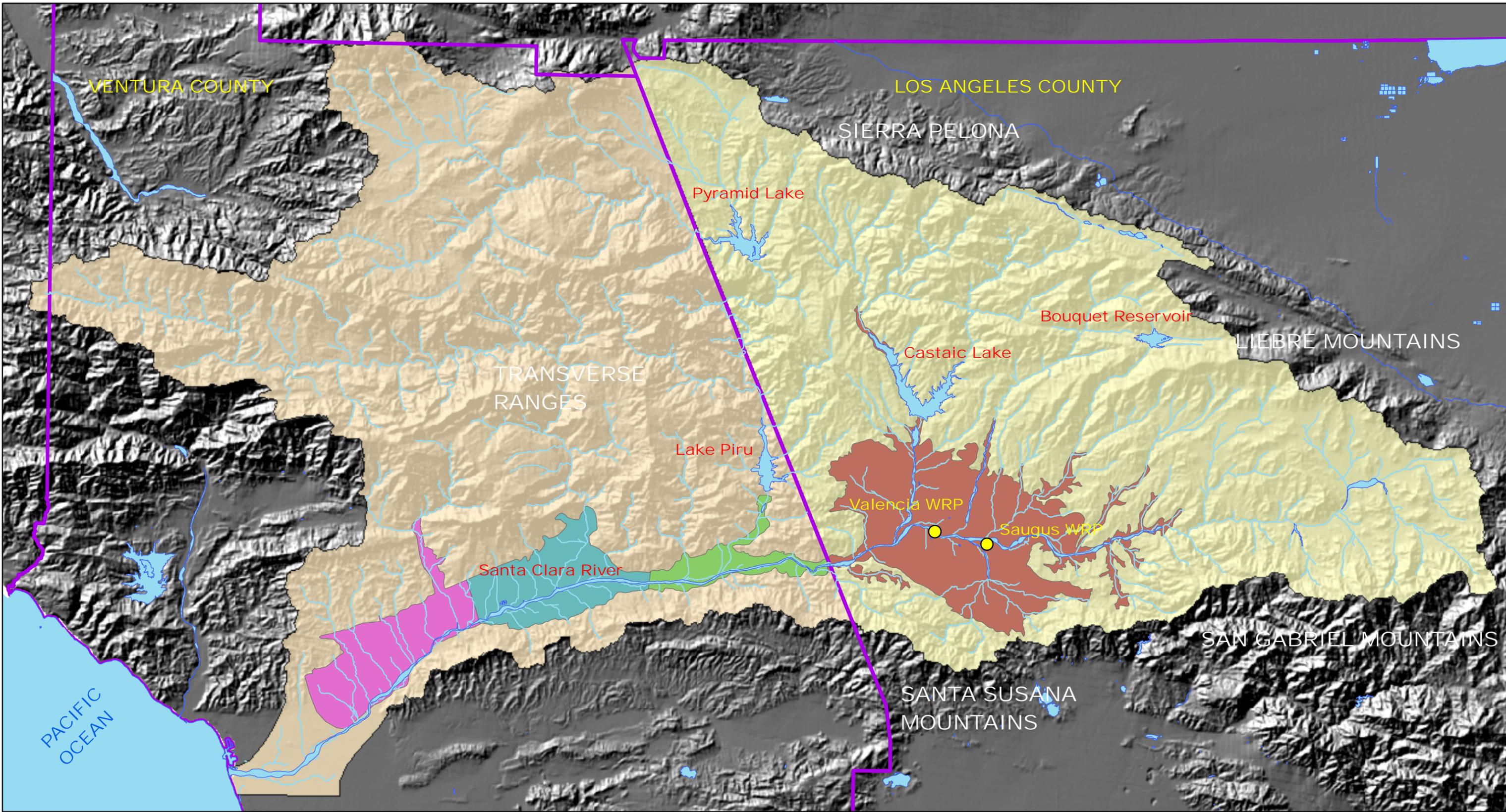
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October 1, 2013 is the assumed date of grant contract signature and all tasks completed after this date will be included as work items in the grant contract.

TABLE 3-4: STATUS OF CRITICAL PRE-CONSTRUCTION PROJECT WORK ITEMS

PROJECT	Land/Row Acquisition	Planning	Design/ Engineering	Environmental Documentation	Permit Acquisition
Santa Clarita Valley Water Use Efficiency Strategic Plan Programs (CLWA-3)	NA	Complete	NA	NA	NA
Santa Clarita Water Division Water Use Efficiency Programs (SCWD-2)	NA	Complete	NA	NA	NA
Foothill Feeder Connection (CLWA-8)	2014	Complete	Complete	Complete	Complete
Pellet Water Softening Treatment Plant - Phase 1 (NCWD-2)	2014	2015	2015	2015	2015
Automatic Water Softener Rebate and Public Outreach program (SCVSD-1)	NA	Complete	November 2013	NA	NA
USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1)	NA	Complete	Complete	Complete	Complete

- Notes:
- Pre-construction work item complete as of March 2013
 - Pre-construction work item complete after October 1, 2013
 - Not Applicable (NA)



Legend

 Water Reclamation Plants	Watershed
Groundwater Basin	 Lower Santa Clara River
 EASTERN	 Upper Santa Clara River
 PIRU	
 FILLMORE	
 SANTA PAULA	

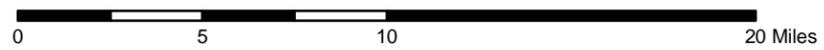
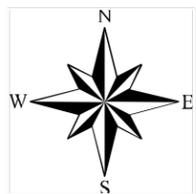
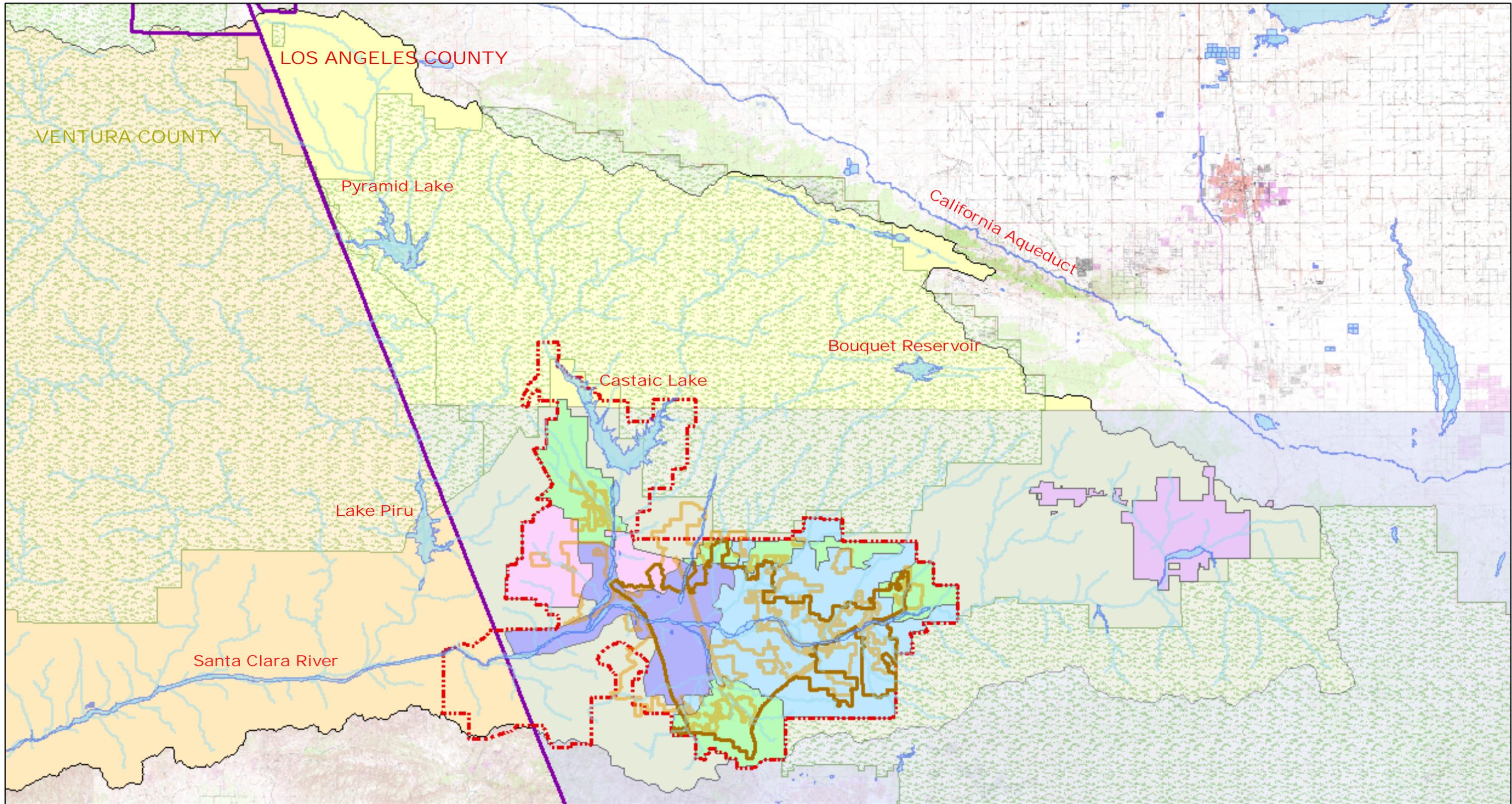


Figure 2
Upper Santa Clara River Watershed
Hydrologic Features



Legend			
Upper Santa Clara River	Valencia Water Company	US Forrest Service Boundary	LA County Flood Control Boundary
Santa Clarita	LA County WaterWorks District 36	Santa Clarita Water Company	Lower Santa Clara River
Santa Clarita Valley Sanitation District	Newhall County Water District	CLWA	LA County WaterWorks District 37



Figure 3
Upper Santa Clara River
Watershed/IRWMP Region



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Existing Data and Studies

Numerous scientific and technical studies and feasibility reports have been conducted within the Santa Clarita Valley in support of both the IRWM planning process and for development of the implementation projects included in this Proposal. These studies and reports provide the basis for demonstrating the scientific and technical merit of the Proposal, support the statement of benefits contained throughout, and demonstrate the feasibility of successful project implementation.

Documented studies and the collection of data have been completed or are in the process of being completed for all six projects in this Proposal supporting the claimed benefits. An electronic copy of each applicable study is included on a CD provided with the Proposal and a summary of the types of information contained in each reference is provided by individual project below. The CD includes six separate folders, one for each project's reference materials.

A brief discussion of how each of these projects' technical documentation supports the technical adequacy and feasibility is provided in greater detail below. The Work Plans will identify the data reporting and monitoring requirements for each project within the Proposal.

Santa Clarita Valley Water Use Efficiency Strategic Plan Programs (CLWA-3)		
Reference No.	Reference	Relevance
CLWA -3.1	CLWA Santa Clarita Valley Water Use Efficiency Strategic Plan, Final Draft. August 2008. A & N Technical Services, Inc.	The CLWA Santa Clarita Valley Water Use Efficiency Strategic Plan (WUE Plan) includes programs and projects that will most effectively reduce the per capita water use in the Valley.
CLWA-3.2	2010 Urban Water Management Plan (UWMP) Prepared for CLWA, CLWA Santa Clarita Water Division, Newhall County Water District, Valencia Water Company. June 2011. Kennedy/Jenks Consultants.	The 2010 UWMP plan provides a comprehensive overview of the water supply goals for the future of the Santa Clarita Valley (SCV) and identifies the current and planned water conservation programs and projects within the CLWA service area as well as the SBX7-7 requirements for each retail agency.
CLWA-3.3	SCWD Water Use Efficiency Plan. July 2012. Kennedy/Jenks Consultants.	The SCWD WUE Strategic Plan (Strategic Plan) was developed in July 2012 to identify activities that lead SCWD to SBX7-7 compliance. The Strategic Plan specifies ten water use efficiency programs that provide incentives to increase water use efficiency in its service area within the SCV.
CLWA-3.4	VWC Water Conservation Plan, VWC, October 2012.	The VWC Water Conservation Plan was developed in October 2012 to show progress to date in meeting conservation goals and to outline the path to reaching the per capita water usage goals through 2020. It includes detailed information about past performance and future programs for the years 2013-2016.

Technical Adequacy (SCV WUE Strategic Plan Programs [CLWA-3])

CLWA and the four purveyors all utilize water conservation methods as a means to reduce demand for imported water, mitigate the effects of drought and meet state requirements. CLWA prepared its 2010



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UWMP with the four local retail water agencies in the Santa Clarita Valley: CLWA’s SCWD, NCWD, Valencia Water Company (VWC), and Los Angeles County Waterworks District No. 36 (LACWWD #36). CLWA and the four agencies are all members of the California Urban Water Conservation Council (CUWCC) and each are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California. Signatories pledge to develop and implement the 14 Best Management Practices (BMPs) that are intended to reduce long-term urban water demands. These BMPs are functionally-equivalent to the demand management measures specified in California Water Code Section 10631(f)(1). In addition, the 2010 UWMP required that each retail agency calculate their SBX7-7 requirements.

The 2010 UWMP (Reference CLWA-3.2) forecasts water supply demands and supplies, characterizes the Region’s water portfolio, and describes the BMPs proposed to be implemented for water savings and conservation efforts in their service area. These documents show that the CLWA-3 Program will meet BMP No. 5 – Large Landscape Conservation Programs and Incentives through implementation of the Large Landscape Audit and Incentive Program, Santa Clarita Valley CII Audit and Customized Incentive Program, and Santa Clarita Valley Landscape Contractor Certification and Weather-based Irrigation Controller Program and the Cash for Grass Rebate Program led by CLWA. The High-Efficiency Washing Machine Program will address indoor residential use, or BMP 3. Even more critical, these programs will help the agencies meet their SBX7-7 requirements and consequently allow the State to meet its 20% reduction goals by 2020.

Project Feasibility (SCV WUE Strategic Plan Programs [CLWA-3])

The feasibility of CLWA-3 is documented in Reference CLWA-3.1, by experts in the field of water conservation technologies, through direct experience from implementing these programs in the Region as well as other agencies experiences. Implementation of Evapotranspiration (ET) Controllers as part of the Santa Clarita Valley Landscape Contractor Certification and Weather-based Irrigation Controller Program will result in measurable and quantifiable results in water savings in the Santa Clarita Valley, as will the ET controllers and efficient spray nozzles through the Large Landscape Audit and Incentives Program, the cash for grass rebates and high-efficiency washing machines. Each of the programs being implemented has been implemented by numerous water agencies (including CLWA), has shown documented savings and is identified by both the CUWCC and the Alliance for Water Efficiency; recognized state and national leaders in the field of conservation.

Santa Clarita Water Division Water Use Efficiency Programs (SCWD-2)		
Reference No.	Reference	Relevance
SCWD-2.1	SCWD WUE Strategic Plan. July 2012. Kennedy/Jenks Consultants.	The SCWD WUE Strategic Plan (Strategic Plan) was developed in July 2012 to identify activities that lead SCWD to SBX7-7 compliance. The Strategic Plan specifies ten water use efficiency programs that provide incentives to increase water use efficiency in its service area within the SCV.

Technical Adequacy (SCWD WUE Programs [SCWD-2])

SCWD implements water conservation programs to reduce demand for imported water and meet its SBX7-7 requirements. SCWD prepared its 2010 UWMP as part of a regional effort led by CLWA (see previous project). In it, SCWD described its conservation programs and progress towards meeting the BMPs. In addition, SCWD calculated its SBX7-7 requirements.



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Subsequent to the development of the UWMP, SCWD developed a WUE Strategic Implementation Plan to ensure that the Division meets its 2015 and 2020 goals (Reference SCWD-2.1). The SCWD Strategic Plan identifies all possible program options and then analyzes them to find the optimum group of programs for the Division taking into account cost, savings, implementability and more. The ten programs and projects identified in the SCWD Strategic Plan will reduce SCWD’s water use to 192 gallons per capita per day (gpcd) in 2018 and 188 gpcd by 2020. The SCWD Strategic Plan provides tools and details that can be used to guide implementation and monitor success as well as a phased implementation approach. The SCWD-2 project proposes to implement three programs identified in its Strategic Plan: 1) High-Efficiency Irrigation Nozzle Distribution, 2) High-Efficiency Washing Machine Rebate Program, and 3) Large Landscape Water Budgets.

Project Feasibility (SCWD WUE Programs [SCWD-2])

The feasibility of the WUE programs in SCWD-2 is well documented by experts in the field of water conservation technologies, and through direct experience from implementing these programs in prior years. All the assumptions in the analysis came from verified sources including the CUWCC, the Alliance for Water Efficiency and/or communications with similar water agencies and programs. High-Efficiency Irrigation Nozzle Distribution and High-Efficiency Washing Machine Rebates are both already being successfully implemented in SCWD, while Large Landscape Water Budgets have all been documented to save water for numerous agencies in the state and are identified as a CUWCC BMP.

Foothill Feeder Connection (CLWA-8)		
Reference No.	Reference	Relevance
CLWA-8.1	Final Environmental Impact Report (FEIR) for the CLWA Rio Vista Water Treatment Plant Expansion (SAIC, August 2006).	The second volume of the FEIR (this volume) contains public comments received on the DEIR during the public review period (May 22 to July 10, 2006), responses to the public comments, and changes to the text of the DEIR.
CLWA-8.2	Draft Environmental Impact Report (DEIR) for the CLWA Rio Vista Water Treatment Plant Expansion (SAIC, May 2006).	The Project is the expansion of the existing RVWTP treatment capacity from 30 MGD to 60 MGD in response to current and new water quality standards, to improve reliability to meet existing customer demands, and planned future demand. As part of the RVWTP Treatment Expansion Project, a parallel connection to the existing 42-inch connection to the Metropolitan Water District (MWD) 201-inch Foothill Feeder pipeline is constructed (including a connection to a new MWD 48-inch valve), which is the CLWA-8 Project. The proposed Project increases the existing water treatment capacity. The Project utilizes water that is part of CLWA’s existing supply.
CLWA-8.3	DEIR (California State Clearinghouse No. 1998041127) CLWA Supplemental Water Project Transfer of 41,000 Acre-Feet of State Water Project Table A Amount (SAIC, 2004).	This is a planning document that recommends expanding the RVWTP to 90 MGD. See page 3.15-15, lines 14-15.



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Foothill Feeder Connection (CLWA-8)		
Reference No.	Reference	Relevance
CLWA-8.4	Santa Clara Valley Pipeline CLWA-01 Service Connection Pressure Surge Analysis (Flow Science, 2009).	Hydraulic Surge Analysis of the Rio Vista Water Pump Station and Foothill Feeder Connection including design recommendations derived from the analysis.
CLWA-8.5	Agreement between the Metropolitan Water District of Southern California and the Castaic Lake Water Agency For Interconnection CLWA-01 Agreement NO. AO-5142.	Agreement between CLWA and MWD to allow CLWA use of Foothill Feeder Connection up to a maximum capacity of 90 MGD.
CLWA-8.6	Foothill Feeder Connection Plans and Specifications (Kennedy/Jenks Consultants, June 2012).	Design plans and specifications.
CLWA-8.7	Engineer's Estimate of Probable Cost (Kennedy/Jenks Consultants, June 2012).	Engineer's Estimate of Probable Cost.

Technical Adequacy (Foothill Feeder Connection [CLWA-8])

As part of the Rio Vista Water Treatment Plant (RVWTP) expansion, completed in 2011, the adopted 2008 USCR IRWM Plan discusses the need for a parallel connection to the existing Foothill Feeder Connection, which is what the CLWA-8 Project will accomplish.

Project Feasibility (Foothill Feeder Connection [CLWA-8])

The feasibility of this project was examined as part of Reference CLWA-8.1. Since the current Foothill Feeder Connection is owned and operated by Metropolitan Water District (MWD), the Project design uses MWD's standard specifications for the portion of the project that includes MWD's property and a separate parallel set of technical specifications for the CLWA's pipeline and buried butterfly work. All design has been approved by MWD. Agreements with MWD are signed. Scheduling will be necessary so specific construction tasks can be completed during MWD's routine yearly operational shutdown period. This has been accounted for in the recommended schedule.

Pellet Water Softening Treatment Plant - Phase 1 (NCWD-2)		
Reference No.	Reference	Relevance
NCWD-2.1	Twenty Years of Experience with Central Softening in the Netherlands: Water Quality - Environmental Benefits - Costs. April 2006. Jan Hofman, Ono Kramer, Jan Peter van der Hoek, Maarten Nederlof, Martijn Groenendijk; Waternet, Vitens, Brabant Water.	Introduction of Pellet softening technology.
NCWD-2.2	Well Softening Feasibility Study. April 2006. Kennedy/Jenks Consultants.	Study examined the most efficient and cost-effective approach to groundwater wellhead softening for approximately 400 VWC customers in the North Valencia service area.



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Pellet Water Softening Treatment Plant - Phase 1 (NCWD-2)		
Reference No.	Reference	Relevance
NCWD-2.3	Groundwater Softening Demonstration Project for VWC. October 2009. Kennedy/Jenks Consultants.	Study analyzed the results of VWC's demonstration project.

Technical Adequacy (Pellet Water Softening Treatment Plant - Phase 1 [NCWD-2])

Pellet softening technology was first introduced in the late 1970s in the Netherlands. A comprehensive study and description of the process and benefits are detailed in Reference NCWD-2.1. Also, a feasibility study and a demonstration project have been completed for pellet softening for the Valencia Water Company (VWC), a sister retailer to NCWD (References NCWD-2.1 and 2.2). The groundwater in the area has high hardness that is not a regulated water quality parameter but is an important aesthetic parameter. The hard water has resulted in widespread use of residential water softeners. The self-regenerating type of water softener (also known as automatic water softeners or AWS) produces a high chloride, brine discharge to the wastewater system and in addition to imported potable water, is a cause of treated wastewater discharged to the Santa Clara River exceeding the Basin Plan TMDL for chloride of 100 mg/L.

The Feasibility Study (Reference NCWD-2.2) examined the most efficient and cost-effective approach to groundwater wellhead softening for approximately 400 VWC customers in the North Valencia service area. The study concluded that pellet softening was the preferred technology and recommended a demonstration project. Pellet softening utilizes chemical precipitation methods for removing calcium hardness. VWC constructed a demonstration project as recommended in the study in 2008 - 2009. A second report was completed (Reference NCWD-2.3) after the demonstration project was constructed, which analyzed the results of VWC's demonstration project and concluded the following:

- (1) The average product water yield for the demonstration facility was 99.8 percent *making this process extremely efficient from a water treatment perspective*. Other softening technologies such as membranes and ion exchange have an 80 and 98 percent product water yield, respectively.
- (2) Calcium hardness (as CaCO₃) averaged 194 mg/L before treatment and 55mg/L following treatment, an average removal of 71.5 percent.

Project Feasibility (Pellet Water Softening Treatment Plant - Phase 1 [NCWD-2])

The results of the analysis of VWC's demonstration projects indicated that pellet softening provided a cost-effective and aesthetically acceptable treatment process for removing calcium hardness. So the project feasibility for a neighboring retailer such as NCWD should be relatively high. Reference NCWD-2.3 detailed the anticipated budgets for a softening implementation plan for many of VWC's wells. Pellet softening technology research documents have been obtained. All related data and materials will be available to assist with the conceptual design, cost estimates, and water quality analysis, which will be completed during Phase 1.



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Automatic Water Softener Rebate and Public Outreach program (SCVSD-1)		
Reference No.	Reference	Relevance
SCVSD-1.1	Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan, Annual Report November 2012. Santa Clarita Valley Sanitation District of Los Angeles County (SCVSD).	Since 2005, the SCVSD has been required to submit these annual reports as part of the Regional Board’s USCR Chloride TMDL. They address measures taken and planned to be taken to quantify and control sources of chloride in the SCVSD sewerage system.
SCVSD-1.2	Santa Clara River Chloride Reduction Ordinance of 2008 (Ordinance). SCVSD.	The Ordinance was approved by voters and took effect on January 1, 2009. The Ordinance required the removal and disposal of all existing residential Automatic Water Softeners (AWS) by June 30, 2009. Over 7,900 AWS have been removed, but approximately 500 may still be discharging and several thousand may still be installed.
SCVSD-1.3	Memo entitled “Estimate of Annual Industrial Waste Inspection Labor Cost for SRWS Home Inspections in the SCV,” January 15, 2013. SCVSD.	Memo from the Sanitation District staff for Home Inspection cost estimates for the Automatic Water Softener Enforcement Program.

Technical Adequacy (Automatic Water Softener Rebate and Public Outreach program [SCVSD-1])

Levels and sources of chloride in the Santa Clara River have been extensively documented. The Los Angeles RWQCB first developed the TMDL for chloride in the USCR in 2000. The TMDL showed that the sources of the chloride which are loaded into the Santa Clara River are primarily chloride contained in the potable water and chloride, added by domestic uses, including self regenerating water softeners. In response, on March 27, 2003, the Ordinance Prohibiting the Installation of Certain Water Softening Appliances, took effect prohibiting the installation of residential automatic water softeners, including new and replacement units. On January 1, 2009, Measure S - Santa Clara River Chloride Reduction Ordinance of 2008 (Reference SCVSD-1.2) - took effect requiring the removal and disposal of all existing residential Automatic Water Softeners (AWS) by June 30, 2009.

Project Feasibility (Automatic Water Softener Rebate and Public Outreach program [SCVSD-1])

The project is an extension of successful efforts to remove AWS and reduce chloride levels. The Sanitation District has been implementing various phases of the AWS Public Outreach Program since February 2003. The major multimedia community-wide components of the campaign began on March 25, 2004 and concluded on June 30, 2009. The Sanitation District launched the AWS Rebate Program Phase I on November 30, 2005 and began implementing the AWS Rebate Program Phase II on April 1, 2007. These programs have been highly successful in removing over 7,900 automatic water softeners in the Santa Clarita Valley and significantly reducing the chloride load in the final effluent discharged from the Sanitation District’s Saugus and Valencia WRPs. The multi-pronged approach of the program that incorporates outreach, monitoring, inspections, notices and incentives will be an effective way to remove the remaining AWS.



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USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1)		
Reference No.	Reference	Relevance
SC-1/ BCN-1.1	Upper Santa Clara River Arundo/Tamarisk Removal Program – Santa Clarita Site Specific Plan (Ventura County Resource Conservation District (VCRCD)/AMEC, July 2005)	As part of the SCARP, the Site Specific Project implements the removal of noxious and invasive plants from a highly visible 150-acre area of the river located in the City of Santa Clarita. This project has acted as a low impact arundo and tamarisk removal demonstration project for interested agencies, landowners, and non profits; and stimulates public interest in, and support for, such removal projects. It has also resulted in the removal of arundo and tamarisk in a highly infested reach of the Santa Clara River, Bouquet Creek and San Francisquito Creek.
SC-1/ BCN-1.2	Upper Santa Clara River Watershed Arundo and Tamarisk Removal Program – Long Term Implementation Plan (VCRCD, June 2006)	This Plan provides guidance to stakeholders for implementing procedures to remove invasive, non native plants. The primary objective of the plan is to guide and facilitate the implementation of arundo and/or tamarisk removal projects within the upper Santa Clara River watershed of Los Angeles County.
SC-1/ BCN- 1.3	Upper Santa Clara River Watershed Arundo/Tamarisk Removal Plan Programmatic Environmental Impact Report (EIR) Final (VCRCD, February 2006)	This EIR provides the necessary CEQA documentation for the SC-1 Project.
SC-1/ BCN-1.4	Permits from the US Fish and Wildlife Service, (California Department of Fish and Game SAA, and Army Corps of Engineers – 2004 – present)	Permitting allows for any landowner to remove arundo and tamarisk from their property adjacent to the Santa Clara River or its tributaries in Los Angeles County. Any actions require meeting the standard best management practices and mitigations in SCARP and the programmatic EIR.
SC-1/ BCN-1.5	USCR Watershed Arundo/Tamarisk Removal Plan Programmatic EIR Statement of Findings and Statement of Overriding Considerations, (VCRCD 2006)	The EIR determined potential short-term significant impacts to noise, water quality, and biological resources. Due to the long term environmental benefits of the project, a Statement of Overriding Considerations of was adopted by the VCRCD.
SC-1/ BCN-1.6	Bouquet Canyon Creek Site Specific Restoration Plan, Department of Fish and Wildlife and Natural Resources Conservation Services	The Restoration Plan documents the methods to remove various invasive weed sites from a 3.5 mile stretch of Bouquet Canyon Creek and restore the native habitat.



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USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1)		
Reference No.	Reference	Relevance
SC/BCN-1.7	Wildscape Restoration Proposal for Non-Native Invasive Plant Removal, Fall 2012 Santa Clara River Watershed Arundo/Tamarisk Removal Program Site Specific Implementation Project Site, February 15, 2012 .	Contractor’s Bid Proposal 2012 Contractor’s Bid Proposal to complete arundo/tamarisk removal for a portion of Area E of the SCARP Site Specific Plan — including a total of 43 acres – that has already had two rounds of cuttings in 2009 and 2010. These cost estimates are also included.

Technical Adequacy (USCR Arundo/Tamarisk Removal Program [SCARP] Implementation [SC-1/BCN-1])

SCARP represents a regional project for the removal of non-native and invasive arundo and tamarisk. This program has consisted of demonstration projects, permitting, and educational programs as well as low impact removal. An EIR prepared in 2006 showed the impacts of removal of arundo and tamarisk to the Santa Clara River and its tributaries. The findings showed that without removal the plants would continue to spread and decrease the current water resources and result in a decline in native habitats. The project found that herbicide application with the proposed approach will not impact the groundwater quality. Education programs for landowners and stakeholders further expanded the efforts to remove these species. Best management practices (BMP) will be utilized and were examined in the EIR.

Project Feasibility (USCR Arundo/Tamarisk Removal Program [SCARP] Implementation [SC-1/BCN-1])

In 2005 the feasibility of this project was established through the site specific plan which used BMPs for arundo and tamarisk removal. The SCARP included an implementation aspect which included development of a phased plan to remove arundo/tamarisk on 297 acres of land owned by the City of Santa Clarita. The site specific implementation project covered approximately 75 acres of the 297-acre site and removed 20 acres of arundo and tamarisk. As a result of the SCARP effort, several stakeholders have begun to work together to form the Santa Clara River Invasive Weeds Task Force to better coordinate and communicate about invasive species throughout the watershed. Permitting from the US Fish and Wildlife service to private landowners allows for the continued removal of arundo and tamarisk as well as community participation.



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Work Plan Part II.

The following sections include detailed project specific information about the six projects within this Proposal.

Proposal Work Plans

1. Santa Clarita Valley Water Use Efficiency Strategic Plan Programs (CLWA-3)
2. Santa Clarita Water Division Water Use Efficiency Programs (SCWD-2)
3. Foothill Feeder Connection (CLWA-8)
4. Pellet Water Softening Treatment Plant – Phase 1 (NCWD-2)
5. Automatic Water Softener Rebate and Public Outreach program (SCVSD-1)
6. USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1)



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Santa Clarita Valley Water Use Efficiency Strategic Plan
Programs (CLWA-3)**

Santa Clarita Valley Water Use Efficiency Strategic Plan Programs (CLWA-3)

I. Introduction

Project Name

Santa Clarita Valley Water Use Efficiency Strategic Plan Programs (CLWA-3)

Project Description

The Santa Clarita Valley (SCV) Water Use Efficiency (WUE) Strategic Plan (SCV Strategic Plan) identifies programs and projects that will most effectively reduce per capita water use in the Santa Clarita Valley. The plan was completed in 2008 and is a tool that generally guides the actions of the Family of Water Suppliers (the wholesale and retail water purveyors). The SCV WUE Strategic Plan Programs (CLWA-3) will implement five programs identified in the SCV Strategic Plan.

The five programs being implemented by CLWA-3 are:

1. Santa Clarita Valley Large Landscape Audit and Incentive Program

Original Description in SCV Strategic Plan:

The program offers water audits, equipment rebates (incentives), and water budgeting to public and private sector large landscape sites with high water use. At the onset, the key targets will be the City of Santa Clarita Landscape Maintenance Districts, Los Angeles County Parks and Homeowner's Associations. Rebates (incentives) are offered for water saving devices including high-efficiency nozzles and weather-based irrigation controllers.

Modification from SCV Strategic Plan: In the first quarterly progress report for the IRWM Plan Round 1 Implementation Grant (for which some of these programs in past years were awarded funding and therefore required to submit progress reports to DWR), this program was modified (for reasons described in Program 2 below) to offer rebates at \$25 per active station for weather-based irrigation controllers and rebates of \$300 per acre-foot saved for landscape modifications. This modification eliminated the water audit and budgeting and kept a modified form of the rebate (by active station of the irrigation controllers or by landscape modification). Also, a pre- and post-inspection of the controller are required. These same modifications were also made for the CII Audit and Customized Incentive Program described below.

2. Santa Clarita Valley Commercial, Industrial and Institutional Audit and Customized Incentive Program

Original Description in SCV Strategic Plan:

Approximately 19% of Santa Clarita Valley water is consumed by CII customers. As a result, this program is tailored to allow customized incentives for site-specific opportunities. The program offers comprehensive water audits and reporting of cost-effective recommendations in a clear and concise format with a focus on customer payback. The program will target high opportunity customers including: amusements parks, colleges, universities and school districts, hotels, hospitals and other customers identified by the retail water agencies. The key decision maker will be identified and



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Santa Clarita Valley Water Use Efficiency Strategic Plan
Programs (CLWA-3)**

contacted via phone to enlist participation. After the audit is conducted, customers will then be offered a per acre-foot saved rebate (incentive) based upon the findings of the audit.

Modification from SCV Strategic Plan: This program was modified to offer rebates at \$25 per active station for weather-based irrigation controllers and rebates of \$300 per acre-foot saved for landscape modifications.

In reference to Programs 1 and 2 (above), CLWA found that almost all of the recommendations made as a result of a check-up or audit in the first two years of the program resulted in recommendations for weather-based irrigation controllers, high-efficiency sprinkler nozzles and planting modification. Part of the similarity in recommendations is a result of the nature of Santa Clarita, portions of which were built as a planned community with turf-heavy landscaping; the other factor leading to a similarity in recommendations is that many of the clients were public sector clients (schools) that had not upgraded their irrigation systems, but have made indoor plumbing upgrades instead.

CLWA conducted a literature review of weather-based irrigation controller studies and found that an assumption of 20% water savings on a large landscape or commercial site is realistic (Municipal Water District of Orange County [MWDOC] Residential Runoff Reduction Study (2004); MWDOC Smart Timer Rebate Program Evaluation (2011); San Diego Water Authority Smart Landscape Grant Program (2011)). In these studies, all of the savings (20% or more on average) occurred without audits or check-ups and was simply a result of a direct rebate program for controllers.

The current incarnation of Programs 1 and 2 includes a pre-inspection of the existing irrigation controller, a post-inspection of the new controller, and a mandatory educational component to train the customers on use and reasonable expectations for controllers. Additionally, CLWA will offer a landscape modification option to rebate landscape changes in terms of anticipated water savings.

3. Santa Clarita Valley Landscape Contractor Certification and Weather-Based Irrigation Controller Program

Original Description in SCV Strategic Plan:

The Program targets both landscape contractors and residents in the Santa Clarita Valley. Landscape contractors and residents would be invited to water use efficiency training workshops which combine both the principles and practical elements of efficient irrigation. Participants would combine classroom and field training to get a working and practical understanding of the importance and elements of water use efficiency, how to properly install weather-based irrigation controllers, hydrozoning, and achieving high distribution uniformity. After attending the hands-on training, landscape contractors and residents would be eligible to receive free weather-based irrigation controllers. Because the participants don't have hands-on training, after installing the weather-based irrigation controller, a consultant inspects the installation to make sure it was done correctly and landscape contractors and residents then have a final opportunity to ask questions about the programming of the controller

Modification from SCV Strategic Plan: In 2012, CLWA contracted with Droplet Technologies to develop a web site (scvh2oprograms.com) where contractors and residents can take a class on weather-based irrigation controller use, programming and installation (as well as best management practices for landscaping). This is a modification of the original program because it offers the classes on-line rather than face-to-face.

4. High-Efficiency Clothes Washer (HECW) Machine Program



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Programs (CLWA-3)**

Original Description in SCV Strategic Plan:

The program targets single family and multi-family residential customers purchasing a new clothes washer. Because this is a large ticket item for most customers, the program can only leverage annual replacement sales. Getting customers to replace their clothes washer without already having a need is extremely challenging.

Modification from SCV Strategic Plan: This program is available for both residential and commercial customers and offers a \$200 rebate for a high-efficiency washing machine with a water factor of 4.0 or less. The rebate is a partnership between the wholesaler and retailer in which the customer receives \$200, contributed by the wholesaler (\$100) and the retailer (\$100).

5. Cash for Grass Rebate Program

Original Description in SCV Strategic Plan:

Approximately 70% of the Santa Clarita Valley water consumption is for residential and business outdoor water use. A significant amount of that water is used to irrigate water-thirsty turf grasses. For this program, Santa Clarita Valley customers would be offered an incentive per square foot to replace turf with low-water using plants.

Using Long Beach's Lawn to Garden (<http://www.lblawntogarden.com/>) as a model, CLWA plans to create an on-line application and on-line class during which residents apply for funds, train in basic water saving practices in landscaping, and then re-plant their landscapes. The goal is to remove 300,000 square feet of turf.

6. Summary of Programs

- 1 - Santa Clarita Valley Large Landscape Audit and Incentive Program: Includes 80 rebates @ \$5,000 each, average over two years.
- 2 - Santa Clarita Valley CII Audit and Customized Incentive Program: Includes 20 audits @ \$5,000 each, average over two years.
- 3- Santa Clarita Valley Landscape Contractor Certification and Weather-Based Irrigation Controller Program: Includes 1,700 units distributed at \$425/unit.
- 4 - High-Efficiency Clothes Washer (HECW) Machines: Includes 2,500 rebates per year over two years at \$100 each (matched by \$100 from retailer).
- 5 - Cash for Grass: Includes \$1.5 per square foot for 300,000 square feet.

Implementation of all five programs will yield avoided SWP imports of 380 acre-feet per year (AFY).

Goals and Objectives

The primary goal of the SCV WUE Strategic Plan Programs (CLWA-3) is to reduce water demand by at least 10 percent over the next 20 years. Newly passed State water conservation requirements calls for progress towards a 20 percent reduction in per capita water use by 2020. The goal will in turn reduce runoff and improve water quality.

Purpose and Need

The SCV WUE Strategic Plan Programs (CLWA-3) identifies programs that will most effectively reduce per capita water use in the Santa Clarita Valley. The goal of the Project is to achieve a long-term reduction in



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Santa Clarita Valley Water Use Efficiency Strategic Plan Programs (CLWA-3)

water demand of at least 10 percent over the next 20 years. Newly passed State legislation, SBX7-7, signed into law in November 2009, calls for progress towards a 20 percent reduction in per capita water use by 2020. This CLWA-3 Project will implement five programs identified in the SCV WUE Strategic Plan to help meet these goals.

CLWA-3 will also help meet the USCR IRWM Plan's objectives of reducing water demand and improving water quality. This is accomplished by decreasing demand and the need to convey and treat imported water and by reducing runoff from irrigation to local channels.

By improving indoor and outdoor water use efficiency and conserving water, this Project will reduce water demand, avoid costs for purchase of imported water, increase water supply reliability for the CLWA customers, and improve operational flexibility for CLWA. The programs have already had three successful years of implementation and the CLWA-3 Project seeks to expand the programs as recommended in the Strategic Plan.

Synergies or Linkages

CLWA, the wholesaler for the Region, administers the SCV WUE Strategic Plan, which provides water use efficiency programs for the four water purveyors, including Santa Clarita Water Division (SCWD). The SCV WUE Strategic Plan offers comprehensive, long-term water use efficiency programs, and is part of the portfolio of programs for this IRWM Plan region. The original goal of the SCV WUE Strategic Plan was a 10% reduction in water use by 2030. This SCV WUE Strategic Plan is being updated and revised in 2013 with the goal of 20 percent by 2020 in mind.

Another WUE project is being proposed as part of this Proposal, SCWD-2. SCWD-2 is specific to the SCWD area. SCWD serves 41 percent of the Santa Clarita Valley and has specific needs that are not addressed in the SCV WUE SP. However, the two programs are complementary in that they both have popular programs, such as the High-Efficiency Clothes Washing Machines, that can add cumulative rebates to the wholesaler's existing rebates and ensure the consumer is more likely to take advantage of the rebate program given higher rebate values.

Completed Work

- *Santa Clarita Valley Large Landscape Audit and Incentive Program:* By October 1, 2013, CLWA estimates that 20 rebates will be processed for large landscape sites.
- *Santa Clarita Valley Commercial, Industrial and Institutional (CII) Audit and Customized Incentive Program:* By October 1, 2013, CLWA estimates that 5 rebates will be processed for large landscape sites.
- *Santa Clarita Valley Landscape Contractor Certification and Weather-based Irrigation Controller Program:* By October 1, 2013, CLWA estimates that approximately 1,800 weather-based irrigation controllers will have been distributed and inspected.
- *High-Efficiency Washing Machine Program:* By October 1, 2013, CLWA estimates that approximately 3,000 high-efficiency washing machines will have been rebated.
- *Cash for Grass Rebate Program:* This program will not be implemented until October 1, 2013.



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Programs (CLWA-3)**

Existing Data and Studies

CLWA-3.1 Santa Clarita Valley Water Use Efficiency Strategic Plan, Final Draft. August 2008. A & N Technical Services, Inc.

CLWA-3.2 2010 Urban Water Management Plan Prepared for CLWA, CLWA Santa Clarita Water Division, Newhall County Water District, Valencia Water Company, June 2011, Kennedy/Jenks Consultants.

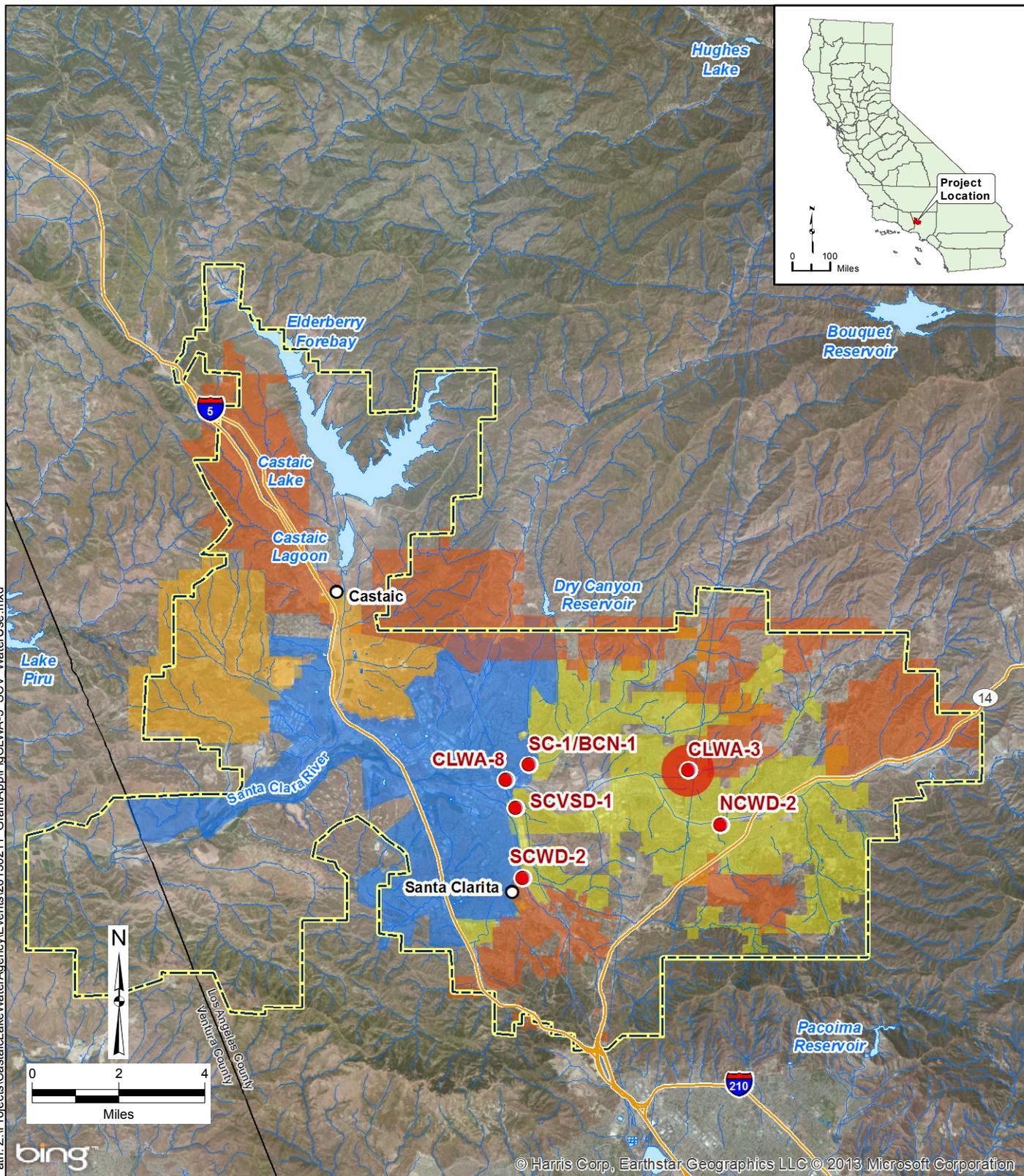
CLWA-3.3 SCWD Water Use Efficiency Plan. July 2012. Kennedy/Jenks Consultants.

CLWA-3.4 VWC Water Conservation Plan, VWC, October 2012.

Project Map

See Figure CLWA-3 for a project map of the SCV WUE Strategic Plan Programs.

Path: Z:\Projects\Castaic_Lake\WaterAgencyEvents\20130211_GrantApp\FigCLWA-3_SCV_WaterUse.mxd



Legend

- Project Location
- Service Area Wide
- Castaic Lake Water Agency Service Area
- L.A. County Waterworks District #36
- Newhall County Water District
- Santa Clarita Water Division
- Valencia Water Company

Kennedy/Jenks Consultants

Castaic Lake Water Agency
Los Angeles County, California

SCV Water Use Efficiency Strategic Plan Programs

K/J 1389003*00
March 2013
Figure CLWA-3

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Project Timing and Phasing

The project will constitute years four and five of an overall five-year program. The programs have already had three successful years of implementation and now seek an extension/continuation consistent with the SCV WUE Strategic Plan.

All of the project components are identified in the SCV WUE Strategic Plan.

II. Work Plan

The tasks necessary to complete the Project are summarized in Table 3-5, and discussed in greater detail below in Table 3-6.

TABLE 3-5: OVERVIEW OF CLWA-3 WORK PLAN

Task Number	Work Task Title	Budget	Schedule	
			Start Date	End Date
a)	Direct Project Administration Costs	\$124,620	10/1/13	9/30/15
1	Administration	\$117,800	10/1/13	9/30/15
2	Labor Compliance Program	cost included in Task 1 (Admin)	10/1/13	9/30/15
3	Reporting	\$6,820	12/31/13	9/30/15
b)	Land Purchase/Easement	NA	NA	NA
4	Land Purchase/Easement	NA	NA	NA
c)	Planning/Design/Engineering/Environmental Documentation	NA	12/31/08	12/31/08
5	Assessment and Evaluation	NA	12/31/08	12/31/08
6	Design	NA	12/31/08	12/31/08
7	Environmental Documentation	NA	NA	NA
8	Permitting	NA	NA	NA
d)	Construction/Implementation	\$2,175,000	10/1/13	9/30/15
9	Construction Contracting	NA	NA	NA
10	Construction/Implementation	\$2,175,000	10/1/13	9/30/15
e)	Environmental Compliance/Mitigation/Enhancement	NA	NA	NA
11	Environmental Compliance/Mitigation/Enhancement	NA	NA	NA
f)	Construction Administration	NA	NA	NA
12	Construction Administration	NA	NA	NA
g)	Other Costs	\$200,000	10/1/13	9/30/15
13.1	Public Outreach	\$200,000	10/1/13	9/30/15
13.2	PMP	cost included in Task 1 (Admin)	10/1/13	2/28/14
h)	Construction/Implementation Contingency	NA	NA	NA
14	Construction/Implementation Contingency	NA	NA	NA
GRAND TOTAL		\$2,499,620		

Notes: 1) Costs for Task 2 and Task 13.2 have been included in Task 1.



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Programs (CLWA-3)**

Tasks necessary to implement the SCV WUE Strategic Plan Programs are described in Table 3-6.

TABLE 3-6: WORK PLAN FOR SCV WUE STRATEGIC PLAN PROGRAMS (CLWA-3)

Category (a): Direct Project Administration Costs

Task 1: Administration

Description: Project administration includes administration of grant and implementation contracts, preparation of reports and plans, coordination of various contracts, and other activities as required to complete implementation. This project will be coordinated by a designated project manager employed by CLWA. The project manager will be the point of contact for the project's duration and be responsible for the day-to-day activities of the project and all reporting, and will coordinate with various agencies regarding operational and implementation issues. The budget for this project assumes the project manager will spent 19 hours per week (50 weeks per year) on this project over the entire 2-year duration.

Deliverables: Invoices.

Task 2: Labor Compliance Program

Description: Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b).

Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.

Task 3: Reporting

Description: CLWA, as the project proponent and granting agency, will prepare and submit quarterly progress reports and invoices. CLWA will require the contractors to submit monthly reports to be submitted with the invoices. The progress reports will describe activities undertaken and accomplishments of each task during the milestones achieved, and any problems encountered in the performance of the work under this contract. A final summary report will be prepared and submitted once the project is completed.

Deliverables: Quarterly and final reports as specified in the Grant Agreement.

Category (b): Land Purchase/Easement

Task 4: Land Purchase/Easement

Description: Not applicable. No land purchases or right-of-way easements are required for implementing the SCV WUE Strategic Plan Programs (CLWA-3).

Deliverables: N/A

Category (c): Planning/Design/Engineering/Environmental Documentation

Task 5: Assessment and Evaluation

Description: The technical feasibility of the programs being implemented are described and supported by the SVC WUE Strategic Plan. No additional design reports or investigations are needed.

Deliverables: SVC WUE Strategic Plan (Completed 2008).

Task 6: Design

Description: The technical feasibility of the programs being implemented are described and supported by the SVC WUE Strategic Plan. No additional design reports or investigations are needed.

Deliverables: SVC WUE Strategic Plan (Completed 2008).



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Programs (CLWA-3)**

Task 7: Environmental Documentation

Description: The Programs within the SCV WUE Strategic Plan Programs (CLWA-3) were determined to be Categorical Exempt from CEQA under the CEQA Guidelines, Section 15061 (b)(3). Since no construction is needed, no permits or environmental compliance documentation are required.

Deliverables: N/A.

Task 8: Permitting

Description: No permits are required for implementation of the WUE Strategic Plan Programs.

Deliverables: N/A.

Category (d): Construction/Implementation

Task 9: Construction Contracting

Description: No construction contracting is required for implementation of the WUE Strategic Plan Programs.

Deliverables: N/A.

Task 10: Construction/Implementation

Subtask 10.1 - Santa Clarita Valley Large Landscape Audit and Incentive Program: Includes 80 rebates @ \$5,000 each, average over two years.

Subtask 10.2 - Santa Clarita Valley CII Audit and Customized Incentive Program: Includes 20 audits @ \$5,000 each, average over two years.

Subtask 10.3- Santa Clarita Valley Landscape Contractor Certification and Weather-Based Irrigation Controller Program: Includes 1,700 units distributed at \$425/unit.

Subtask 10.4 - High-Efficiency Washing Machines: Includes 2,500 rebates per year over two years at \$100 each (matched by \$100 from retailer).

Subtask 10.5 - Cash for Grass: Includes \$1.5 per square foot for 300,000 square feet.

Deliverables: Invoices, Final Construction/Implementation Summary Report

Category (e): Environmental Compliance/Mitigation/Enhancement

Task 11: Environmental Compliance/Mitigation/Enhancement

Description: The Programs in the SCV WUE Strategic Plan Programs were determined to be Categorical Exempt from CEQA under the CEQA Guidelines, Section 15061 (b)(3). No mitigation or enhancement is required.

Deliverables: N/A.

Category (f): Construction Administration

Task 12: Construction Administration

Description: Not applicable.

Deliverables: N/A.



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Programs (CLWA-3)**

Category (g): Other Costs

Task 13: Other Costs

Description: Task 13.1: Public Outreach

The SCV WUE Strategic Plan Programs require substantial amounts of outreach to inform targeted customers of program availability. Marketing will occur in a variety of media outlets and dedicated materials for the water conservation programs are developed.

Task 13.2: Project Monitoring Plan

Project Monitoring Plan Requirements (PMP): A monitoring plan shall be submitted to the State prior to disbursement of grant funds for implementation or monitoring activities for this Project. Along with Attachment 6, Project Performance Measures Table, the PMP may also include: a) Baseline conditions, b) Brief discussion of monitoring systems to be utilized, c) Methodology of monitoring, d) Frequency of monitoring, and e) Location of monitoring points.

Deliverables: PMP

Category (h): Construction/Implementation Contingency

Task 14: Construction/Implementation Contingency

Costs for contingency for construction/implementation have not been assumed as a separate budget item.

III. Other Required Information

Procedures

No other procedural agreements are required. CLWA, as the contracting entity, will be the recipient of the grant and act as the grant administrator. Agreements are in place between the SCV Family of Water Suppliers which is comprised of CLWA, SCWD, NCWD, Valencia Water Company (VWC), and Los Angeles County Waterworks District No. 36 (LACWWD #36) and the City of Santa Clarita. Together, these entities work to promote the efficient use of water and fund programs that are outlined within the Region's SCV WUE Strategic Plan.

Standards

The Weather-Based ET Controllers Installation and Education Program will utilize Weathermatic ET Controllers, whose performance has been proven in the conservation community. The life expectancy, results, and potential savings as a result of using the Weathermatic ET Controller technology, has been repeatedly documented. The specific controller used in the program rates highly by the Irrigation Association in their testing program.

High-efficiency washing machines are rated according to their water factor, a ratio of the volume to the amount of water used. CLWA-3 will only rebate high-efficiency washing machines with a water factor of 4.0 or less, a stringent requirement.

Status of Acquisition of Land or ROWs

No land purchase or easements are required.



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Santa Clarita Valley Water Use Efficiency Strategic Plan
Programs (CLWA-3)**

Design Plans and Specifications

The SCV WUE Strategic Plan Programs design is complete.

An update of the SCV WUE Strategic Plan will be complete in May 2014 and will be used as a model from that date forward. Significant changes in terms of programs are not anticipated because the original plan was adequately comprehensive; the portfolio of programs will simply be expanded.

Permits

No permits will be required to complete CLWA-3.

Status of Preparation and Completion of Environmental Requirements

The proposed Project was determined to be exempt from CEQA.

The tribal notification requirement (PRC §75102) is not applicable to this project, as there are no California Native American tribes on the contact list maintained by the Native American Heritage Commission with traditional lands located within the area of the proposed project. The project would not involve any development or land disturbance that would impact cultural resources.

Data Management and Monitoring Deliverables

The data management and monitoring procedures for the Project will be developed in the PMP, provided for in Task 13.2. A monitoring plan shall be submitted to the State prior to disbursement of grant funds for construction or monitoring activities for this Project.

Work Items to Complete GWMP

CLWA prepared a groundwater management plan (GWMP) in accordance with the provisions of Water Code Section 10753.7, which was originally enacted by AB 3030, for its wholesale service area. CLWA's GWMP was drafted and adopted in 2002. Ordinance No. 34 documenting the adoption of the GWMP will be provided as documentation of this work product.

Submittals to Granting Agency

Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the grant contract will also be submitted to the granting agency.

Other Work Items

No other work items are anticipated to complete this project.



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
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Santa Clarita Water Division Water Use Efficiency Programs
(SCWD-2)**

Santa Clarita Water Division Water Use Efficiency Programs (SCWD-2)

I. Introduction

Project Name

Santa Clarita Water Division Water Use Efficiency Programs (SCWD-2)

Project Description

The Santa Clarita Water Division Water Use Efficiency Strategic Plan (Strategic Plan) was developed in July 2012 and specifies ten water use efficiency programs that provide incentives to increase water use efficiency in its service area within the Santa Clarita Valley (SCV). The programs include:

1. Residential Audits
2. Low-Flow Showerhead Distribution
3. Ultra-High-Efficiency Toilet (UHET) Distribution
4. Multi-Family/Institutional/High-Efficiency Toilet Direct Installation
5. Turf Removal
6. High-Efficiency Nozzle Distribution
7. High-Efficiency Nozzle Direct Installation
8. Large Landscape Weather-Based Irrigation Controller Direct Installation
9. Residential and Commercial Rebate Program
10. Large Landscape Water Budgets

SCWD's Strategic Plan builds on the 2010 UWMP prepared by CLWA and SCWD, in accordance with the Urban Water Management Planning Act. The ten WUE programs, listed above, when fully implemented, will save 4,437 AF of water by 2020, at a total cost of approximately \$16.5 million over a nine-year period, or an average of \$1.83 million a year. While the planning horizon for SCWD's Strategic Plan ends in the year 2020 consistent with SBX7-7 requirements, water savings associated with the recommended programs will persist well past 2020. The total estimated lifetime water savings, or the sum of all the water savings associated with each device installed or measure implemented over the lifetime of each device or measure, is 50,592 AF.

The driver for the Strategic Plan is compliance with State regulations. SCWD is subject to the Urban Water Management Planning Act, Assembly Bill (AB) 1420 and SBX7-7 requirements, in addition to the commitment of compliance with the Best Management Practices (BMPs) as a signatory to the California Urban Water Conservation Council (CUWCC) Memorandum of Understanding Regarding Urban Water Conservation in California (MOU).

In contrast with the BMP requirements of the MOU, SBX7-7 provides no exemption for cost-effectiveness. So while cost-effectiveness is of primary concern in choosing programs and activities, meeting the water savings goal takes precedence in this effort. Despite the level of priority given to meeting the SBX7-7 targets, the portfolio of water conservation programs to be implemented by this project are cost-effective as a whole. A cost-effectiveness analysis was performed on each measure included in the Strategic Plan using the Alliance for Water Efficiency (AWE) Conservation Tracking Tool. Results of these analyses indicate that the



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estimated annual cost (2012 dollars) to implement the Strategic Plan's ten programs is \$343 per AF – nearly \$150 per AF less than SCWD's cost to purchase an additional AF of water at \$510 per AF.

The programs and projects identified in the Strategic Plan will result in compliance with the SBX7-7 requirements by reducing the 2010 baseline of 234 gallons per capita per day (gpcd) to a 2020 average use of 188 gpcd. Additional savings will likely be achieved through non-quantifiable programs, such as public outreach and education, system operations, rates and more. SCWD's Strategic Plan provides tools and details that can be used to guide implementation and monitor success. The SCWD WUE Programs (SCWD-2) is requesting funding to implement portions of three (of the ten) programs identified in the Strategic Plan:

1. High-Efficiency Irrigation Nozzle Distribution
2. High-Efficiency Clothes Washer (HECW) Machine Rebate Residential and Commercial Rebate Program, (the high-efficiency washing machine rebate portion only, due to SCWD staffing limitations)
3. Large Landscape Water Budgets

SCWD-2 is currently implementing the first two programs (High-Efficiency Irrigation Nozzle Distribution and HECW Machine Rebate Program) of the three programs proposed and proposes to continue and expand upon them to achieve the implementation levels stated in the Strategic Plan. SCWD-2 will also initiate the third program (Large Landscape Water Budgets) to address water demands in large, irrigated landscape areas.

Both the High-Efficiency Irrigation Nozzle Distribution and the HECW Machine Rebate Programs will be implemented through two years (2014 and 2015) of the funding cycle and the Large Landscape Water Budgets will begin during the second year of funding (2015). The individual programs are described below.

High-Efficiency Irrigation Nozzle Distribution

There is significant potential for water savings in landscape water use within the project area. Residential water use (both indoor and outside) is the single largest use in the project area, accounting for 70 percent of the total demand. An estimated 69 percent of single family residential use occurs outdoors as landscape irrigation. Accordingly, single family residential homes' monthly water use patterns show signs of significant outdoor water use. The highest water use occurs in the months of August and September when water consumption is nearly three times higher than that of the lowest month, February.

In addition to single family residential use, commercial and dedicated landscape irrigation can also benefit from the water savings associated with high-efficiency nozzles. In fact, high-efficiency spray nozzles can improve the efficiency of any irrigation system outfitted with traditional pop-up spray nozzles. High-efficiency sprinkler nozzles are a recent technology, and, as a result, most irrigation systems have not yet been retrofitted with these water saving devices. It is estimated that there are over 430,000 nozzles available for retrofit among the project area's single family residential landscapes and an additional 174,000 nozzles available within the dedicated irrigation and commercial landscapes.

The High-Efficiency Irrigation Nozzle Distribution program will provide high-efficiency irrigation sprinkler nozzles through the existing FreeSprinklernozzles.com program, which distributes Toro High-Precision nozzles only, and through a newly developed web-based nozzle distribution program that will offer more choices in high-efficiency nozzles. The second option (new web-based program) has been repeatedly requested by landscape contractors, who often have brand-specific needs, prefer other nozzle types, or have larger landscapes to irrigate (which are not well suited for the Toro High-Precision Nozzles). Providing additional nozzle options allows more commercial, industrial and institutional entities to participate in the program. SCWD currently partners with Western Municipal Water District to offer the FreeSprinklernozzles.com program and will develop the customized, web-based irrigation nozzle distribution



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Santa Clarita Water Division Water Use Efficiency Programs (SCWD-2)

program with an outside contractor to offer the additional choices beyond the Toro High-Precision nozzle requested by project area stakeholders.

Together, these programs provide a variety of options so water use efficiency is maximized and water runoff is minimized.

The high-efficiency irrigation nozzle distribution program will offer 15,000 nozzles per year for the two-year grant period.

High Efficiency Clothes Washer Machine Rebate

As part of this proposal SCWD will offer \$100 rebates to encourage installation and use of high-efficiency clothes washers. SCWD-2 will implement the High-Efficiency Clothes Washing Machines part of this program. This program will be offered to residential and commercial entities for the two-year grant period. In this program, 500 rebates will be offered each year.

Large Landscape Water Budgets

Santa Clarita is an inland community and has high evapotranspiration rates. Consequently, a significant amount of water use occurs outdoors to irrigate landscapes. Distribution analysis of dedicated, large landscape areas (e.g., Home Owner Associations, community associations, and apartment complexes) indicates that in each of these groups just a few dedicated irrigated landscapes account for a large amount of total water use. For example, the ten highest multi-family landscape areas accounted for almost 40 percent of the total multi-family landscape consumption in 2011. People tend to set timers/controllers and then forget about them without making any adjustments to the schedule as the weather and watering demands change throughout the year. Few people perform regular maintenance checkups to make sure the irrigation nozzles are operating properly.

Water budgets result in water savings as people begin to understand the watering requirement of their landscape and adjust their watering practices (both timers/controllers and nozzle maintenance) accordingly. As an added bonus, the Landscape Water Budget program can also be used to drive people to other water use efficiency programs, including the irrigation nozzle distribution program resulting in additional water savings. This program is intended for those sites with dedicated irrigation meters only; these landscapes are considered large for purposes of this program.

Landscape water budgets are a calculation of the amount of water a landscape needs based on site-specific information, including landscape area, plant type and local weather data. The way that budgets yield water savings involves both educating people about the actual requirements of their site and encouraging them to adjust their watering practices accordingly. Typically large landscape sites can yield 20 percent savings through adjustment of irrigation times alone (MWDOC 2012). Through the life of the program in the SCWD Strategic Plan (nine years), 440 landscape water budgets will be created for dedicated irrigation landscapes.

SCWD-2 will begin implementing this program in 2014 (second year of the grant cycle). SCWD-2 will develop 20 water budgets during one year beginning in 2014 with anticipated savings of 26 AFY. The budgets will be developed using the California Maximum Applied Water Allowance (MAWA) equation. A report detailing the water budget and a comparison of actual water usage to the target water usage will be provided as well as recommendations on how to reduce water use if the budget shows over-watering. The report will be delivered to the appropriate person(s) either through mail, email or a face-to-face meeting. An additional field visit will be conducted if requested by the property owner. The primary purpose of a water budget is to raise awareness on the proper amount of water a landscape requires and give people the tool(s) to maintain their water use within the target budget.

In summary, the SCWD-2 Project includes:



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Santa Clarita Water Division Water Use Efficiency Programs
(SCWD-2)**

1. High-Efficiency Clothes Washing Machine Rebates: 500 rebates for each of 2 years at \$100 per rebate.
2. High-Efficiency Nozzles: Partner with Western Municipal Water District (WMWD) to offer free irrigation sprinkler nozzles. Development of customer-choice driven, web-based sprinkler nozzles program (including customer education) to provide additional options in high-efficiency irrigation sprinkler nozzles. Includes 15,000 nozzles per year at \$3.25/nozzle for 2 years.
3. Large Landscape Budgets: Includes \$1,000/budget for 20 budgets in 2015.

Implementation of all three programs will yield avoided SWP imports of 156 AFY.

Goals and Objectives

The goals specific to SCWD-2 are to:

1. Implement programs that help achieve SBX7-7 requirements, i.e., reduce per capita water use 20 percent by 2020. SCWD must reduce gpcd to 188 by 2020.
2. Reduce dependence on imported water sources.

Specific objectives of SCWD-2 are to:

- Target markets with the highest water savings opportunity, both in immediate savings and long-term sustainability;
- Incentivize purchase of qualified low water use products;
- Provide necessary education for the proper installation and most efficient use of rebated products; and
- Fulfill requirements as a signatory to the CUWCC MOU.
- Develop customized water budgets to inform, encourage and promote efficient irrigation practices within landscapes.
- Reduce gpcd to meet SBX7-7 requirements.

Purpose and Need

The purpose of the programs is to reduce water consumption and increase water use efficiency in residential and commercial communities. Significant potential for water savings in landscape water use exists within the SCWD-2 project area. Residential water use (indoors and outdoors) is the single largest use accounting for over 70 percent of total demand and is the key market to address. Of that usage, it is estimated that 60 to 70 percent occurs outdoors as landscape irrigation. Dedicated landscape irrigation usage (e.g., parks, community landscapes, etc.) accounts for 17 percent of water usage in the area. Focusing conservation efforts on reducing outdoor residential and dedicated landscape usage provide the largest potential savings in the most cost-effective manner. SCWD-2 will implement programs that will most effectively reduce per capita water use.

In addition to reducing water demand, the landscape programs address water quality concerns. In November 2012, the Los Angeles Regional Water Quality Control Board approved a new NPDES-MS4 permit for storm drain systems. This permit requires promotion of landscape water-use efficiency practices for existing landscapes. Both the irrigation sprinkler nozzle programs and the water budget program will reduce irrigation runoff and assist with compliance requirements of this permit.



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SCWD-2 will help achieve the following IRWM Plan objectives:

1. Reduce potable water demand - the programs have incentives to reduce potable water demand.
2. Improve water quality – the programs promote the use of more efficient irrigation technologies will reduce urban runoff.
3. Promote projects and actions that reduce greenhouse gas emissions – the programs are designed to reduce dependence on imported state water reducing the use of pumps and equipment to transport imported water to the SCV.

Synergies or Linkages

CLWA administers the SCV WUE Strategic Plan, which provides water use efficiency programs for four water purveyors, including SCWD. The SCV WUE Strategic Plan offers comprehensive, long-term water use efficiency programs, and is part of the portfolio of programs for this IRWM Plan region. The original goal of the SCV WUE Strategic Plan was a 10% reduction in water use by 2030. This SCV WUE Strategic Plan is being updated and revised in 2013 with the goal of 20 percent by 2020 in mind.

SCWD-2 is specific to the SCWD area. SCWD serves 41 percent of the Santa Clarita Valley and has specific needs that are not addressed in the SCV WUE Strategic Plan. SCWD-2 is complementary to the SCV WUE Strategic Plan in two ways. First, with the most popular programs, such as the High-Efficiency Clothes Washing Machines, SCWD-2 can add cumulative rebates to the wholesaler's existing rebates and ensure the consumer is more likely to take advantage of the rebate program given the higher rebate value. The second way the two WUE Projects complement each other is that the SCWD-2 Project provides coverage for programs not within the efforts of SCV WUE Strategic Plan and in that it provides programs that the water wholesaler, CLWA, simply cannot implement. For example, CLWA does not have access to consumption data directly, and so cannot create large landscape water budgets.

Completed Work

The Division is currently implementing two programs (High-Efficiency Irrigation Nozzle Distribution and HECW Rebate Program) out of ten programs recommended from their recently completed Strategic Plan. The Strategic Plan proposes to continue both of these programs and extend them to achieve the optimum implementation levels.

High-Efficiency Nozzle Distribution – SCWD is currently partnering with Western Municipal Water District to participate in the FreeSprinklerNozzles.com program. This program works cooperatively with five other water agencies in Los Angeles County. It is expected that 36,000 nozzles will have been distributed by October 1, 2013, through this program. Encouraging people to replace their existing nozzles with high-efficiency nozzles will not only replace worn (and water-wasting products) and inefficient equipment, but encourage people to perform regular maintenance check-ups of their irrigation systems.

HECW Rebate Program – SCWD is currently cost sharing HECW rebate vouchers with CLWA and three other water purveyors. It is anticipated that 1,000 HECW machine rebates will have been distributed by October 1, 2013.

Existing Data and Studies

SCWD-2.1 Santa Clarita Water Division Water Use Efficiency Plan. July 2012. Kennedy/Jenks Consultants.



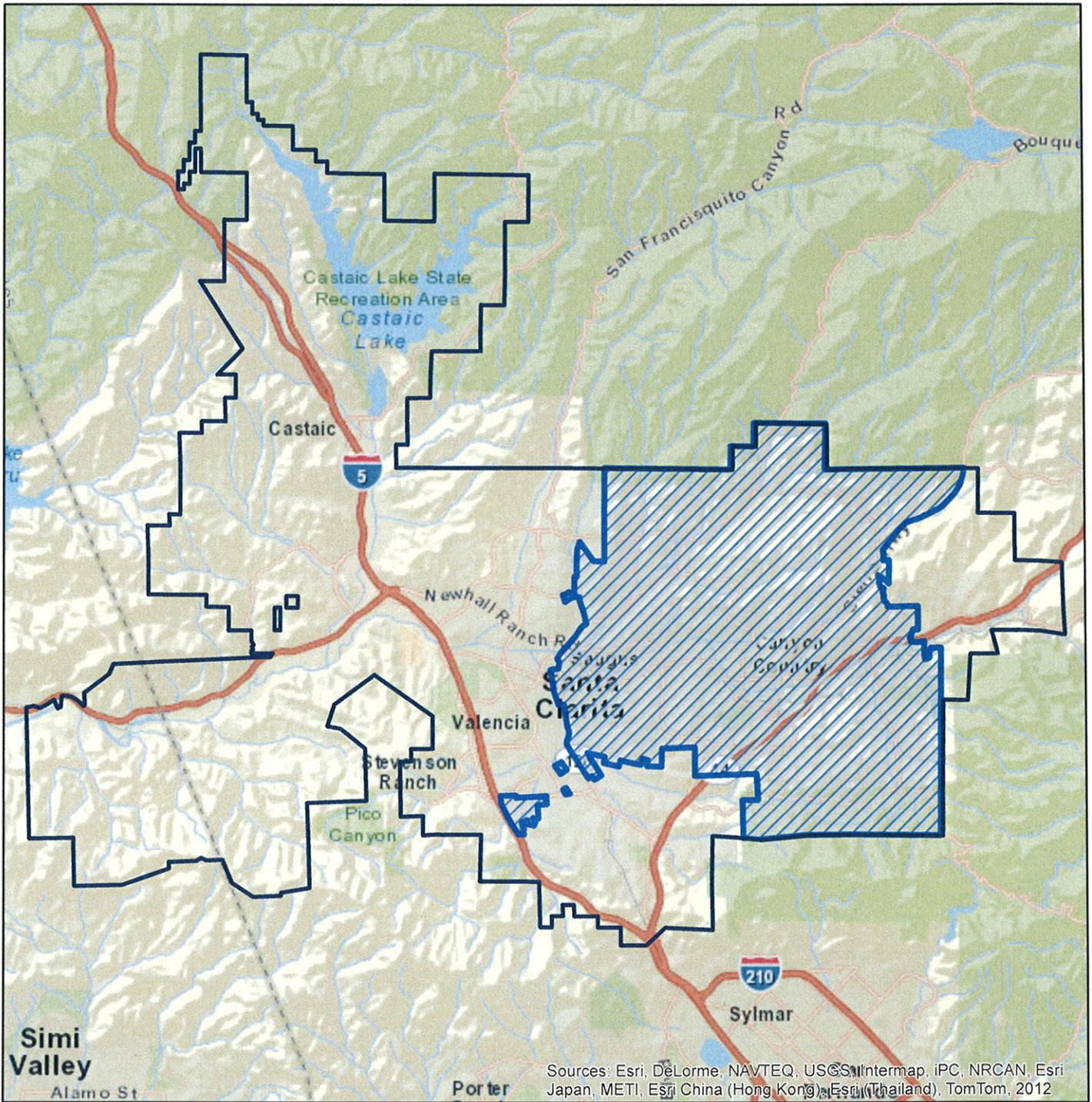
**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Santa Clarita Water Division Water Use Efficiency Programs
(SCWD-2)**

Project Map

See Figure SCWD-2 for a project map of the SCWD WUE Programs.

Project Timing and Phasing

The project will constitute years two and three of an overall eight-year program. Two of the three proposed programs have already had one successful years of implementation and now seek an extension/continuation consistent with the 2012 SCWD Water Use Efficiency Strategic Plan. The third proposed program (one-year) will begin in 2014 upon grant award.



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2012

LEGEND

-  Santa Clarita Water Division Project Area
-  Castaic Lake Water Agency





**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Santa Clarita Water Division Water Use Efficiency Programs
(SCWD-2)**

II. Work Plan

The tasks necessary to complete the Project are summarized in Table 3-7, and discussed in greater detail below in Table 3-8.

TABLE 3-7: OVERVIEW OF SCWD-2 WORK PLAN

Task Number	Work Task Title	Budget	Schedule	
			Start Date	End Date
a)	Direct Project Administration Costs	\$15,000	10/1/13	9/30/15
1	Administration	\$9,000	10/1/13	9/30/15
2	Labor Compliance Program	cost included in Task 1 (Admin)	10/1/13	9/30/15
3	Reporting	\$6,000	12/31/13	9/30/15
b)	Land Purchase/Easement	NA	NA	NA
4	Land Purchase/Easement	NA	NA	NA
c)	Planning/Design/Engineering/Environmental Documentation	NA	7/10/12	7/10/12
5	Assessment and Evaluation	NA	7/10/12	7/10/12
6	Design	NA	7/10/12	7/10/12
7	Environmental Documentation	NA	NA	NA
8	Permitting	NA	NA	NA
d)	Construction/Implementation	\$280,500	10/1/13	9/30/15
9	Construction Contracting	NA	NA	NA
10	Construction/Implementation	\$280,500	10/1/13	9/30/15
e)	Environmental Compliance/Mitigation/Enhancement	NA	NA	NA
11	Environmental Compliance/Mitigation/Enhancement	NA	NA	NA
f)	Construction Administration	NA	NA	NA
12	Construction Administration	NA	NA	NA
g)	Other Costs	NA	10/1/13	2/28/14
13	PMP	cost included in Task 1 (Admin)	10/1/13	2/28/14
h)	Construction/Implementation Contingency	NA	NA	NA
14	Construction/Implementation Contingency	NA	NA	NA
GRAND TOTAL		\$295,500		

Notes: 1) Costs for Tasks 2 and 13 have been included in Task 1.



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
**Santa Clarita Water Division Water Use Efficiency Programs
(SCWD-2)**

Tasks necessary to implement the SCWD WUE Programs are described in Table 3-8.

TABLE 3-8: WORK PLAN FOR SANTA CLARITA WATER DIVISION WATER USE EFFICIENCY PROGRAMS

Category (a): Direct Project Administration Costs

Task 1: Administration

Description: Project administration includes administration of grant and implementation contracts, preparation of reports and plans, coordination of various contracts, and other activities as required to complete implementation. This project will be coordinated by a designated project manager employed by SCWD. The project manager will be the point of contact for the project's duration and be responsible for the day-to-day activities of the project and all reporting, and will coordinate with various agencies regarding operational and implementation issues. The budget for this project assumes administrative costs will be 3% of the total project cost.

Deliverables: Invoices.

Task 2: Labor Compliance Program

Description: Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b).

Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.

Task 3: Reporting

Description: SCWD will prepare and submit quarterly progress reports and invoices to CLWA. SCWD will require the contractors to submit monthly reports to be submitted with the invoices. The progress reports will describe activities undertaken and accomplishments of each task during the milestones achieved, and any problems encountered in the performance of the work under this contract. A final summary report will be prepared and submitted once the project is completed.

Deliverables: Quarterly and a final report as specified in the Grant Agreement.

Category (b): Land Purchase/Easement

Task 4: Land Purchase/Easement

Description: Not applicable. No land purchases or right-of-way easements are required for implementing SCWD-2.

Deliverables: N/A

Category (c): Planning/Design/Engineering/Environmental Documentation

Task 5: Assessment and Evaluation

Description: The technical feasibility of the programs being implemented is described and supported by the SCWD Water Use Efficiency Strategic Plan. No additional design reports or investigations are needed.

Deliverables: SCWD Water Use Efficiency Strategic Plan (Completed 2012).



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
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**Santa Clarita Water Division Water Use Efficiency Programs
(SCWD-2)**

Task 6: Design

Description: The technical feasibility of the programs being implemented is described and supported by the SCWD Water Use Efficiency Strategic Plan. No additional design reports or investigations are needed.

Deliverables: SCWD Water Use Efficiency Strategic Plan (Completed 2012).

Task 7: Environmental Documentation

Description: The Programs were determined to be Categorical Exempt from CEQA under the CEQA Guidelines, Section 15061 (b)(3). Since no construction is needed, no permits or environmental compliance documentation are required.

Deliverables: N/A.

Task 8: Permitting

Description: No permits are required for implementation of SCWD-2.

Deliverables: N/A.

Category (d): Construction/Implementation

Task 9: Construction Contracting

Description: No construction contracting is required for implementation of the SCWD Water Use Efficiency Strategic Plan programs.

Deliverables: N/A.

Task 10: Construction/Implementation

Description:

Subtask 10.1 - Large Landscape Budgets: Includes \$1,000/budget for 20 budgets in 2015.

Subtask 10.2 - High-Efficiency Nozzles: Partner with Western Municipal Water District (WMWD) to offer free irrigation sprinkler nozzles. Development of customer-choice driven, web-based sprinkler nozzles program (including customer education) to provide additional options in high-efficiency irrigation sprinkler nozzles. Includes 15,000 nozzles per year at \$3.25/nozzle for 2 years plus site development at \$30K.

Subtask 10.3 - High-Efficiency Clothes Washing Machine Rebates: Includes 500 rebates (\$100 value)/yr over 2 yrs; plus \$33K for processing

Deliverables: Invoices, Final Construction/Implementation Summary Report

Category (e): Environmental Compliance/Mitigation/Enhancement

Task 11: Environmental Compliance/Mitigation/Enhancement

Description: The Programs were determined to be Categorical Exempt from CEQA under the CEQA Guidelines, Section 15061 (b)(3). No mitigation or enhancement is required.

Deliverables: N/A.

Category (f): Construction Administration

Task 12: Construction Administration

Description: Not applicable.



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**Santa Clarita Water Division Water Use Efficiency Programs
(SCWD-2)**

Deliverables: N/A.

Category (g): Other Costs

Task 13: Other Costs

Description: Task 13: Project Monitoring Plan

Project Monitoring Plan Requirements (PMP): A monitoring plan shall be submitted to the State prior to disbursement of grant funds for implementation or monitoring activities for this Project. Along with Attachment 6 Project Performance Measures Tables, the PMP may also include: a) Baseline conditions, b) Brief discussion of monitoring systems to be utilized, c) Methodology of monitoring, d) Frequency of monitoring, and e) Location of monitoring.

Deliverables: PMP

Category (h): Construction/Implementation Contingency

Task 14: Construction/Implementation Contingency

Costs for contingency for construction/implementation have not been assumed as a separate budget item.

III. Other Required Information

Procedures

CLWA is the contracting entity that will be the recipient of the grant and act as the grant administrator. CLWA will execute an agreement with SCWD in order to implement the activities outlined in this proposal. There is an agreement in place between SCWD and WMWD for coordination and distribution of the irrigation sprinkler nozzles. No other procedural agreements are identified.

Standards

Large Landscape water budgets will be created using the state-approved Maximum Applied Water Allowance (MAWA) equation.

SCWD will require nozzles be rated “high-efficiency”. High-efficiency irrigation nozzles are rated according to their precipitation rate (inches per hour). High-efficiency nozzles are considered those with a precipitation rate less than one-inch per hour.

High-efficiency washing machines are rated according to their water factor, a ratio of the volume to the amount of water used. SCWD-2 will only rebate high-efficiency washing machines with a water factor of 4.0 or less.

Status of Acquisition of Land or ROWs

No land purchase or easements are required.

Design Plans and Specifications

The SCWD Water Use Efficiency Strategic Plan was completed in July 2012.



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Santa Clarita Water Division Water Use Efficiency Programs
(SCWD-2)**

Permits

No permits will be required to complete SCWD-2.

Status of Preparation and Completion of Environmental Requirements

The proposed Project was determined to be exempt from CEQA.

The tribal notification requirement (PRC §75102) is not applicable to this project, as there are no California Native American tribes on the contact list maintained by the Native American Heritage Commission that have traditional lands located within the area of the proposed project. The project would not involve any development or land disturbance that would impact cultural resources.

Data Management and Monitoring Deliverables

The data management and monitoring procedures for the Project will be developed in the PMP, provided for in Task 13. A monitoring plan shall be submitted to the State prior to disbursement of grant funds for construction or monitoring activities for this Project.

Work Items to Complete GWMP

CLWA prepared a groundwater management plan (GWMP) in accordance with the provisions of Water Code Section 10753.7, which was originally enacted by AB 3030, for its wholesale service area. CLWA's GWMP was drafted and adopted in 2002. Ordinance No. 34 documenting the adoption of the GWMP will be provided as documentation of this work product.

Submittals to Granting Agency

Quarterly and a Final report will be prepared and provided to DWR. Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the grant contract will also be submitted to the granting agency.

Other Work Items

No other work items are anticipated to complete this project.



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Foothill Feeder Connection (CLWA-8)

Foothill Feeder Connection (CLWA-8)

I. Introduction

Project Name

Foothill Feeder Connection (CLWA-8)

Project Description

Currently CLWA accesses SWP water from Castaic Lake through a connection to the Metropolitan Water District's Foothill Feeder. Water taken by CLWA from the Foothill Feeder is sent to CLWA's 102-inch raw water pipeline that feeds CLWA's Rio Vista Water Treatment Plant. The existing connection to the Foothill Feeder dates to 1996 and was intended to be a temporary structure. The existing Foothill Feeder Connection has a capacity of only 60 MGD. This is insufficient to fully utilize the Rio Vista Water Treatment Plant which has a current capacity of 66 MGD and is planned for a future capacity of 90 MGD. This project will construct a permanent Foothill Feeder Connection. The project includes:

- Installation of approximately 200 feet, 48-inch diameter pipeline
- Installation of a 140 cubic feet per second (cfs)/90 MGD turnout structure, valve vault, and meter vault
- Installation of electrical and supervisory control and data acquisition (SCADA) equipment.

Goals and Objectives

The Foothill Feeder Connection (CLWA-8) Project will provide additional capacity to CLWA's potable water system allowing CLWA to more reliably meet consumers' demands. The Project allows for an increase of up to 6 MGD (6,700 AFY) of water delivery immediately for CLWA and 30 MGD (33,600 AFY) of water delivery available once the RVWTP is expanded to the planned 90 MGD capacity. The CLWA-8 Project is also necessary for planned future expansions of the Rio Vista Water Treatment Plant.

Purpose and Need

Both CLWA and the Metropolitan Water District (MWD) are SWP Contractors that take water from Castaic Lake, a reservoir at the southern terminus of the West Branch of the SWP. During the design of the Rio Vista Water Treatment Plant in the 1990s, CLWA made arrangements to utilize available capacity in MWD's Foothill Feeder rather than construct a new pipeline to convey water three miles from Castaic Lake to an area close to the Rio Vista Intake Pump Station. The original temporary connection (30 MGD capacity) was large enough to handle flows for the first 20 years of operations, but now needs to be expanded. Moreover, the connection did not meet all of the MWD requirements. For these two reasons, the existing connection has always been considered temporary and now needs to be improved and enlarged.

The RVWTP obtains its raw water supply from SWP water stored in Castaic Lake via a 201-inch diameter pipeline (the Foothill Feeder) owned and operated by MWD, one 42-inch diameter pipeline connection to the Foothill Feeder and one 102-inch diameter pipeline (that conveys raw water to CLWA's Intake Pump Station [IPS]), and a 102-inch diameter raw water pipeline between the IPS and the RVWTP site. The recent increase in capacity of the RVWTP (from 30 MGD to 66 MGD) has taken place in response to current and new water quality standards, and is intended to improve reliability to meet existing customer demands and planned future demand.



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Foothill Feeder Connection (CLWA-8)

The RVWTP's recent expansion was designed for a 60 MGD capacity, but the actual constructed capacity of the RVWTP is 66 MGD. Future expansion from its current 66 MGD treatment capacity is planned to 90 MGD as demand for treated water increases (Reference CLWA-8.3). CLWA has an agreement (AO-5142) with MWD, dated March 2009, stating that CLWA requested construction of a service connection with a maximum capacity of 140 cfs (90 MGD) on MWD's Foothill Feeder pipeline (Reference CLWA-8.5). For this reason, the proposed capacity of the Foothill Feeder Connection (current capacity is 60 MGD) is 90 MGD to match the planned maximum capacity of the RVWTP.

Synergies or Linkages

This Foothill Feeder Connection Project (CLWA-8) is one of three proposed projects that offer the benefit of improving the operational efficiency of the Region. The Project accomplishes this benefit by providing additional capacity to the potable water supply and offering an alternative if there needs to be an emergency shutdown in operations. The other two projects that offer improved operational efficiency are the Water Use Efficiency Projects (CLWA-3 and SCWD-2). By improving indoor and outdoor water use efficiency and conserving water, the two WUE Projects improve operational flexibility for CLWA, as does the CLWA-8 Project.

Completed Work

The CLWA-8 Project was planned as part of the EIR for the CLWA Rio Vista Water Treatment Plant Expansion (SAIC, 2006) (Reference CLWA-8.1). Also, in 2009, a hydraulic surge analysis was completed for the project entitled Santa Clara Valley Pipeline CLWA-01 Service Connection Pressure Surge Analysis (Flow Science, 2009) (Reference CLWA-8.4). The analysis recommended installation of specific valving at the connection to avoid negative pressures in the pipeline caused from pump failure at the IPS.

The Foothill Feeder Connection 100% Plans and Specifications (Reference CLWA-8.6), and an Engineer's Estimate of Probable Cost (CLWA-8.7) for the construction of the Project were completed by Kennedy/Jenks Consultants in June 2012.

Existing Data and Studies

CLWA-8.1 Final Environmental Impact Report (FEIR) CLWA Rio Vista Water Treatment Plant Expansion (SAIC, August 2006).

CLWA-8.2 Draft Environmental Impact Report (DEIR) CLWA Rio Vista Water Treatment Plant Expansion (SAIC, May 2006).

CLWA-8.3 DEIR (California State Clearinghouse No. 1998041127) CLWA Supplemental Water Project Transfer of 41,000 Acre-Feet of State Water Project Table A Amount (SAIC, 2004).

CLWA-8.4 Santa Clara Valley Pipeline CLWA-01 Service Connection Pressure Surge Analysis (Flow Science, 2009).

CLWA-8.5 Agreement between the Metropolitan Water District Of Southern California and the Castaic Lake Water Agency for Interconnection CLWA-01 Agreement NO. AO-5142.

CLWA-8.6 Foothill Feeder Connection Plans and Specifications (Kennedy/Jenks Consultants, June 2012).

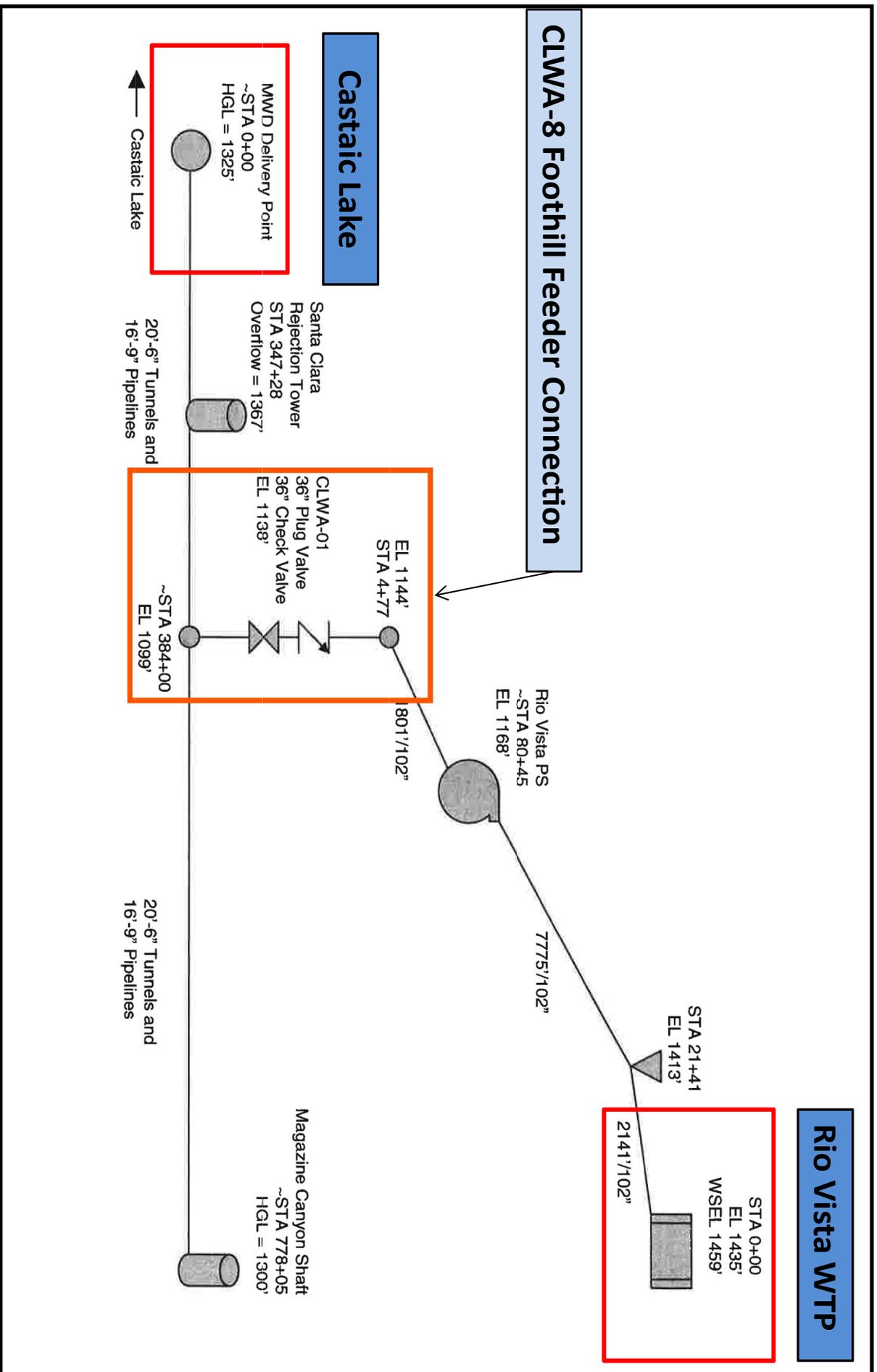
CLWA-8.7 Engineer's Estimate of Probable Cost (Kennedy/Jenks Consultants, June 2012).



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Foothill Feeder Connection (CLWA-8)

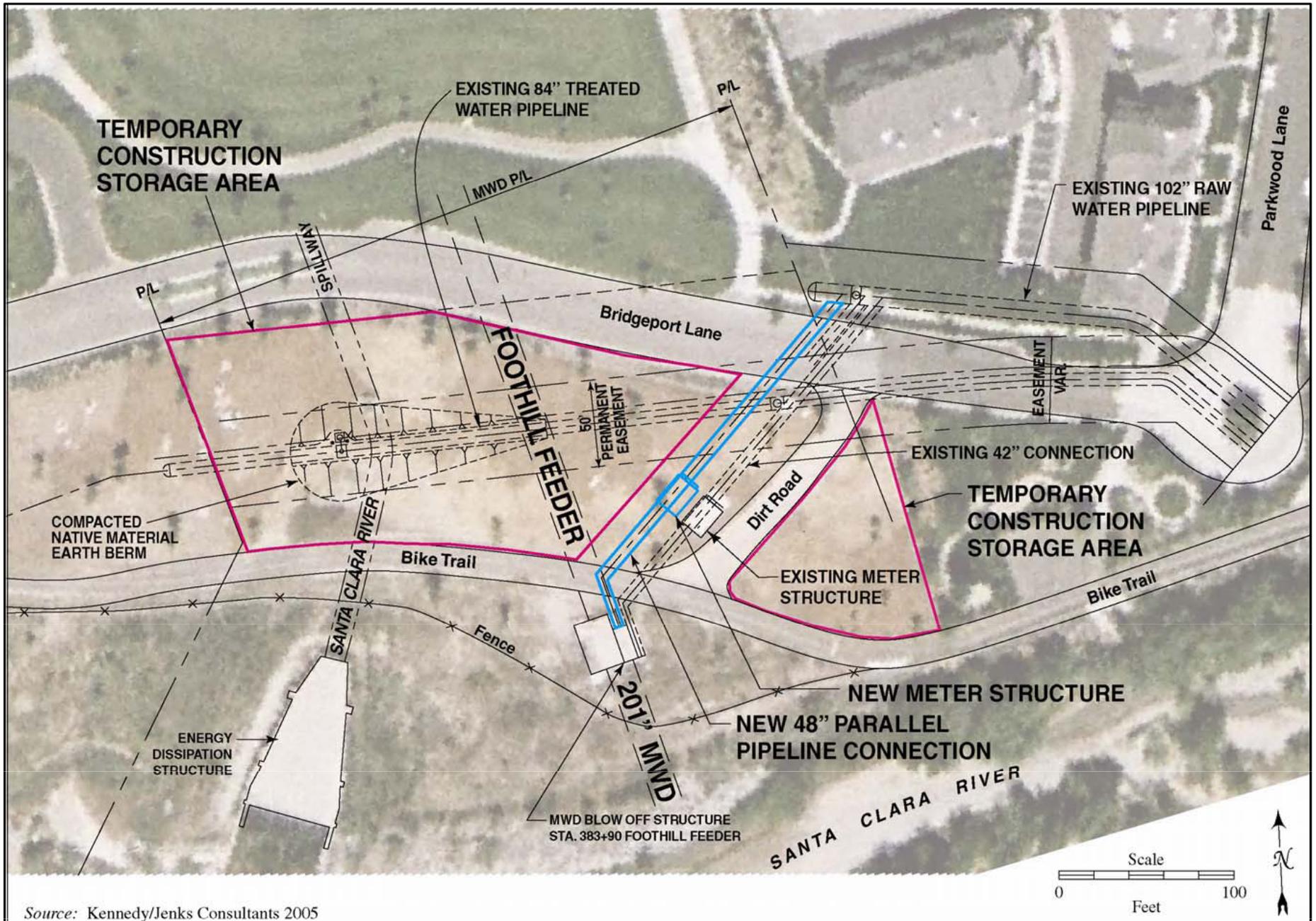
Project Map

A system schematic is provided on Figure CLWA-8.1, which shows the various components of the water system. Figure CLWA-8.2 shows the detailed project area.



Source: Santa Clara Valley Pipeline CLWA-01 Service Connection Pressure Surge Analysis (Flow Science, 2009)

CLWA-8.1
 Foothill Feeder Connection (CLWA-8)
 Schematic of System



Source: Kennedy/Jenks Consultants 2005

CLWA-8.2
 Foothill Feeder Connection (CLWA-8)
 Detail of Connection



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Foothill Feeder Connection (CLWA-8)**

Project Timing and Phasing

Grant funding requested under this Proposition 84 Round 2 Implementation Grant Application for the CLWA-8 Project is \$1,500,000. Design drawings and specifications for the Project were completed in June 2012 and all environmental documents are complete as well. Bidding and Construction can proceed once funding becomes available. Construction will consist of installing and connecting valves, pipelines, and associated electrical hook-ups and controls.

II. Work Plan

The tasks necessary to implement and complete the Project are summarized in Table 3-9, and discussed in greater detail below in Table 3-10.

TABLE 3-9: OVERVIEW OF CLWA-8 WORK PLAN

Task Number	Work Task Title	Budget	Schedule	
			Start Date	End Date
a)	Direct Project Administration Costs	\$30,200	10/1/13	10/30/15
1	Administration	\$3,600	10/1/13	10/30/15
2	Labor Compliance Program	\$25,000	10/1/13	10/30/15
3	Reporting	\$1,600	12/31/13	10/30/15
b)	Land Purchase/Easement	\$25,000	10/1/13	2/28/14
4	Land Purchase	\$25,000	10/1/13	2/28/14
c)	Planning/Design/Engineering/ Environmental Documentation	\$155,205	10/1/13	3/28/14
5	Assessment and Evaluation	NA	NA	NA
6	Design	\$137,873	NA	NA
7	Environmental Documentation	\$13,812	NA	NA
8	Permitting	\$3,520	10/1/13	3/28/14
d)	Construction/Implementation	\$2,812,599	2/3/14	10/30/15
9	Construction Contracting	\$55,149	2/3/14	4/1/14
10	Project Construction	\$2,757,450	4/1/14	10/30/15
e)	Environmental Compliance/Mitigation/Enhancement	\$1,800	4/1/14	10/30/15
11	Environmental Compliance/Mitigation/Enhancement	\$1,800	4/1/14	10/30/15
f)	Construction Administration	\$220,596	7/1/14	10/30/15
12	Construction Administration	\$220,596	7/1/14	10/30/15
g)	Other Costs	\$2,400	11/1/13	4/1/14
13	PMP	\$2,400	11/1/13	4/1/14
h)	Construction/Implementation Contingency	\$275,745	NA	NA
14	Construction Contingency	\$275,745	NA	NA
GRAND TOTAL		\$3,523,545		

Tasks necessary to implement the CLWA-8 Project are described in Table 3-10.



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Foothill Feeder Connection (CLWA-8)**

TABLE 3-10: WORK PLAN FOR FOOTHILL FEEDER CONNECTION PROJECT

Category (a): Direct Project Administration Costs

Task 1: Administration

Description: Project administration includes administration of grant and construction contracts, preparation of reports and plans, coordination of design contracts, and other activities as required to complete design and construction. This project will be coordinated by a designated project manager employed by CLWA. The project manager will be the point of contact for the project's duration and be responsible for the day-to-day activities of the project and all reporting, and will coordinate with various agencies regarding permitting, environmental, design, and construction issues. The budget for this project assumes the project manager will spent 90 hours on this project over the entire 2-year duration.

Deliverables: Invoices.

Task 2: Labor Compliance Program

Description: Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b).

Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.

Task 3: Reporting

Description: CLWA, as the project proponent and granting agency, will prepare and submit quarterly progress reports and invoices. CLWA will require the contractors to submit monthly reports to be submitted with the invoices. The progress reports will describe activities undertaken and accomplishments of each task during the milestones achieved, and any problems encountered in the performance of the work under this contract. A final summary report will be prepared and submitted once the project is completed. The budget for this project assumes the project manager will spent 40 hours on this project over the entire 2-year duration.

Deliverables: Quarterly and final reports as specified in the Grant Agreement.

Category (b): Land Purchase/Easement

Task 4: Land Purchase/Easement

Description: No land purchase is necessary; however, easements will be obtained from the City of Santa Clarita for the routing of electric conduit that will be needed to provide power to the valve vault.

Deliverables: Easement from the City of Santa Clarita.



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Foothill Feeder Connection (CLWA-8)

Category (c): Planning/Design/Engineering/Environmental Documentation

Task 5: Assessment and Evaluation

Description: The CLWA-8 Project was planned as part of the EIR for the CLWA Rio Vista Water Treatment Plant Expansion (SAIC, 2006). In addition, a hydraulic surge analysis was completed for the project in 2009.

Deliverables: Santa Clara Valley Pipeline CLWA-01 Service Connection Pressure Surge Analysis (Completed 2009). CLWA Rio Vista Water Treatment Plant Expansion EIR (Completed 2006).

Task 6: Design/Engineering

Description:

Subtask 6.1 – Pipeline Design: The pipeline design includes piping, meter and valves for interconnections with the existing MWD Foothill Feeder pipeline and CLWA’s 102-inch diameter Raw Water Pipeline.

Subtask 6.1.1 - Construction Drawings (Task – DWGS): Kennedy/Jenks’ design was presented on Construction Drawings prepared on MWD standard sheets. Construction Drawings presented the design in sufficient detail to obtain competitive bids and MWD approval. The 131 drawings (including reference drawings) for the work include the turnout valve vault, metering vault, 48-inch diameter pipeline plan and profile and the buried isolation valve.

Subtask 6.1.2 - Contract Documents/Technical Specifications (Task – SPECS): Design uses MWD’s standard specifications for the portion of the project that includes the valve vault and the metering vault and a separate parallel set of technical specifications for the pipeline and buried butterfly work.

Subtask 6.1.3 – Opinion of Probable Construction Cost/Schedule (Task – COST): Kennedy/Jenks prepared an opinion of the probable construction cost to accompany each design submittal. The final opinion of probable construction cost includes a detailed breakdown to show the estimated costs for the major components of the design. An opinion of the probable construction schedule for each design submittal has been prepared. The construction schedule depicts the time frame for the significant items of construction work.

Subtask 6.2 – Review Submittals (Task - SUBMIT): Design was submitted for CLWA and MWD review at the 30, 60, 90 and 100 percent levels of completion.

Final plans are complete.

Deliverables: 100% Plans and Specifications for the Project (Completed 2012).

Task 7: Environmental Documentation

Description: CEQA Documentation

The Foothill Feeder Connection Project is a part of the Rio Vista Treatment Plant Expansion Project for which CLWA prepared an Environmental Impact Report. CLWA approved the project and EIR on August 23, 2006.

Deliverables: Final Environmental Impact Report and Notice of Determination (Completed 2006).



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Foothill Feeder Connection (CLWA-8)

Task 8: Permitting

Description: The contractor doing the construction for the project will obtain the following permits, except as noted:

1. Los Angeles County Department of Public Works, Flood Control Encroachment Permit – CLWA has applied for this permit.
2. CALOSHA Trenching and Excavation Permit
3. County of Los Angeles Encroachment Permit
4. City of Santa Clarita Encroachment Permit
5. SWPPP Permit (Storm Water Pollution Prevention Plan) – Notice of Intent has been filed by CLWA,
6. NPDES (National Pollution Discharge Elimination System Permit)

No building permit is required for this project.

Deliverables: Copies of permits (to be provided as part of the final Specifications).

Category (d): Construction/Implementation

Task 9: Construction Contracting

Description: Once right-of-way is acquired, all permits are procured, and funding has been secured, the Foothill Feeder Connection Project will be advertised for bidding through standard CLWA procedures. CLWA will hold a pre-bid meeting and respond to questions from contractors, open and review bids for completeness and to determine whether the contractor meets the experience requirements, and award the project to the responsible bidder with the lowest bid in accordance with the Public Contract Code.

Deliverables: Notice of Award issued to Contractor.

Task 10: Construction

Description: Once the project has been bid and awarded, the contractor will construct the Foothill Feeder Connection Project in accordance with the final plans and specifications. Construction will consist of installing and connecting valves, pipelines, and associated electrical hook-ups and controls.

Deliverables: Record Drawings, Construction Photos

Category (e): Environmental Compliance/Mitigation/Enhancement

Task 11: Environmental Compliance/Mitigation/Enhancement

Description: During construction, CLWA staff and/or qualified engineering consultants will provide environmental compliance services, which may include, but are not limited to, sampling and analysis of stormwater, dewatering water, and hydrostatic test water discharges; specialized archaeological/cultural resource inspection, oversight, and analysis; biological surveys; and compliance reporting for these and other environmental issues.

Deliverables: Information on assessment and Evaluation will be provided during construction as part of quarterly grant reports (Task 3).



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Foothill Feeder Connection (CLWA-8)

Category (f): Construction Administration

Task 12: Construction Administration

Description: During construction, CLWA staff and/or qualified engineering consultants will provide construction management and administration, including daily on-site observation; inspection of pipe material and fabrication processes at the factory; testing of materials used for construction, including soils and concrete; and documentation of these activities.

Deliverables: Same as for Task 10, Construction.

Category (g): Other Costs

Task 13: Project Monitoring Plan

Project Monitoring Plan Requirements (PMP): A monitoring plan shall be submitted to the State prior to disbursement of grant funds for construction or monitoring activities for this Project. Along with Attachment 6 Project Performance Measures Tables, the PMP may also include: a) data from the RVWTP intake flow meter, b) SCADA data for daily operations, c) SWP import records d) MWD flow meter records, and e) Frequency of monitoring.

Deliverables: PMP

Category (h): Construction/Implementation Contingency

Task 14: Construction Contingency

Description: A construction/implementation contingency is included for this project to cover the cost of potential change orders during implementation of Task 10 activities. Contingency includes management of unknown conditions that may be encountered during construction or implementation of the project, such as damage to existing utilities within the right-of-way or unearthing of archaeological resources during ground disturbance, and would also cover unexpected design constraints. The contingency is estimated to be 10% of the total cost of construction and is based on professional knowledge for this type of project.

III. Other Required Information

Procedures

CLWA is the contracting entity that will be the recipient of the grant and act as the grant administrator. CLWA and its consultants will oversee, inspect and manage the construction of this Project. However, MWD will provide inspectors to review the construction work. This is standard operating procedure for projects that connect to MWD facilities so that MWD can be assured their standards are met. This will also provide additional quality assurance/control.

Since the current Foothill Feeder Connection is owned and operated by MWD, the Project design uses MWD's standard specifications for the portion of the project that includes MWD's property and a separate parallel set of technical specifications for the CLWA's pipeline and buried butterfly work. All design has been approved by MWD. Scheduling is necessary so specific construction tasks can be completed during MWD's routine yearly operational shutdown period. This has been accounted for in the recommended schedule.



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Foothill Feeder Connection (CLWA-8)

Standards

The project will be designed and constructed in accordance with the appropriate standards, including those from the Association of Testing and Materials (ASTM), American Water Works Association (AWWA), and other construction industry entities, as applicable. All California Department of Public Health requirements will be strictly enforced. Standards required by MWD will also be met.

Status of Acquisition of Land or Right-of-Way

No land purchase is necessary. However, an easement will need to be obtained from the City of Santa Clarita for the routing of electric conduit that will be needed to provide power to the valve vault.

Design Plans and Specifications

The 100% design plans and specifications have been prepared by the design engineer. They are provided as Reference CLWA-8.7.

CEQA is complete. Bidding and Construction can proceed once funding becomes available. Construction will consist of installing and connecting valves, pipelines, and associated electrical hook-ups and controls.

Permits

Contractor to obtain required permits as described above in Task 8.

Status of Preparation and Completion of Environmental Requirements

Environmental impacts were evaluated and necessary mitigation measures developed as part of the Rio Vista Water Treatment Plant Expansion EIR. Applicable mitigation measures (described in Task 11) will be applied to this project.

The tribal notification requirement (PRC §75102) is not applicable to this project, as there are no California Native American tribes on the contact list maintained by the Native American Heritage Commission that have traditional lands located within the area of the proposed project. The project would not involve any development or land disturbance that would impact cultural resources.

Data Management and Monitoring Deliverables

The data management and monitoring procedures for the Project will be developed in the PMP, provided for in Task 13. A monitoring plan shall be submitted to the State prior to disbursement of grant funds for construction or monitoring activities for this Project.

Work Items to Complete GWMP

CLWA prepared a groundwater management plan (GWMP) in accordance with the provisions of Water Code Section 10753.7, which was originally enacted by AB 3030, for its wholesale service area. CLWA's GWMP was drafted and adopted in 2002. Ordinance No. 34 documenting the adoption of the GWMP will be provided as documentation of this work product.



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Foothill Feeder Connection (CLWA-8)**

Submittals to Granting Agency

Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the grant contract will also be submitted to the granting agency.

Other Work Items

No other work items are anticipated to complete this project.



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Pellet Water Softening Treatment Plant – Phase 1
(NCWD-2)**

Pellet Water Softening Treatment Plant – Phase 1 (NCWD-2)

I. Introduction

Project Name

Pellet Water Softening Treatment Plant - Phase 1 (NCWD-2)

Project Description

This Project is designed to improve drinking water quality by reducing calcium carbonate hardness. The focus of the project is to alleviate the number one water quality customer complaint. Over the years, NCWD has received more customer complaints about hard water than any other type of water quality concern. It remains by the far the greatest number of customer complaints received by NCWD. Source water treatment is a more cost-effective solution compared to point-of-use systems.

Local groundwater produced in the Santa Clarita Valley contains high concentrations of naturally occurring minerals such as calcium and magnesium; as such, many customers have identified problems with clogged pipes, hot water heaters, washing machines and dishwashers. Customers have addressed these problems by installing in-home water softening devices at their own expense. It is estimated in 2008, based on previous customer surveys conducted by a neighboring retailer (Valencia Water Company) that over half of the customers in their service area had installed a home water softening device. Although these in-home devices produce soft water, they are expensive to maintain and some types discharge high concentrations of minerals and salts (or chlorides) to the sewer system that end up in the Santa Clara River. The river then flows through an agriculturally rich region growing salt sensitive crops. The Santa Clara River provides a source of irrigation water for this agriculture which is chloride sensitive. These discharges are a serious environmental concern.

The Santa Clarita Valley Sanitation District (SCVSD), owner of the local wastewater treatment plants (operated by Los Angeles County Sanitation District [LACSD]), is considering alternatives to comply with the USCR Chloride TMDL including installation of costly advanced treatment to reduce chloride levels in the recycled water discharged to the Santa Clara River. In 2008, it was estimated that additional treatment to remove the salt added by the remaining AWS would cost up to an additional \$74 million (Measure S information, 2008). SCVSD ratepayers would see their sewer rates increase to pay for this new wastewater treatment system.

Pellet softening is a precipitation process using sodium or calcium hydroxide. The pH of the source water is raised with either of these chemicals and sent through a fluidized bed of sand. The calcium carbonate precipitates out of the water and crystallizes on to the grains of sand creating “pellets.” These calcium carbonate pellets are then replaced with more sand. The pellets can be reused in a variety of textile and aggregate related industries. As the pellets are removed, additional sand is added to continue the process. The pH of the effluent water coming out of the softening column is lowered and then the water flows through a series of filters. The filters are designed to remove any carry-over particles (i.e., sand, light pellets) or crystallized calcium carbonate that did not adhere to the sand. In addition, the pellet softening technology has benefits over more traditional softening techniques such as ion exchange and reverse osmosis. For example, pellet softening requires less energy and creates a reusable by-product unlike the high-energy demands and “brine” waste that ion exchange and reverse osmosis treatments produce.

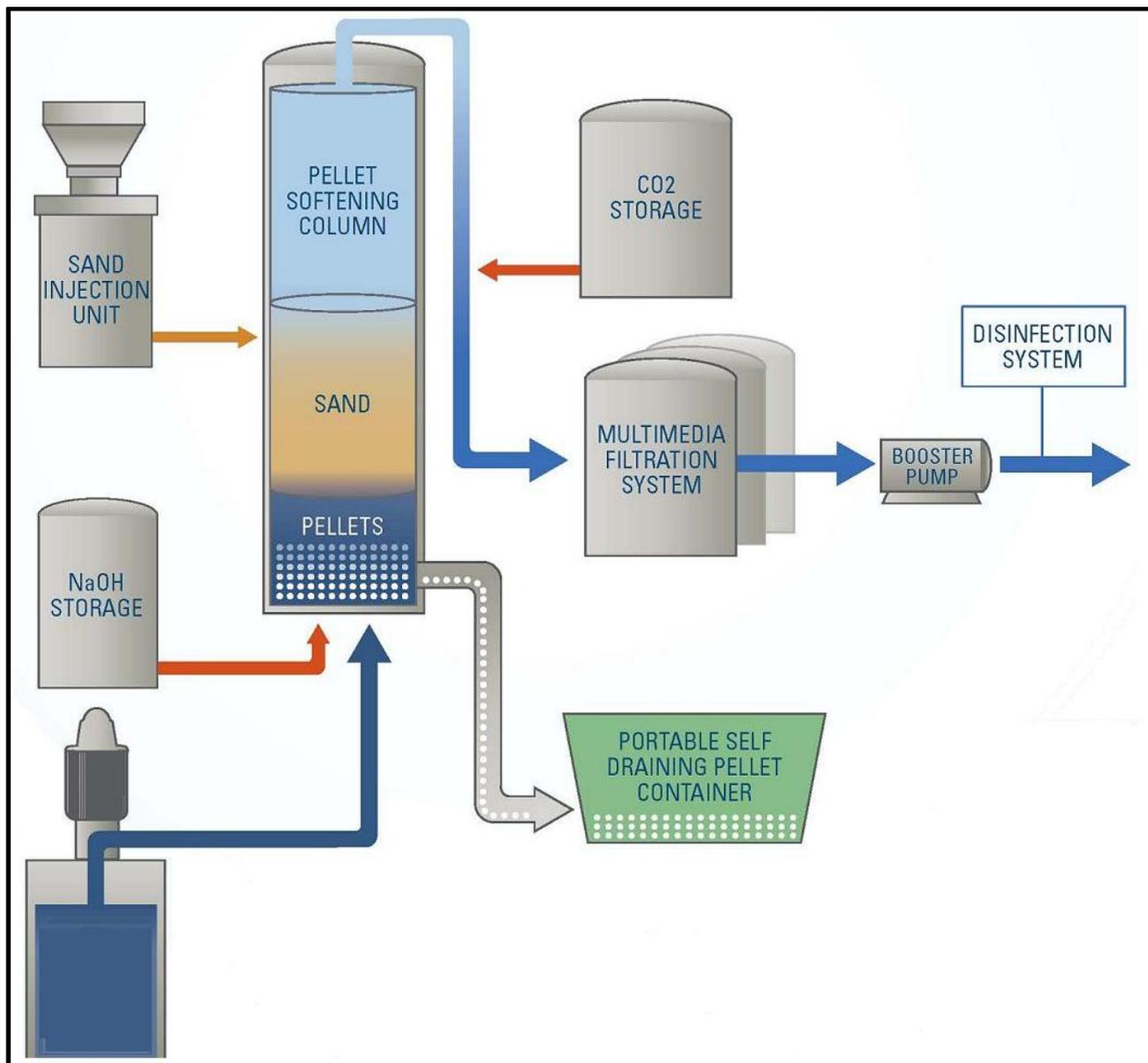
Prior to construction and implementation of a full-scale pellet softening treatment plant, a thorough analysis of the source water quality is required. In addition, available land for the treatment system and various



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Pellet Water Softening Treatment Plant – Phase 1 (NCWD-2)

related components is vital. Lastly, a cost analysis is required to establish capital and operational costs. Any additional operational costs need to be examined on how these costs might affect existing water rates. If water rates are to be increased because of an unregulated treatment process, community acceptance is critical. Surveys and focus groups will need to be used to understand the community's interest in receiving "pre-softened" water as an alternative to the high cost of point-of-use devices. Phase 1 of this project would address the aforementioned.

The schematic that follows explains the pellet treatment process.





**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Pellet Water Softening Treatment Plant – Phase 1
(NCWD-2)**

Goals and Objectives

This project would achieve the following goals and objectives.

1. Improve source water quality by reducing naturally occurring calcium water hardness.
2. Reduce water demand, because hard water contributes to the inefficiency of household appliances, increases the need for additional soaps and detergents, and contributes to the increased use of point-of-use treatment devices, all of which increase water use.
3. Reduce and/or eliminate the need for costly point-of-use water softening systems. Thereby reducing water demand if the water softening systems removed are the self-regenerating water softeners (SRWS) types.
4. Reduce the amount of chloride being discharged into the sewer system.
5. Increase life of plumbing and appliances.

Some of these goals are expanded on below:

2. Increased Use/Need for Soap

The amount of hardness minerals in water determines the amount of soap and detergent necessary for cleaning. Excessive minerals form a sticky curd or deposit a film, such as bathtub ring, when soap is added to water. Removing this requires greater amounts of soap, detergent, cleaning compound, shampoo, and time. The hardness precipitate lodges in fabric after washing and makes it stiff and rough. Remaining soil causes the graying of white fabric and the loss of brightness in colors.

Both bathing and grooming with soap in hard water leave a film of sticky soap curd on the skin. The film may prevent removal of soil and bacteria. Soap curd interferes with the return of the skin to its normal, slightly acid condition, and it may lead to irritation and infection. Soap curd on the hair makes it dull, lifeless, and difficult to manage. Synthetic dishwater detergents are less effective in hard water because the active ingredient is partially inactivated by hardness, even though it stays dissolved. The alkaline builders, added to the detergent mixture to cut greases and oils, reacts with these greases and oils to form soap, which in turn produces soap curd in hard water. The deposits protect soil and bacteria and interfere with thorough cleaning.

3. Savings from Using Less Soaps and Detergents

Hard water also contributes to inefficient and costly water heater operation. Heated hard water forms a scale that is a major cause of water heater failure resulting in a shorter water heater lifespan. The typical lifespan of a water heater is 10-12 years. Better heaters have longer warranties, such as six to 10 years. Soften water generates less scale so one would expect a longer lifespan of the water heater using soft water.

Once hard water scale forms in a water heater, it is a poor conductor and heat is not transmitted to the water as rapidly as it is applied. The fuel wasted by poor heat transference increases hot water costs. A comparison of the energy efficiency of gas water heaters using hard and soft water supplies over a 14-day period indicated that the hard-water heaters used 29.57% more BTUs of energy (Isaacs and Stockton, 1984) Talbert, et al, 1987 reported on pilot testing of water.

The savings to the customers would come from a longer lifespan of the water heater and lower utility bill from more efficient heat transfer. The savings from generating less scale would arise from the connections without a portable exchange water softener and those connections that remove their portable exchange water softener.



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Pellet Water Softening Treatment Plant – Phase 1 (NCWD-2)

Project Background

NCWD's service area includes portions of the City of Santa Clarita and unincorporated portions of Los Angeles County in the communities of Newhall, Canyon Country (Pinetree), Saugus (Tesoro), and Castaic. NCWD currently supplies a population of approximately 44,400 with nearly 9,700 service connections. NCWD is one of four (4) purveyors in the Santa Clarita Valley (SCV). NCWD water supplies consist of local groundwater blended with imported water purchased from the SCV's wholesale water agency, CLWA.

NCWD and the other IRWM Plan stakeholders worked cooperatively to produce the currently adopted 2008 IRWM Plan for the USCR Region. They are currently updating the IRWM Plan, working collaboratively again with the same stakeholders. For this Proposed Project, NCWD is using the experience from their neighboring retail purveyor, Valencia Water Company (VWC) (also a retail purveyor to CLWA); in regards to the valuable information they learned operating a demonstration pellet softening treatment plant.

Purpose and Need

NCWD provides a blend of local groundwater and imported SWP water from CLWA to its potable water consumers. The groundwater is supplied by 11 active wells from two different aquifer systems within the Santa Clara River Valley Groundwater Basin. The two aquifer systems are the Alluvium and the Saugus Formation. The groundwater has high hardness that is not a regulated water quality parameter but is an important aesthetic parameter. The hard water supply has resulted in widespread use of residential water softeners. The self-regenerating type of water softener produces a high chloride, brine discharge to the wastewater system. NCWD has made significant investments in its water delivery system in order to improve the aesthetic quality of its water supply and reduce its hardness to acceptable consumer levels. Some of these investments have included replacement of old and inefficient wells, addition of CLWA turnouts in strategic locations to maximize blending and construction of additional transmission pipelines for both groundwater and import water to improve product delivery.

While NCWD's system improvements have decreased the overall system hardness, the blended CLWA water and groundwater quality is still considered hard to very hard. In an effort to reduce the water hardness and increase customer satisfaction, NCWD proposes to complete the Pellet Water Softening Treatment Plant - Phase 1 (NCWD-2). The objectives of this Phase 1 are to address key technical and economic issues of wellhead softening before implementation of the project in Phases 2 and 3.

Of NCWD's active 11 wells, 2 are Saugus wells and 9 are Alluvial wells. The Alluvium aquifer generally underlies the entire Upper Santa Clara River and its several tributaries, and the Saugus Formation underlies practically the entire Upper Santa Clara River area. Water quality data for the existing wells, with sample data ranging from 2002 to 2012, shows that NCWD wells had values between 180 and 500 mg/L total hardness as CaCO₃. Waters with hardness over 300 mg/L are considered very hard and can impact consumers by increasing soap usage, creating undesirable deposits on glassware, appliances and cars, and can impact industrial processes. CLWA water, which blends with the groundwater supply at varying ratios, has a typical hardness of 154 mg/L which is considered moderately hard. Even after blending, the product water being sent to the consumer is in the hard to very hard range. In order to decrease the effects of hard water seen by consumers and to eliminate the need for most home water softeners, a target goal of 150 mg/L hardness has been set for the NCWD-2 Project.

Pellet Softening utilizes chemical precipitation methods for removing calcium hardness. Water is first pretreated with either caustic soda or lime to increase the pH for calcium precipitation. The water is then injected at the bottom of a pellet reactor. The water fluidizes a bed of sand that is used as a nucleus for formation of calcium carbonate pellets. Treated water is collected at the top of the reactor and the pH is adjusted to stop the precipitation reaction. As the pellets grow, the larger pellets settle to the bottom of the



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Pellet Water Softening Treatment Plant – Phase 1 (NCWD-2)

reactor and are either removed in batch or taken out periodically during operation. As pellets are removed, additional sand is added.

When the pellets are removed, they are typically 1 mm in size and are easy to dewater. The dewatered pellets are the only waste stream from the pellet softener and can be beneficially used as a soil amendment, construction fill, animal feed additive and in industrial uses. If no beneficial users are found, the pellets can also be sent to landfill. The advantage to the pellet softening process is that it removes calcium hardness without reducing the supply water and with minimal waste. The disadvantage of pellet softening is that while some magnesium may be removed in the process, it is designed to remove only the calcium hardness causing the treated water total hardness to remain higher than the treatment goal of 150 mg/L.

Synergies or Linkages

The proposed Pellet Water Softening Treatment Plant – Phase 1 (NCWD-2) and the Automatic Water Softener Rebate and Public Outreach Program (SCVSD-1) work hand in hand, one to reduce the need for water softeners and the other to eliminate the water softeners, with the common goal of improving operational efficiency and improving water quality.

Completed Work

Property boundaries of existing NCWD land have been identified. Water quality data has been collected and prepared for analysis. Pellet softening technology research documents have been obtained. All related data and materials will be available to assist with the conceptual design, cost estimates, and water quality analysis, which will be completed during Phase 1.

Existing Data and Studies

Pellet softening technology was first introduced in the late 1970s in the Netherlands. A comprehensive study and description of the process and benefits are detailed in a research paper entitled *Twenty Years of Experience with Central Softening in the Netherlands: Water Quality - Environmental Benefits - Costs*.

Kennedy/Jenks Consultants, an engineering and environmental sciences consulting firm, also completed two studies pertaining to pellet softening for the VWC, a retail purveyor of CLWA as is NCWD and located adjacent to NCWD as shown on Figure NCWD-2.1. The initial study *Well Softening Feasibility Study* (Kennedy/Jenks Consultants, April 2006), examined the most efficient and cost-effective approach to groundwater wellhead softening for approximately 400 VWC customers in the North Valencia service area. The study concluded that pellet softening was the preferred technology and recommended a demonstration project. VWC operated a demonstration project as recommended in the study –for sixteen months. A second report was completed (*Groundwater Softening Demonstration Project for VWC*, Kennedy/Jenks Consultants, October 2009) after the demonstration project was constructed, which analyzed the results of VWC's demonstration project. The results indicated that pellet softening provided a cost-effective and aesthetically acceptable treatment process to soften groundwater. The 2009 Kennedy/Jenks report detailed the anticipated budgets for a softening implementation plan for many of VWC's wells.

The VWC's Pellet Softening Demonstration Project was in operation from August 2008 until December 2009. In December 2009, the plant was taken off-line for inspection and assessment. A number of items which needed addressing were noted during the inspection. Among them were a relocation of the carbon dioxide pH adjustment injection point, a replacement of a portion of the effluent piping, adjustment of the sodium hydroxide pH adjustment injection quills, and a complete de-scaling of the system. Much of the work occurred over the next several months. However, in early 2010 the owners of Valencia Water Company decided not to proceed with a full-scale implementation of pellet softening as recommended by



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Pellet Water Softening Treatment Plant – Phase 1
(NCWD-2)**

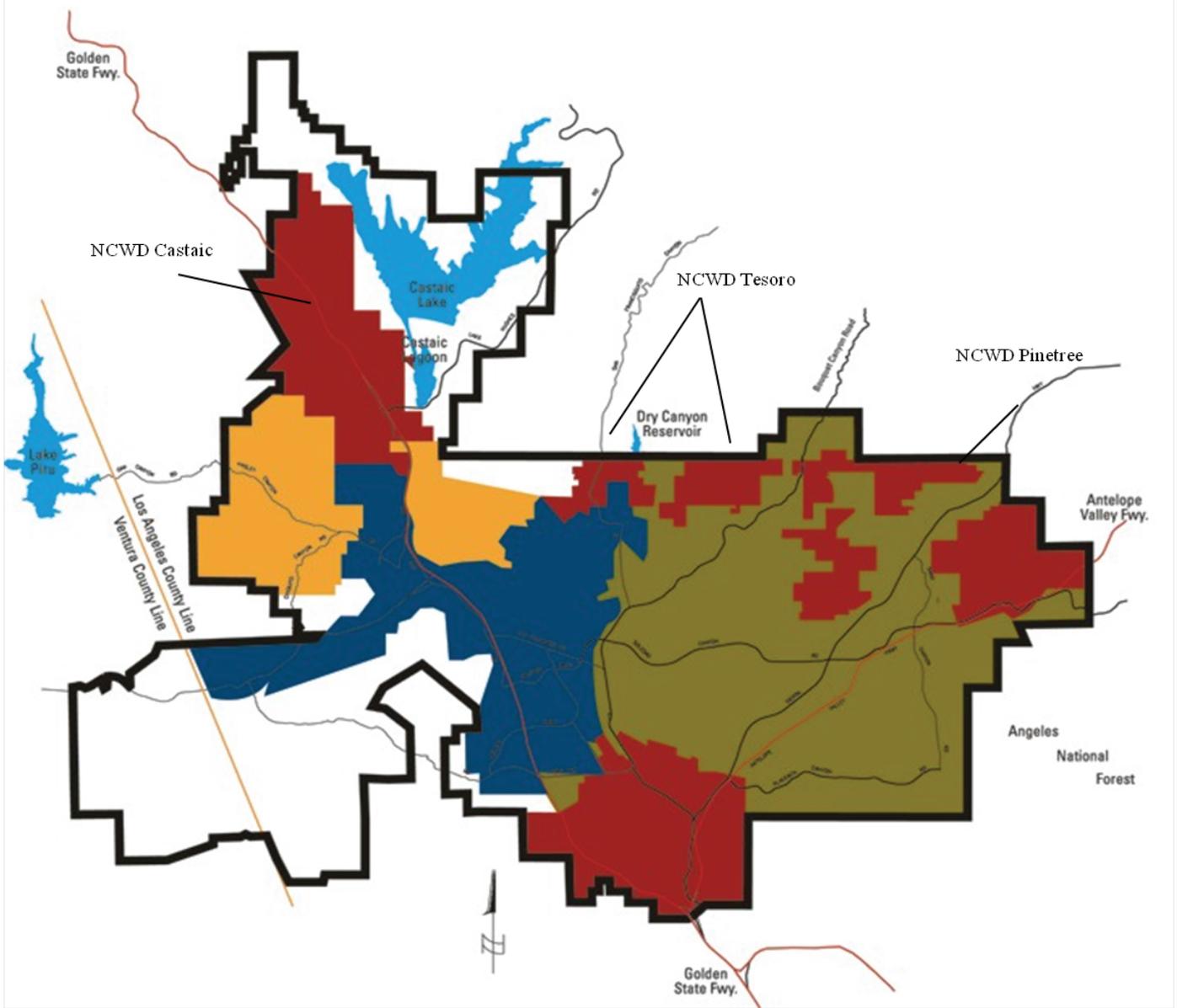
Kennedy/Jenks. VWC's Demonstration Plant remained off-line until the middle of 2012; it is now operating and serving the Decoro Highlands development known as the Copperhill Community. The Copperhill Community comprises 419 residential and multi-residential connections, one (1) community recreation center connection, and eight (8) landscape connections..

Project Map

The service area for CLWA and the retail water purveyors is shown on Figure NCWD-2.1. Figure NCWD-2.2 shows the proposed project location for the Pellet Water Softening Treatment Plant, which is located on NCWD property.

Castaic Lake Water Agency Service Area

- L.A. County Waterworks District #36
- Newhall County Water District
- Santa Clarita Water Division
- Valencia Water Company
- CLWA Boundary





NCWD-2.2
Newhall County Water District
Pellet Water Softening Treatment Plant - Phase 1 (NCWD-2)



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Pellet Water Softening Treatment Plant – Phase 1
(NCWD-2)**

Project Timing and Phasing

As part of this Proposal, funding is being sought for Phase 1 of a three phase project. This project is a three (3) phase project. Phase 1 includes a complete water quality analysis of NCWD Wells 12 and 13 to establish the treatment criteria and feasibility of pellet softening technology. This information will be used to determine the size of the treatment plant, treatment chemicals needed, and capital and operational cost estimates. In addition, an estimated cost per customer will be calculated. A conceptual design will be prepared to determine if the current land that NCWD owns is sufficient in size. If not, then a parcel search of adjoining land will be addressed to determine if additional land purchases are required. Upon completion of Phase 1, enough information will be collected to determine the feasibility of constructing and implementing wellhead pellet softening. It is the intent of NCWD to seek additional funding to complete Phases 2 and 3. Each of these later phases is detailed below.

Phase 2 is to communicate and solicit support for the project by consumers, community leaders, and NCWD Board of Directors. Phase 3 is the construction and implementation of the project. Table 3-11 below outlines the timing and funding for each phase.

TABLE 3-11: NCWD-2 PHASING

Phase	Description	Funding Match	Anticipated Grant Funding	Timing
1	Feasibility and Cost Estimates to Implement Pellet Softening	\$50,000 Provided by and Budgeted for in NCWD’s FY2013/14	\$150,000	Completed by June 2015.
2	Communication, Outreach, and Solicitation of Support for the Pellet Softening Project	Provided in NCWD’s FY2014/15 Public Outreach Budget	N/A	Completed by June 2016.
3	Project Construction and Implementation	Provided in NCWD’s FY2015/17 Budgets	N/A	After Phase 2

II. Work Plan

The tasks necessary to complete the Project are summarized in Table 3-12, and discussed in greater detail below in Table 3-13.

TABLE 3-12: OVERVIVEW OF NCWD-2 WORK PLAN

Task Number	Work Task Title	Budget	Schedule	
			Start Date	End Date
a)	Direct Project Administration Costs	\$15,000	10/1/13	6/30/15
1	Administration	\$7,000	10/1/13	6/30/15
2	Labor Compliance	\$0	10/1/13	2/28/14
3	Reporting	\$8,000	12/31/13	6/30/15
b)	Land Purchase/Easement	\$0	10/1/13	2/28/14
4	Land Purchase/Easement	\$0	10/1/13	2/28/14
c)	Planning/Design/Engineering/Environmental Documentation	\$125,000	10/1/13	6/30/15
5	Assessment and Evaluation	\$10,000	10/1/13	6/27/14
6	Planning/Design	\$100,000	10/1/13	6/30/15



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Pellet Water Softening Treatment Plant – Phase 1
(NCWD-2)**

Task Number	Work Task Title	Budget	Schedule	
			Start Date	End Date
7	Environmental Documentation	\$15,000	7/2/14	6/30/15
8	Permitting	\$0	NA	NA
d)	Construction/Implementation	NA	NA	NA
9	Construction Contracting	NA	NA	NA
10	Construction/Implementation	NA	NA	NA
e)	Environmental Compliance/Mitigation/Enhancement	NA	NA	NA
11	Environmental Compliance/Mitigation/Enhancement	NA	NA	NA
f)	Construction Administration	NA	NA	NA
12	Construction Administration	NA	NA	NA
g)	Other Costs	\$60,000	10/1/13	6/30/15
13.1	PMP	Cost is included in Task 1	10/1/13	2/28/14
13.2	Budget Reports	\$60,000	1/1/15	6/30/15
h)	Construction/Implementation Contingency	NA	NA	NA
14	Construction Contingency	NA	NA	NA
GRAND TOTAL		\$200,000		

Notes: 1) Costs for Task 13.1 have been included in Task 1.

TABLE 3-13: WORK PLAN FOR PELLET WATER SOFTENING TREATMENT PLANT PHASE 1

Category (a): Direct Project Administration Costs

Task 1: Administration

Description: The project team will consist of NCWD staff and engineering consultants to provide analysis of water quality data and feasibility of pellet softening technology. Engineering consultants will also provide conceptual designs and treatment system layout. Vendors will be contacted for treatment system construction costs and chemical cost estimates.

Project administration includes administration of grant and construction contracts, preparation of reports and plans, coordination of design contracts, and other activities as required to complete design and engineering that may not be directly related to those tasks. This project will be coordinated by a designated project manager employed by NCWD. The project manager will be the point of contact for the project’s duration and will be responsible for the day-to-day activities of the project and all reporting to the granting agency, and will coordinate with the various agencies regarding permitting, environmental, and design issues. The budget for this project assumes the project manager will spend 70 hours on this project over the entire 2-year duration.

Deliverables: Invoices and contracts.

Task 2: Labor Compliance Program

Description: Labor Compliance applies to “craft work” performed as part of traditional building and construction trades. Work performed for NCWD-2 is not craft-work and a labor compliance program will not be required.



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Attachment 3 Work Plan
Pellet Water Softening Treatment Plant – Phase 1
(NCWD-2)**

Deliverables: N/A

Task 3: Reporting

Description: The project manager for NCWD will prepare and submit quarterly progress reports and invoices to CLWA, the granting agency. NCWD will require the contractors to submit monthly reports to be submitted with the invoices. The progress reports will describe activities undertaken and accomplishments of each task during the milestones achieved, and any problems encountered in the performance of the work under this contract. A final summary report will be prepared and submitted once the project is completed. It is likely that the report will information such as: final design drawings and specifications; alternative site locations; monitoring results from geotechnical studies; easement problems encountered and the preventative and/or corrective actions taken; and copies of permits obtained.

Deliverables: Quarterly and final reports as specified in the Grant Agreement.

Category (b): Land Purchase/Easement

Task 4: Land Purchase/Easement

Description: NCWD currently owns ~14,000 square feet of available land for the construction of a pellet softening treatment plant. Phase 1 will determine if this land is suitable for construction or if additional land is needed.

Deliverables: N/A

Category (c): Planning/Design/Engineering/Environmental Documentation

Task 5: Assessment and Evaluation

Water quality data will be analyzed and evaluated to determine if NCWD groundwater quality is conducive to pellet softening. A determination will be made to the feasibility of pellet softening and the treatment chemicals necessary. Water quality and production data from NCWD wells 12 and 13 will be evaluated to determine the optimum dosages, treatment chemicals, and flow rates.

Deliverables: Groundwater quality results and pellet softening calculations, flow rate calculations, pellet formation analysis.

Task 6: Design/Engineering

After water quality assessment is complete, the size and type of treatment system can be determined. At this point, a layout of each treatment component will be sized and a conceptual layout plan will be created on the existing NCWD land. If the land is sufficient in size to construct the treatment system, conceptual design drawings will be prepared. If not, land acquisition options will be explored.

Pellet softening column specifications - based on the results of the assessment and evaluation, specifications will be identified for the softening column including up flow velocities and flow and chemical nozzles.

Chemical dosage specifications - based on flow rates and water quality data chemical dosages for pH adjustment will be specified.

Treatment system skid conceptual design and layout - all treatment and piping components will be identified and skid conceptual design for the softening column, chemical injection points, and piping configurations will be designed. After the treatment skid conceptual design has been completed, a conceptual layout will be designed to include pellet bins, chemical storage tanks, and operational and maintenance staging areas.

Deliverables: Preliminary Design Report, Pellet Softening Column Specifications, Chemical Dosage



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
**Pellet Water Softening Treatment Plant – Phase 1
(NCWD-2)**

Specifications, Treatment Skid Conceptual Design and Layout

Task 7: Environmental Documentation

For Phase 1, an Initial Study will be prepared to assess the potential impacts upon construction and implementation of Phases 2 and 3.

Deliverables: Preliminary Initial Study

Task 8: Permitting

No permits are required.

Deliverables: N/A

Category (d): Construction/Implementation

Task 9: Construction Contracting

No construction in Phase 1.

Deliverables: N/A

Task 10: Construction/Implementation

No construction or implementation in Phase 1. For Phases 2 and 3, construction/implementation is estimated to start in 2016.

Deliverables: Conceptual design drawings will be provided.

Category (e): Environmental Compliance/Mitigation/Enhancement

Task 11: Environmental Compliance/Mitigation/Enhancement

CEQA compliance for the project is discussed in Task 7. These efforts have been budgeted separately and their costs are included in the Planning/Design/Engineering/Environmental Documentation Task.

Deliverables: N/A

Category (f): Construction Administration

Task 12: Construction Administration

No construction administration is necessary in Phase 1.

Deliverables: N/A

Category (g): Other Costs

Task 13: Other Costs

Description: Task 13.1: Project Monitoring Plan

Project Monitoring Plan Requirements (PMP): A monitoring plan shall be submitted to the State prior to disbursement of grant funds for construction or monitoring activities for this Project. Along with Attachment 6 Project Performance Measures Tables, the PMP will also include: a) Monitoring of Phase 1 goals to determine feasibility of treatment using pellet softening using: 1) Adequacy of selected site to fit the necessary treatment plant size, 2) Increased costs to rate payer not over \$5/month target, and 3) Groundwater quality of wells suitable for pellet type treatment.

Deliverables: PMP



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Pellet Water Softening Treatment Plant – Phase 1 (NCWD-2)

Description: Task 13.2: Budget Reports

Because NCWD is a public agency, in order to plan for funding for the potential Pellet Water Softening Treatment Plant, some preliminary costs estimates of the necessary capital and Operations and Maintenance (O&M) budgets to construct and run the treatment plant are required. These estimates will allow NCWD to see if and how much the cost of the facility will impact the water rates seen by the customer. Since the customer will most likely be responsible for at least the O&M costs of the facility (assuming grant funding is possible for the capital cost), these impacts are crucial in determining feasibility of future phases of the project.

Using the results of planning, engineering and design tasks (Tasks 5 and 6), the capital, O&M, and water rate budgetary cost estimates will be completed in this task.

Deliverables: Capital Budgetary Cost Estimate Report, Operations and Maintenance Budgetary Cost Estimate Report, Water Rate Impact Cost Estimate Report.

Category (h): Construction/Implementation Contingency

Task 14: Construction Contingency

Costs for contingency for construction/implementation have not been assumed as a separate budget item.

III. Other Required Information

Procedures

CLWA is the contracting entity that will be the recipient of the grant and act as the grant administrator. CLWA will execute an agreement with NCWD in order to implement the activities outlined in this proposal. No other procedural agreements are identified.

Standards

The project will be subject to regulation/input primarily by two regulatory/oversight entities: The California Department of Public Health (CDPH) (for drinking water); and appropriate planning agencies (City/NCWD).

The CDPH's Division of Drinking Water and Environmental Management (DDWEM) promotes and maintains a physical, chemical, and biological environment that contributes positively to health, prevents illness, and ensures protection of the public. Through the DDWEM's Drinking Water Program, public water systems are regulated through the enforcement of the primary maximum contaminant levels (MCLs) standards found in Title 22 of California Code of Regulations (CCRs).

Primary and Secondary Drinking Water Standards. Drinking water regulations are enforced at the State and Federal level. The USEPA is responsible for the enforcement of National Primary Drinking Water Regulations (NPDWRs or primary standards), which apply to public water systems. Primary standards protect public health by limiting the levels of contaminants in drinking water. National Secondary Drinking Water Regulations (NSDWRs or secondary standards) are nonenforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. The USEPA recommends secondary standards to water systems but does not require systems to comply. However, states may choose to adopt them as enforceable standards.

California Water Code. The California Water Code (CWC) is the principal state law regulating water quality in California. The Health and Safety Code, Fish and Game Code, Harbors and Navigation Code, and the Food and Agriculture Code also contain water quality provisions that require compliance.



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The CWC contains provisions regulating water and its use. Division 7 (Porter-Cologne Act) of the CWC establishes a program to protect water quality and beneficial uses of the state water resources and includes groundwater and surface water. The SWRCB and the RWQCBs are the principal state agencies responsible for control of water quality. They establish waste discharge requirements, water quality control planning and monitoring, enforcement of discharge permits, and ground and surface water quality objectives. They also prevent waste and unreasonable use of water, and adjudicate water rights.

The California Code of Regulations (CCRs) also contains administrative procedures for the State and RWQCBs in Title 23; and for water quality for domestic uses, wastewater reclamation, and hazardous waste management in Title 22.

Status of Acquisition of Land or ROWs

NCWD owns approximately 14,000 square feet of land. Currently Well Nos. 12 and 13 pump water through a disinfection facility on this land. Phase 1 will determine if the land is sufficient in size to construct and operate a pellet softening treatment plant.

Design Plans and Specifications

A process flow schematic for a pellet softening treatment process was shown previously on page 3-60 of this Work Plan. General layout and components of the treatment skid are detailed in the schematic.

Pellet softening requires a fluidized bed of sand through an up flow column. A chemical to raise the pH of the source water is introduced as the water enters the column to promote precipitation of calcium. The precipitated calcium crystallizes on the grains of sand. The pH of the effluent water from the column will be lowered to CDPH standards. The water will then pass through a series of filters to remove any carry over material or precipitates that do not crystallize on sand.

The work of Phase 1 will be to prepare preliminary design.

Permits

No permits are needed for Phase 1. However, for Phases 2 and 3, the following permits are anticipated: NPDES from the Regional Board for discharge and/or stormwater and a CDPH permit amendment.

Status of Preparation and Completion of Environmental Requirements

Environmental documentation is not required for the feasibility and cost estimating Phase 1 of the project. However, a preliminary Initial Study will be prepared to evaluate the potential impacts from constructing and operating a pellet softening treatment plant.

The tribal notification requirement (PRC §75102) is not applicable to this project, as there are no California Native American tribes on the contact list maintained by the Native American Heritage Commission that have traditional lands located within the area of the proposed project. The project would not involve any development or land disturbance that would impact cultural resources.

Data Management and Monitoring Deliverables

The data management and monitoring procedures for the Project will be developed in the PMP, provided for in Task 13.1. A monitoring plan shall be submitted to the State prior to disbursement of grant funds for construction or monitoring activities for this Project.



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Pellet Water Softening Treatment Plant – Phase 1
(NCWD-2)**

Work Items to Complete GWMP

CLWA prepared a groundwater management plan (GWMP) in accordance with the provisions of Water Code Section 10753.7, which was originally enacted by AB 3030, for its wholesale service area and covers the NCWD service area. CLWA's GWMP was drafted and adopted in 2002. Ordinance No. 34 documenting the adoption of the GWMP will be provided as documentation of this work product.

Submittals to Granting Agency

Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the grant contract will also be submitted to the granting agency.

Other Work Items

No other work items are anticipated to complete this project.



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Automatic Water Softener Rebate and Public Outreach
Program (SCVSD-1)**

Automatic Water Softener Rebate and Public Outreach Program (SCVSD-1)

I. Introduction

Project Name

Santa Clarita Valley Sanitation District's Automatic Water Softener Rebate and Public Outreach Program, *Enforcement Phase* (SCVSD-1)

Project Description

The Santa Clarita Valley Sanitation District (Sanitation District) operates two water reclamation plants (WRPs) in the Santa Clarita Valley, the Saugus and Valencia WRPs, along with more than thirty miles of Sanitation District operated trunk lines and one pumping plant. The Saugus and Valencia WRPs discharge treated wastewater into the USCR, which contains chloride in excess of the Los Angeles Regional Water Quality Control Board (RWQCB) water quality objective for the USCR of 100 mg/L. In 2002, the Los Angeles RWQCB first began development of the USCR Chloride TMDL, which was subsequently revised most recently under RWQCB Resolution No. R4-2008-012, requiring the Sanitation District to reduce chloride levels in the discharges from the WRPs.

The Sanitation District has conducted a groundbreaking, nationally recognized source control program for chloride in the Santa Clarita Valley. Because residential automatic water softeners have been the largest controllable source of chloride, the source control efforts have focused on the removal of these units. In addition to efforts to reduce chloride from residences, the Sanitation District has also reduced chloride from the industrial sector, commercial sector, hauled waste, and treatment plant operations. Chloride in water supply has also been examined. The Sanitation District is firmly committed to reducing chloride sources in the sewerage system to the maximum extent technologically and economically feasible, and continues to explore innovative and effective means to bring about this reduction. The Sanitation District annually reviews the effectiveness of the program and makes adjustments as necessary.

The Sanitation District has been implementing various phases of the AWS Public Outreach Program since February 2003. The major multimedia community-wide components of the campaign began on March 25, 2004 and concluded on June 30, 2009. The Sanitation District launched the Automatic Water Softener Rebate Program Phase I on November 30, 2005 and began implementing the Automatic Water Softener Rebate Program Phase II on April 1, 2007. These programs have been highly successful in removing over 7,900 automatic water softeners in the Santa Clarita Valley and significantly reducing the chloride load in the recycled water discharged from the Sanitation District's Saugus and Valencia WRPs.

The Sanitation District's Automatic Water Softener Rebate and Public Outreach Program, Enforcement Phase (phase currently being applied for with this implementation grant application) will focus on removing the remaining automatic water softeners in the Santa Clarita Valley. The Program will consist of home inspections, issuing Notices of Violations to residents that still have their automatic water softeners, issuing rebates to residents that remove their automatic water softeners, chloride monitoring, and public outreach.

Goals and Objectives

The Sanitation District's goal is to remove all remaining automatic water softeners in the Sanitation District's service area. By removing these units, it is expected to achieve a reduction in the chloride discharged from



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Automatic Water Softener Rebate and Public Outreach Program (SCVSD-1)

the Saugus and Valencia WRPs by up to 5 mg/L.¹ In addition, the publicity associated with this project is expected to prevent backsliding (residents installing and/or using illegal automatic water softeners) by keeping awareness of the chloride problem high in the community. Reducing the chloride load in the Sanitation District's WRP discharges will minimize the size of future chloride compliance facilities and help the Sanitation District comply with the USCR Chloride TMDL.

Removing AWS also saves water. AWS use a high-water flushing method to dispose of salts. Flushed water is disposed of to the sewer. Other types of softeners do not use or waste as much water to remove salts. Removal or replacement of AWS will reduce water demand on the Delta.

Purpose and Need

The Saugus and Valencia WRPs discharge treated wastewater into the USCR, which contains chloride in excess of the water quality objective for the USCR of 100 mg/L. In 2002, the RWQCB, Los Angeles Region first developed the USCR Chloride TMDL, which was subsequently revised most recently under RWQCB Resolution No. R4-2008-012, requiring the Sanitation District to reduce chloride levels in the discharges from the WRPs.

The Santa Clara River Chloride Reduction Ordinance of 2008 (Ordinance) was approved by voters and took effect on January 1, 2009. The Ordinance required the removal and disposal of all existing residential AWS by June 30, 2009. Over 7,900 AWS have been removed, but approximately 500 may still be discharging and several thousand may still be installed. The goal of the *Enforcement Phase* of the Automatic Water Softener Rebate and Public Outreach Program is to remove the remaining automatic water softeners in the Sanitation District's service area, and thereby reduce the chloride load in the Sanitation District's final effluent and recycled water at the Saugus and Valencia WRPs by up to 5 mg/L. This program will also reduce greenhouse gas emissions by minimizing the size of future chloride compliance facilities that otherwise are required to remove chloride from the WRP discharges.

Synergies or Linkages

The NCWD's proposed Pellet Water Softening Treatment Plant – Phase 1 (NCWD-2) (once all phases 1-3 are complete) has synergies with the Sanitation District's Automatic Water Softener Rebate and Public Outreach Program (SCVSD-1). If NCWD provides softer water in their service area, residents may have less desire to use an illegal automatic water softener.

Completed Work

The Sanitation District has (1) already sent letters to residents suspected of having automatic water softeners to inform them that the ordinance requires them to remove the units; (2) conducted a pilot scale home inspection program; (3) begun public outreach for the Enforcement Phase; and (4) conducted additional influent chloride monitoring at the Saugus and Valencia WRPs. The Automatic Water Softener Rebate and Public Outreach Program, Enforcement Phase was approved by the Sanitation District's Board of Directors on October 18, 2010. The Sanitation District is seeking Proposition 84 grant funding for the Automatic Water Softener Rebate and Public Outreach Program, Enforcement Phase for activities since October 18, 2010.

¹ 2012 Chloride Source Identification/Reduction, Pollution Prevention, Public Outreach Program Report, Santa Clarita Valley Sanitation District, November 2012. Page 3-22, Per Table 3.9-2, the chloride loading contributed from self-regenerating water softeners (SRWS) concentration is estimated at around 5-6 mg/L in 2011. Sanitation District is assuming all AWS are removed so load=0 and the 5-6mg/L is eliminated.



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan **Automatic Water Softener Rebate and Public Outreach Program (SCVSD-1)**

It is anticipated that prior to the start of this grant application program (assumed to be October 2013), the Sanitation District will also train inspectors and begin the full-scale inspection program, create and distribute additional public outreach materials, and conduct additional influent chloride monitoring at the Saugus and Valencia WRPs. In addition, the Sanitation District plans to continue on-going work with the salt retailers to remove salt and potassium chloride used in AWS from store shelves.

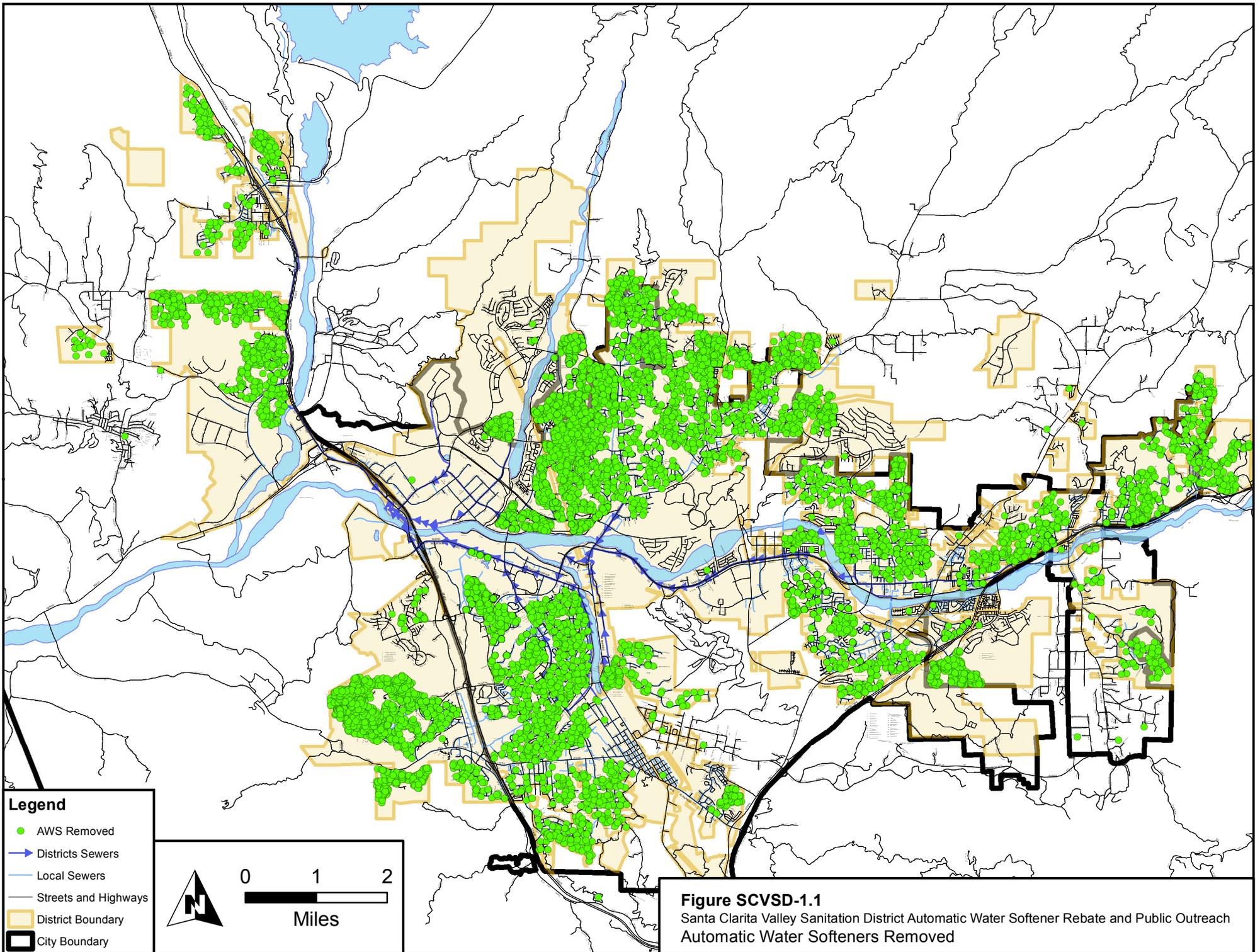
Existing Data and Studies

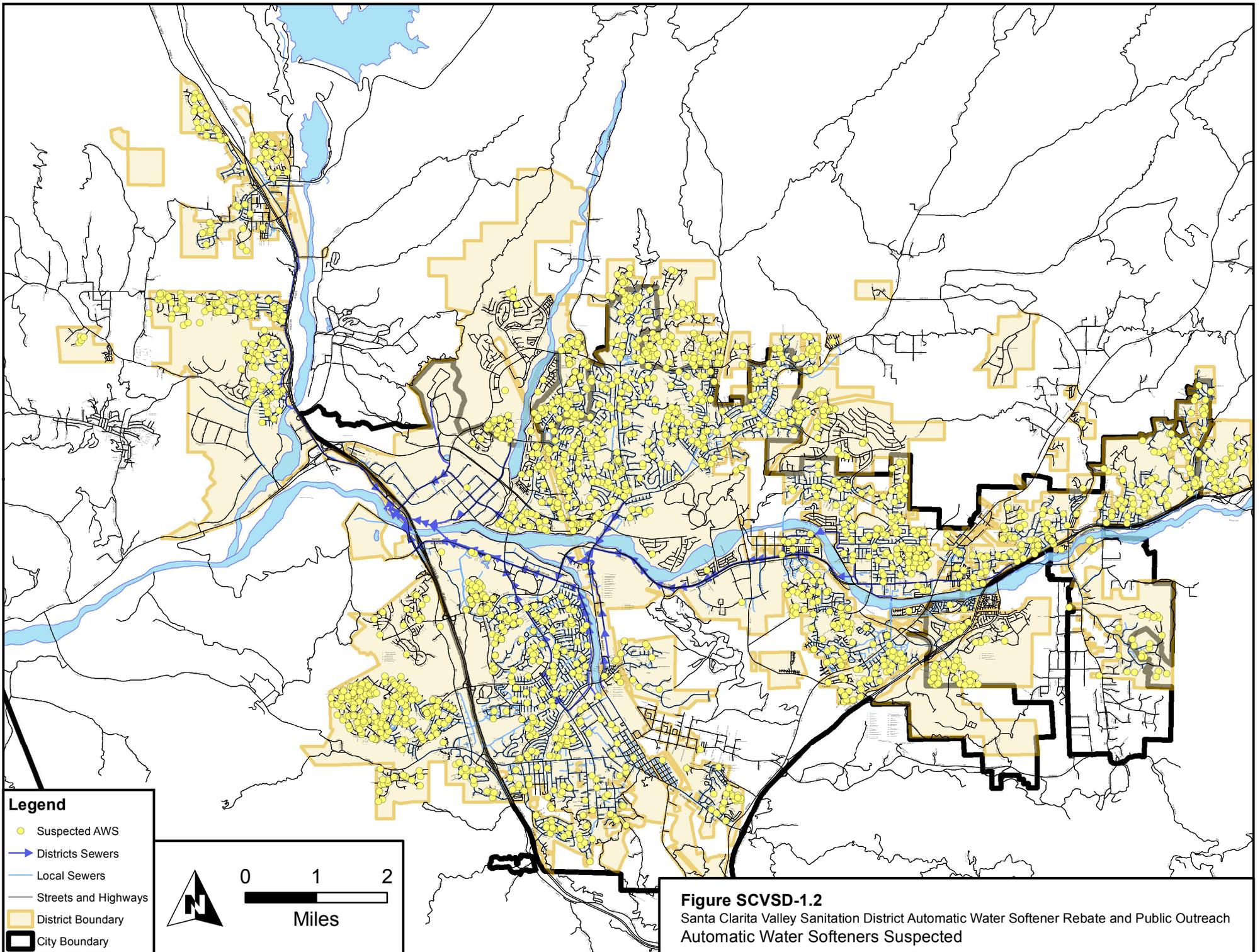
As part of the USCR Chloride TMDL, the Sanitation District is required to submit an annual report to address measures taken and planned to be taken by the Sanitation District to quantify and control sources of chloride in the Sanitation District's sewerage system. Information on the Sanitation District's Automatic Water Softener Rebate and Public Outreach Program can be found in Section 4 of the Sanitation District's 2012 Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan, November 2012 (2012 Annual Chloride Report).

As discussed in earlier sections, the 2012 Annual Chloride Report documents the chloride reduction benefits from AWS removal to date from the Sanitation District's efforts remove AWS from their service area.

Project Map

Three maps of the project follow; the first, SCVSD-1.1 presents the locations of the 7,900 AWS that have been removed to-date by the SCVSD. The second, SCVSD-1.2, presents the suspected locations of the remaining 500 AWS still left within the SCVSD service area. The last, SCVSD-1.3, presents the suspected locations of the remaining AWS still left within the NCWD service area and the location of the proposed Pellet Water Softening Treatment Plant (NCWD-2), discussed in the previous project.





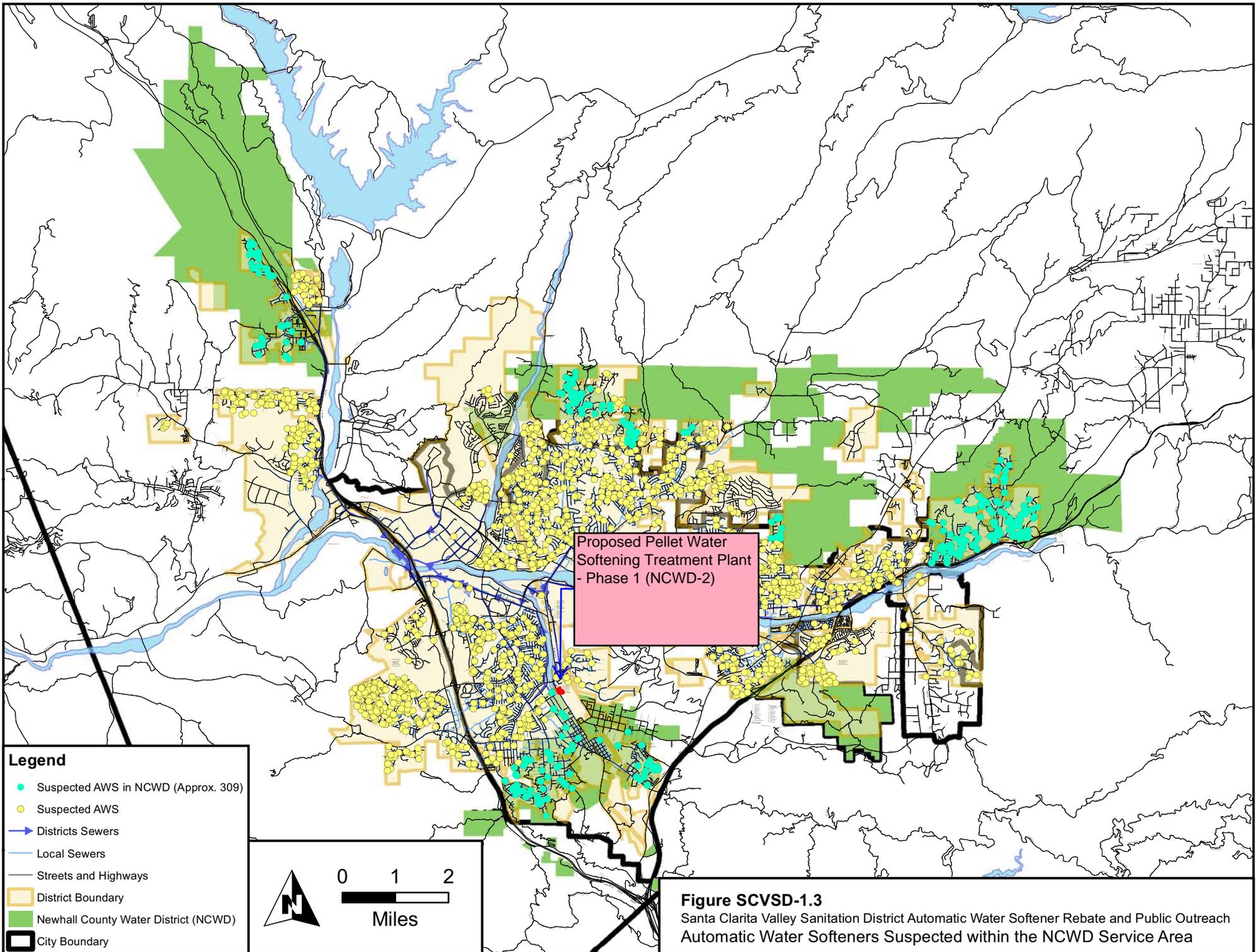
Legend

- Suspected AWS
- Districts Sewers
- Local Sewers
- Streets and Highways
- District Boundary
- City Boundary

N

 0 1 2
 Miles

Figure SCVSD-1.2
 Santa Clarita Valley Sanitation District Automatic Water Softener Rebate and Public Outreach
 Automatic Water Softeners Suspected



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Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
**Automatic Water Softener Rebate and Public Outreach
Program (SCVSD-1)**

**TABLE 3-15: WORK PLAN FOR AUTOMATIC WATER SOFTENER REBATE AND PUBLIC
OUTREACH PROGRAM, ENFORCEMENT PHASE (SCVSD-1)**

Category (a): Direct Project Administration Costs

Task 1: Administration

Description: Project administration includes administration of grant and implementation contracts, preparation of reports and plans, coordination of various contracts, and other activities as required to complete implementation. This project will be coordinated by a designated project manager employed by SCVSD. The project manager will be the point of contact for the project's duration and be responsible for the day-to-day activities of the project and all reporting, and will coordinate with various agencies regarding permitting, environmental, and implementation issues. The budget for this project assumes administrative costs will be 3% of the total project cost.

Deliverables: Invoices.

Task 2: Labor Compliance Program

Description: Project has been determined to not be a public work nor is it subject to the labor compliance program requirements. Therefore this task is not applicable.

Deliverables: Not applicable.

Task 3: Reporting

Description: Sanitation District will prepare and submit quarterly progress reports and invoices to CLWA. Sanitation District will require the contractors to submit monthly reports to be submitted with the invoices. The progress reports will describe activities undertaken and accomplishments of each task during the milestones achieved, and any problems encountered in the performance of the work under this contract. A final summary report will be prepared and submitted once the project is completed.

Deliverables: Quarterly and final reports as specified in the Grant Agreement.

Category (b): Land Purchase/Easement

Task 4: Land Purchase/Easement

Description: Not applicable. No land purchases or right-of-way easements are required for implementing this program.

Deliverables: Not applicable.

Category (c): Planning/Design/Engineering/Environmental Documentation

Task 5: Assessment and Evaluation

Description: All planning efforts have been successfully completed. Evaluation will be done annually in the Sanitation District's Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan.

Deliverables: Annual Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan.



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Automatic Water Softener Rebate and Public Outreach
Program (SCVSD-1)**

Task 6: Design/Engineering

Description: Preliminary design of the program has been successfully completed. Description of the preliminary design will be provided in the 2013 Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan. The report will be completed on November 4, 2013. Project tasks will be evaluated and modified as necessary.

Deliverables: 2013 Annual Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan.

Task 7: Environmental Documentation

Description: Because the project will reduce the presence of chloride, a pollutant of concern in the Santa Clara River, it is categorically exempt from CEQA, pursuant to CEQA Guidelines Sections 15307 and 15308 – Actions by Regulatory Agencies for the Protection of Natural Resources and to Protect the Environment. In addition, the authorization for inspections is categorically exempt under CEQA Guidelines Section 15309; and the authorization for enforcement actions is statutorily exempt under CEQA Guidelines Section 15321.

Deliverables: Notice of Exemption for the Santa Clara River Chloride Reduction Ordinance of 2008.

Task 8: Permitting

Description: No permits are required for implementation of the program.

Deliverables: Not Applicable.

Category (d): Construction/Implementation

Task 9: Construction Contracting

Description: No construction contracting is anticipated for implementation of the program.

Deliverables: Not Applicable.

Task 10: Construction/Implementation

Description:

Subtask 10.1 - Automatic Water Softener Rebates: Issue rebates to residents for the removal and disposal of an automatic water softener in accordance with the terms and conditions of the Automatic Water Softener Rebate Program. Subtask also includes administration of the Automatic Water Softener Rebate Program and pickup and dismantling of automatic water softeners.

Subtask 10.2 - Developed Initial Documents, Prepared Letter Packages for Residents, Mailed Letters to Residents, and Processed Rebate Applications and Questionnaires Returned From August 2011 Resident Letters: Developed letters for 1) residents on the vendor sales lists, homebuilder lists, and building permit list that had not previously applied for a rebate, 2) residents that had responded they removed their automatic water softener but the Sanitation District did not receive the unit, 3) residents that had applied for Automatic Water Softener Rebate Program but the Sanitation District did not receive the automatic water softener (these residents received an updated Authorization for Rebate letter), 4) residents that illegally installed automatic water softeners (these residents are not eligible for Automatic Water Softener Rebate Program but were encouraged to complete a questionnaire stating their unit had been removed), and 5) residents that had rental automatic water softeners that would not allow the rental company access to remove unit. In addition, developed other documents such as the questionnaire (residents that no longer had an automatic water softener were asked to confirm in writing that the unit is no longer at the home and document where the unit was taken to or disposed of), revised letter for new homeowners stating that if they had an automatic water softener they must apply for Automatic Water Softener Rebate Program within 60 days of receiving letter, Notice of Violation (will be given to residents if an automatic



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Automatic Water Softener Rebate and Public Outreach Program (SCVSD-1)

water softener is found at the home during an inspection), and Administrative Order (given to residents that do not remove automatic water softeners within 60 days after being issued a Notice of Violation).

Printed letters, rebate applications, questionnaires, and updated Authorization for Rebate letters for approximately 3,000 residents. Prepared mailers for residents. Also, updated database to collect resident responses, select homes for inspections, and document responses from inspections. Letters to residents were mailed in one batch to allow for an equivalent amount of time for them to submit paperwork back to Sanitation District.

Entered information from rebate applications and questionnaires into database. Evaluated responses on questionnaires and determined which residents need further follow-up. Selected 10 percent of questionnaires for home inspections (spot checks); the spot check home inspections will be conducted under Subtask 10.4.

Sanitation District staff will also work with companies to verify removal of automatic water softeners from residents that stated on questionnaires that these companies removed their units. If verification that the unit was removed is obtained then these files can be closed.

Subtask 10.3 - Public Outreach Program: Develop messages and design and produce materials for use during the *Enforcement Phase*. Public outreach items may include preparing press releases; meeting with local newspaper editorial staff; answering reporter questions; conducting television and radio interviews; designing notices for City of Santa Clarita's newsletter and website; newspaper, magazine, radio, billboard, bus shelter, and direct mail advertisements, newspaper and magazine articles; television and movie theater advertisements, redesign of webpages; direct mail pieces; focus groups; mailing information in water and trash bills; using robocalls; hanging street banners, street flag poles, and waste hauler signs; displaying signs; distribution of door hangers; mailing letters to new homeowners; participating in community events; working with real estate professionals; door-to-door outreach; phone surveys; targeted outreach programs; and staffing toll-free phone line and dedicated email address. Implement public outreach program utilizing above methods and other methods as needed.

Sanitation District staff will also work with companies to verify removal of automatic water softeners from residents that stated on questionnaires that these companies removed their units. If verification that the unit was removed is obtained then these files can be closed.

Subtask 10.4 - Home Inspection Program: Conducted a pilot scale inspection program consisting of Industrial Waste senior and supervising inspectors visiting homes in at least 3 geographic areas during 3 different times of the day/week (once during work hours, once during evening hours, and once on Saturday) to examine if certain times/days are more successful and to preview resident reactions to home inspections. Sanitation District staff introduced themselves, stated why the Sanitation District believes that the home may have an automatic water softener, and inquired if the resident will allow a home inspection of the garage and side of the house. Sanitation District staff documented all responses by residents. Determined that additional trial runs were not needed.

Assessed effectiveness of pilot scale inspection program including determining optimal time to contact residents. Revised program to maximize effectiveness. Train inspectors on conducting home inspections. Inform inspectors of Sanitation District's ordinances, components of AWS, how to communicate with residents, how to issue Notices of Violations, Rebate Program, and the information that should be documented during home inspections. Tasks include administration, legal, and implementation items such as selecting homes for inspection; modifying database as necessary; preparing inspection documents; conducting home inspections; entering inspection records into database; addressing resident and inspector concerns; potentially issuing Notices of Violations, inspection warrants, and administrative fines; and managing program. Modify program as necessary.

Subtask 10.5 - Monitoring: Conducting quarterly influent chloride monitoring at the Saugus and Valencia WRPs for a week to establish current influent chloride load. Also, collect and analyze potable water



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 3 Work Plan Automatic Water Softener Rebate and Public Outreach Program (SCVSD-1)

samples during the influent sampling period to approximate blended potable water supply chloride concentration.

Conduct chloride sampling in six neighborhoods sampled in 2002 to evaluate change in chloride load from these neighborhoods.

Conduct chloride sampling in other neighborhoods to estimate number of automatic water softeners still in operation in the neighborhood or confirm that all discharging automatic water softeners are removed.

Conduct sampling of individual homes to determine if an automatic water softener is discharging.

Monitoring results will be used to modify program as necessary.

Subtask 10.6 - Commercial Inspections: Perform inspections of stores that sell or potentially could sell salt and potassium chloride for automatic water softeners and request that they stop selling salt and potassium chloride. Visit stores periodically to confirm the removal of salt, potassium chloride, and automatic water softeners. Conduct other commercial inspections as necessary.

Deliverables: Quarterly and final reports and annual Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan

Category (e): Environmental Compliance/Mitigation/Enhancement

Task 11: Environmental Compliance/Mitigation/Enhancement

Description: The Sanitation District will conduct environmental compliance monitoring in accordance with the Saugus and Valencia WRPs National Pollutant Discharge Elimination System (NPDES) Permits.

Deliverables: Saugus and Valencia WRPs Annual Monitoring Reports to RWQCB.

Category (f): Construction Administration

Task 12: Construction Administration

Description: No construction administration will be conducted as part of the program.

Deliverables: Not Applicable.

Category (g): Other Costs

Task 13: Other Costs

Description: Task 13: Project Monitoring Plan

Project Monitoring Plan Requirements (PMP): A monitoring plan shall be submitted to the State prior to disbursement of grant funds for construction or monitoring activities for this Project. Along with Attachment 6 Project Performance Measures Tables, the PMP may also include: a) Baseline conditions, b) Brief discussion of monitoring systems to be utilized, c) Collect data regarding the reduction in the chloride discharged from the Saugus and Valencia WRPs, total number of confirmed automatic water softeners removed, total number of home inspections conducted, and total number of contacts with public d) Collect and monitor chloride level at WRP discharge location pre and post rebate period, and e) Location of monitoring at WRPs.

Deliverables: PMP

Category (h): Construction/Implementation Contingency

Task 14: Construction/Implementation Contingency

Costs for contingency for construction/implementation have not been assumed as a separate budget item.



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Automatic Water Softener Rebate and Public Outreach
Program (SCVSD-1)**

III. Other Required Information

Procedures

CLWA is the contracting entity that will be the recipient of the grant and act as the grant administrator. CLWA will execute an agreement with the Sanitation District in order to implement the activities outlined in this proposal. No other procedural agreements are identified.

Standards

Chloride samples will be analyzed using the US Environmental Protection Agency (EPA) Test Method 300.0. All appropriate sample handling and quality assurance/quality control procedures will be followed.

Status of Acquisition of Land or ROWs

No land acquisition or right-of-way easements are needed for the project.

Permits

No permits are needed for the project.

Status of Preparation and Completion of Environmental Requirements

The proposed project was determined to be exempt from CEQA.

The tribal notification requirement (PRC §75102) is not applicable to this project, as there are no California Native American tribes on the contact list maintained by the Native American Heritage Commission that have traditional lands located within the area of the proposed project. The project would not involve any development or land disturbance that would impact cultural resources.

Design Plans and Specifications

The plan for the Automatic Water Softener Rebate and Public Outreach Plan, Enforcement Program was presented to the Sanitation District's Board of Directors on October 18, 2010. The program information is available in the Call, Notice, and Agenda of the Special Meeting of the Board of Directors of Santa Clarita Valley Sanitation District, October 18, 2010 and the Minutes of the same meeting.

The Sanitation District intends to use the following performance indications to assess and evaluate the effectiveness of the program: total number of confirmed automatic water softeners removed, total number of Automatic Water Softener Rebates issued, and total number of home inspections completed. The Sanitation District will modify the program as needed as a result of the performance indicators.

Data Management and Monitoring Deliverables

The data management and monitoring procedures for the project will be developed in the PMP, provided for in Task 13. A monitoring plan shall be submitted to the State prior to disbursement of grant funds for construction or monitoring activities for this Project.



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Automatic Water Softener Rebate and Public Outreach
Program (SCVSD-1)**

Work Items to Complete GWMP

CLWA prepared a groundwater management plan (GWMP) in accordance with the provisions of Water Code Section 10753.7, which was originally enacted by AB 3030, for its wholesale service area. CLWA's GWMP was drafted and adopted in 2002. Ordinance No. 34 documenting the adoption of the GWMP will be provided as documentation of this work product.

Submittals to Granting Agency

Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the grant contract will also be submitted to the granting agency.

Other Work Items

No other work items are anticipated to complete this project.



**Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Upper Santa Clara River (USCR) Arundo/Tamarisk Removal
Program (SCARP) Implementation
(SC-1/BCN-1)**

Upper Santa Clara River (USCR) Arundo/Tamarisk Removal Program
(SCARP) Implementation (SC-1/BCN-1)

I. Introduction

Project Name

Upper Santa Clara River (USCR) Arundo/Tamarisk Removal Program (SCARP) Implementation
(SC-1/BCN-1)

Project Description

The Proposed project is the implementation of arundo and tamarisk removal projects in two specific locations within the Upper Santa Clara River watershed. The City of Santa Clarita (City) (SC-1) and a group of homeowners in Los Angeles County unincorporated area who live along Bouquet Canyon Creek (BCN-1) propose to address areas infested by arundo. The goal of implementing these projects (SC-1/BCN-1) is to further reduce the percent cover of arundo within the Upper Watershed to 10% or less, and specifically to get the percent cover of Bouquet Canyon Creek to 10% or less.

The City received an implementation grant from the Department of Water Resources (DWR) Round 1 Implementation Grant to remove arundo and tamarisk from within a site specific implementation area within the City limits, approximately 150 acres (areas D, E, F and G on Figure 1). This Project (SC-1/BCN-1) seeks to move work into the two tributaries of the Santa Clara River, Bouquet Canyon Creek and San Francisquito Creek. Project SC-1 will continue removal of arundo within this vicinity that is in City boundaries in a portion of designated area A (Bouquet Creek confluence) and to the north of area D (San Francisquito Creek). These areas (see Figure 2, red colored areas) are the remaining sections of these two tributaries that flow within the City of Santa Clarita boundary. The Bouquet Canyon Creek has patches of unlined riparian areas that will be treated for arundo removal, as the other areas represent concrete lined areas that Los Angeles County Flood Control District clears of all vegetation annually.

Project BCN-1 involves arundo removal within the upper Bouquet Canyon Creek Network (BCN), outside of the City limits up to the Angeles National Forest boundary. Here, the arundo removal effort will be a joint effort with the City and a group of homeowners whose property is adjacent to the riparian area. The BCN is a group of twenty homeowners located adjacent to the creek that have filed the “Bouquet Canyon Creek Site-Specific Restoration Plan” with the California Department of Fish and Game (CDFG) to allow arundo removal on their property. Implementation within this area will support the efforts by the Angeles National Forest who is also working to abate the arundo and tamarisk on their properties in the Bouquet Canyon Creek tributary. Between the various efforts, the groups are working to meet the collective goal of under 10% arundo in the Bouquet Canyon Creek.

The common work method (discussed below) between SC-1 and BCN-1 will be in the cutting and retreatment of re-sprouts that occurs when warm weather returns, as well as an education component. The SC-1 Project includes removal of arundo and tamarisk, while the BCN-1 Project includes removal of arundo and tree tobacco. BCN-1 also includes a restoration of native plants in the Bouquet Canyon Creek area outside City limits.



Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant
Attachment 3 Work Plan
Upper Santa Clara River (USCR) Arundo/Tamarisk Removal
Program (SCARP) Implementation
(SC-1/BCN-1)

Methodology for Effective Eradication Of The Invasive Species

Two types of restoration efforts will be employed to ensure the effective eradication of the invasive species. The first effort will include the initial treatment of the arundo, which includes non-native biomass removal and herbicide application. Arundo may be ground in place with mechanical equipment such as a brush grinder (where appropriate), or removed by manual means employing tools such as chainsaws and brush cutters. After removal of the targeted vegetation, an appropriate aquatically approved herbicide will be applied. In areas where mechanical vegetation grinding is to occur, arundo will be allowed to resprout to a height of 2 to 3 feet, and herbicide will be applied via foliar spray. In areas where manual removal is to occur, herbicide will be applied immediately to the cut stumps via daubing or painting. Foliar application of herbicide may also occur on non-native stands of vegetation where appropriate. In addition to arundo, other invasive plants may be removed, if applicable. As the area is home to several endangered species, the manual means will likely be the prevailing method.

In addition to removal of noxious weeds, this project contains a potential restoration component. Monitoring of the site will indicate if revegetation is necessary. Native species common to the site such as willows (*Salix* sp.) and mule fat (*Baccharis salicifolia*) reestablish readily through natural recruitment once competition from non-native species is removed. However, it may be determined that certain areas within the site require more rapid enhancement than natural recruitment can provide. This would be accomplished through the installation of cuttings of these species, as appropriate.

Previous restoration efforts have shown that this after treatment monitoring and maintenance program is essential to the success of the restoration effort. The monitoring and maintenance program is backed by the Santa Clara River Invasive Weeds Task Force and funded through an endowment that the US Fish and Wildlife Service developed specifically to fund long-term management of previously cut arundo infestation areas. The City has been in discussions with US Fish and Wildlife Service to continue the life of this program.

SC-1- City of Santa Clarita Project Location Areas: (Figure 2, red outlined)

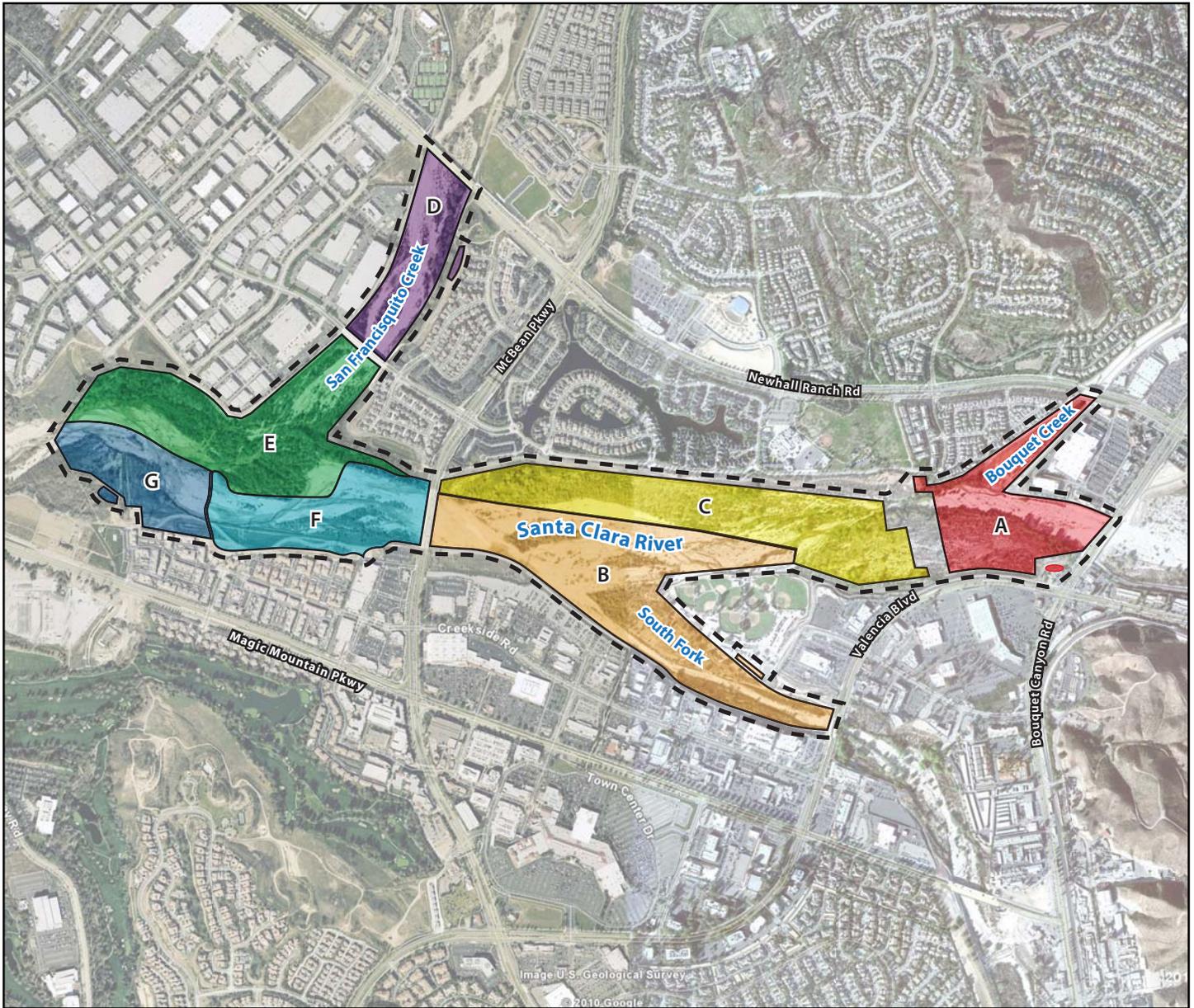
Area 1 - San Francisquito Creek: roughly between Newhall Ranch Road and the City limits near Decoro Drive (approximately 60 acres).

Bouquet Canyon Creek:

Area 2 - Near the confluence of the Santa Clara River up to where the creek is concrete lined near the intersection of Newhall Ranch Road (approximately 30 acres).

Area 3 -Adjacent to the City's Central Park. The City acquired a three acre parcel of riparian area that is not concrete lined, but the areas upstream and downstream are lined (approximately 3 acres).

Area 4 - A joint effort between BCN-1 and SC-1: It is within City limits, but the owner is a member of the BCN-1 group. While the primary work will be completed by BCN-1, the City of Santa Clarita will help with administrative requirements (approximately 7 acres) (shown in pink on Figure 2).



LEGEND:

- Project & Staging Area A
- Project & Staging Area B
- Project & Staging Area C
- Project & Staging Area D
- Project & Staging Area E
- Project & Staging Area F
- Project & Staging Area G

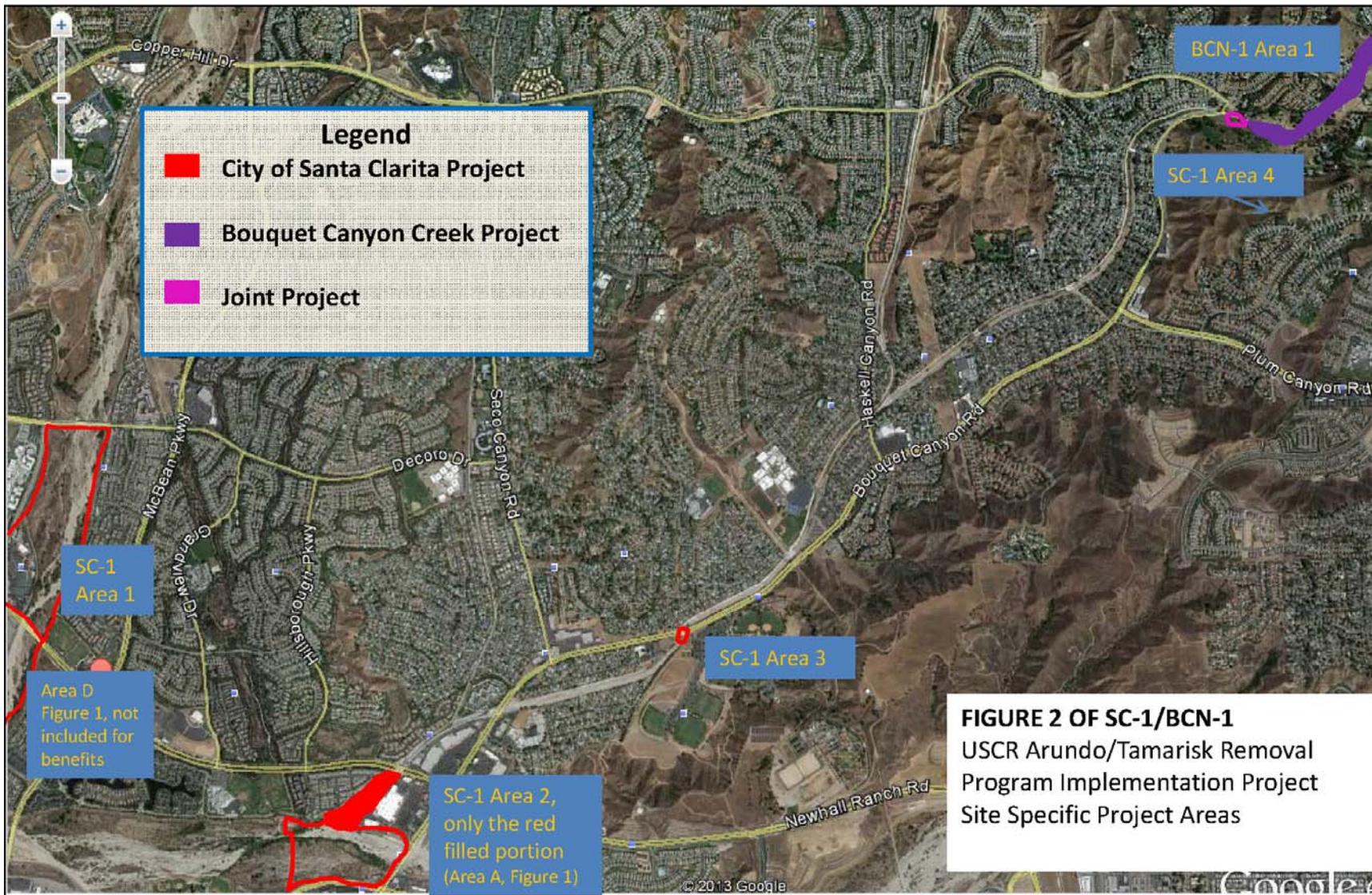


Sources:

1. Upper Santa Clara River Watershed Arundo and Tamarisk Removal Project (SCARP), Site-Specific Implementation Project (SSIP) Area, Wildscape Restoration, November 2008
2. Google Earth - Image U.S. Geological Survey

FIGURE 1 OF SC-1/BCN-1

Santa Clara River, San Francisco Creek Arundo & Tamarisk Removal Project.





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BCN-1 - Bouquet Canyon Creek Restoration Project Location Areas

- (1) A joint effort between BCN-1 and SC1 (shown in pink on Figure 2). It is within City limits, but the owner is a member of the BCN-1 group. While the primary work will be completed by BCN-1, the City of Santa Clarita will help with administrative requirements (approximately 7 acres).
- (2) The second location is adjacent to the City limits in the first location and then continues north along the Bouquet Canyon Creek to the intersection with the Angeles National Forest boundary (approximately 5 acres and shown in purple on Figure 2).

For each of the two BCN-1 Project areas described above, in addition to the removal of the invasive species to be completed, as was described previously, two extra steps are planned, both of which will occur simultaneously for this project.

The BCN-1 project area includes a linear stretch of riparian habitat of 3.5 miles in length along the Bouquet Canyon Creek with approximately 60 to 100 invasive weed sites are arundo. By selecting various weed sites to become restoration points along the creek, the use of native plants to suppress weed regrowth and promote native habitat will achieve local restoration.

The approach of the watershed restoration protocol is simple. For each invasive weed site treated, native plant species will be encouraged to reestablish through a series of transplanting regimes. The native species will represent three canopy levels: tree, shrub, and groundcover. The selected native species will be based on natural plant-to-plant associations; that is, those species that can grow in close proximity to each other based on shared topographic, watershed, and chemical properties. Natural propagation and regrowth of the native plant ecology will be encouraged through seasonal exclusion of new invasive weed sites, monitoring, and nutrient management (carbon inputs) to accelerate the recovery of the native ecology.

A goal to restoring this particular watershed is to educate the landowners on how to protect and steward a section of riparian habitat that interfaces each individual's property. To begin accomplishing this goal, community outreach will take place in order to provide private property owners knowledge on the responsibilities of stewardship for riparian habitats. The education of private property owners will occur on a biannual basis to all those participating with the project. Various components of program will allow private and region technicians, such as: LA County Fire, Natural Resources Conservation Service to provide resources, advice, and activities to help inform landowners of ways to improve their individual riparian habitats. A total of 4 meetings/workshops are planned over the duration of the project to be held at the community center, to allow property owners access to the available resources.

Project Background

In 2006, the Ventura County Resource Conservation District (VCRCD), as the lead agency for the then Ventura County Arundo Task Force, received a \$1.5 million grant from the Proposition 13 State Water Resources Control Board (SWRCB) Non-point Source Pollution Control Program to facilitate the Task Force's regional eradication program of non-native, invasive species such as arundo/giant reed and tamarisk/salt cedar within the Santa Clara River watershed. That effort resulted in the development of the Upper Santa Clara River Arundo and Tamarisk Removal Program (SCARP),

SCARP is a long-term eradication, monitoring, and maintenance plan to guide and facilitate the implementation of arundo and/or tamarisk removal projects within the upper Santa Clara River watershed. The plan includes a programmatic CEQA and National Environmental Policy Act (NEPA) document and related documentation for the implementation, maintenance, and monitoring of arundo and tamarisk removal projects within the riparian corridors (500-year floodplain) of the upper Santa Clara River watershed which



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allows any agency or organization to perform arundo/tamarisk removal projects of any size within upper Santa Clara Watershed. The SCARP is a living document and will be updated periodically as new technologies become available, regulations change, or new resources/issues are identified.

The SCARP also included an implementation aspect which included development of a phased plan to remove arundo/tamarisk on 297 acres of land owned by the City of Santa Clarita. The site specific implementation project covered approximately 75 acres of the 297-acre site and removed 20 acres of arundo and tamarisk. Due to the timeframe of the grant and the presence of endangered species, the Task Force was only able to initiate the first year of the site specific removal project. Since that time returning to the site specific project site to complete the eradication activities has been a priority of the Task Force. As a result of the SCARP effort, several stakeholders have begun to work together to form the Santa Clara River Invasive Weeds Task Force to better coordinate and communicate about invasive species throughout the watershed.

Project Benefits

The restoration of riparian habitat through the removal of these invasive plant species, some of which have colonized in large extents of the Upper Santa Clara River watershed, (1) improves water quality and (2) increases water supply by increasing the available surface and subsurface water that can be utilized for beneficial purposes, (3) also reduces the risk of flooding and fire hazard.

The Project will meet the following IRWM Plan objectives:

- Improve Water Quality
- Enhance Water Supply
- Promote Resource Stewardship

Existing Data and Studies

The following references support SC/BCN-1's feasibility and technical methods. The SCARP included three distinct but interdependent efforts. These efforts included the following documents and permits:

- SC/BCN-1.1 Upper Santa Clara River Arundo/Tamarisk Removal Program – Santa Clarita Site Specific Plan (Ventura County Resource Conservation District/AMEC, July 2005).
- SC/BCN-1.2 Upper Santa Clara River Watershed Arundo and Tamarisk Removal Program – Long Term Implementation Plan (Ventura County Resource Conservation District, June 2006).
- SC/BCN-1.3 Upper Santa Clara River Watershed Arundo/Tamarisk Removal Plan Programmatic Environmental Impact Report (EIR) Final (Ventura County Resource Conservation District) February 2006.
- SC/BCN-1.4 Permits from the US Fish and Wildlife Service, California Department of Fish and Game SAA, and Army Corps of Engineers – 2004 – present.
- SC/BCN-1.5 Upper Santa Clara River Watershed Arundo/Tamarisk Removal Plan Programmatic Environmental Impact Report (EIR) Statement of Findings and Statement of Overriding Considerations, VCRCDC 2006.
- SC/BCN-1.6 Bouquet Canyon Creek Site Specific Restoration Plan, California Department of Fish and Game and Natural Resources Conservation Services, 2011.



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- SC/BCN-1.7 Wildscape Restoration Proposal for Non-Native Invasive Plant Removal, Fall 2012 Santa Clara River Watershed Arundo/Tamarisk Removal Program Site Specific Implementation Project Site, February 15, 2012 .

Project Map

A map of the project area is provided on Figure 2.

Project Timing and Phasing

The SCARP is part of the larger effort to reduce invasive plants, and specifically arundo and tamarisk, to 2% of the canopy within the riparian areas of the Santa Clara River and its tributaries. This project for restoration focuses the effort into the San Francisquito Creek and Bouquet Canyon Creek tributaries and allows areas approximately 25 acres of tributary land to meet the 2% standard.

California Environmental Quality Act (CEQA) documentation has already been completed for areas included in this Project. The Ventura County Resource Conservation District (VCRCD) certified the EIR prepared for the programmatic program, which covers the actions provided for this Project, within the City of Santa Clarita. For the BCN-1 Project, it was considered exempt from CEQA and a Notice of Exemption was completed by the California Department of Fish and Game in August 2011. Project plans have been developed, and construction contracting will begin in October 2013 assuming sub agreements are in place.

II. Work Plan

The tasks necessary to complete the Project are summarized in Table 3-16, and discussed in greater detail below in Table 3-17.

TABLE 3-16: OVERVIEW OF SC-1/BCN-1 WORK PLAN

Task Number	Work Task Title	Budget	Schedule	
			Start Date	End Date
a)	Direct Project Administration Costs	\$27,700	6/17/14	2/29/16
1	Administration	\$22,700	6/17/14	2/29/16
2	Labor Compliance Program	\$5,000	6/17/14	2/29/16
3	Reporting	See Note 1	9/17/14	2/29/16
b)	Land Purchase/Easement	NA	NA	NA
4	Land Purchase/Easement	NA	NA	NA
c)	Planning/Design/Engineering/ Environmental Documentation	\$62,275	6/17/14	12/30/14
5	Assessment and Evaluation	\$2,275	NA	NA
6	Design/Engineering	NA	NA	NA
7	Environmental Documentation	NA	NA	NA
8	Permitting	\$60,000	6/17/14	12/30/14
d)	Construction/Implementation	\$ 379,250	9/1/14	2/29/16
9	Construction Contracting	NA	NA	NA
10	Construction/Implementation	\$379,250	9/1/14	2/29/16
e)	Environmental Compliance/Mitigation/Enhancement	\$18,000	9/1/14	2/29/16
11	Environmental Compliance	\$18,000	9/1/14	2/29/16
f)	Construction Administration	\$40,000	11/28/14	2/29/16
12	Construction Administration	\$40,000	11/28/14	2/29/16



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Task Number	Work Task Title	Budget	Schedule	
			Start Date	End Date
g)	Other Costs	NA	6/17/14	9/26/14
13	PMP	See Note 2	6/17/14	9/26/14
	Construction/Implementation			
h)	Contingency	\$45,000	9/1/14	2/29/16
14	Construction Contingency	\$45,000	9/1/14	2/29/16
GRAND TOTAL		\$572,225		

Notes: 1) Costs for Task 3 have been included in Task 1
2) Costs for Task 13 have been included in Task 12.

Tasks necessary to implement the USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1) are described in Table 3-17.

TABLE 3-17: WORK PLAN FOR USCR ARUNDO/TAMARISK REMOVAL PROGRAM (SCARP) IMPLEMENTATION (SC/BCN-1)

Budget Category (a): Direct Project Administration Costs

Task 1: Administration

Description: Project administration includes administration of grant and construction contracts, preparation of reports and plans, coordination of construction contracts between sites and coordination of agreements between the City of Santa Clarita and the BCN-1 group homeowners, and other activities as required to complete construction that may not be directly related to those tasks. The budget for this project assumes the project manager will spend an average of 16 hours per month on this project over the entire 2 year duration.

Deliverables: Invoices.

Task 2: Labor Compliance Program

Description: The City has a Labor Compliance Program in accordance with the Labor Code 1771.5; ID: 2003.00362. The City's Labor Compliance Specialist will be on staff and will be available to perform preconstruction meetings, to provide reporting forms, perform inspections, and written reports as required in state law for this project.

Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.

Task 3: Reporting

Description: The Sustainability Planner for the City of Santa Clarita will complete required tracking and quarterly reports as required by this grant and submit them to CLWA, the granting agency. This person will also coordinate with contractors and develop the necessary administrative record (contracts, RFPs, City Council items, etc.) necessary to complete the requirements of the grant. A final summary report will be prepared and submitted once the project is completed.

Deliverables: Quarterly and a final report as specified in the Grant Agreement.

Budget Category (b): Land Purchase/Easement

Task 4: Land Purchase/Easement

Description: Not applicable. No land purchase or easements are required. Property access agreements with private property owners for the BCN portion of the project are on file with the CDFG.

Deliverables: N/A



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Budget Category (c): Planning/Design/Engineering/Environmental Documentation

Task 5: Assessment and Evaluation

Description: All planning and preliminary design efforts have been successfully completed.

Deliverables: Santa Clarita Site Specific Plan and the Bouquet Canyon Creek Site Specific Restoration Plan.

Task 6: Design/Engineering

Description: Design of the Project is complete and documented in the Santa Clarita Site Specific Plan, Santa Clara River Long Term Implementation Plan, and a programmatic EIR with regional agency permitting.

Deliverables: Santa Clara River Long Term Implementation Plan.

Task 7: Environmental Documentation

Description: For the SC-1 portion of the Project, the VCRCDC certified the EIR prepared for the programmatic program, which covers the actions provided for the City of Santa Clarita's portion of the project. CEQA for the BCN-1 portion of this Project was completed by the CDFG in August 2011 with a Notice of Exemption.

Deliverables: Programmatic EIR. Negative Declaration #: 2011098367

Task 8: Permitting

Description: This project plans to utilize the Upper Santa Clara River Arundo/Tamarisk Removal Program (SCARP) programmatic permits held by the VCRCDC. A CDFG Section 1602 Streambed Alteration Agreement, Army Corps 404/401 certifications had previously been acquired, but will now need annual renewal to ensure compliance.

Deliverables: Copies of permits ACOE 404/RWQCB 401, CDFG Section 1602.

Budget Category (d): Construction/Implementation

Task 9: Construction Contracting

Description: Removal of arundo and tamarisk is currently done at the current sites using the subcontractor Wildscape Restoration. The contractor was chosen during the project bid and award process in 2008. The proposed project will utilize this contract which can be amended for current and future work of a similar type and scale.

Deliverables: Notice of Proceed

Task 10: Construction

Description:

SubTask10.1 - Mobilization and Site Preparation

- Pre-construction surveys
- Pre-construction meeting
- Delivering equipment to site and predetermined staging area

Subtask 10.2 - Project Construction

- Biological monitor on site at all times
- Project management consultant surveying initial work
- Deploying tractors and chippers
- Vegetation removal hand crews



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- Certified applicators daubing Aquamaster with Blazon dye over cut arundo stalks
- Removing biomass to chipper and placing chipped material into dump truck for appropriate disposal
Dump truck hauls material away

Subtask 10.3 - Manage Resprouts

- Project management consultant monitors for resprouts
- Hand crews and biologists deployed to spray resprouts with Aquamaster with Blazon dye
- Three rounds of managing resprouts have been assumed in the budget for this subtask

Deliverables: Notice of Completion.

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

Task 11: Assessment and Evaluation

Description: CEQA compliance for the project is discussed in Task 7. The VCRCDD adopted a Mitigation Monitoring Plan as part of the Final PEIR which contains feasible mitigation measures to reduce impacts to the environment from implementation of the SCARP (see Reference SC-1/BCN-1.5 included on CD). The programmatic EIR describes the range of techniques typically employed for removal of arundo and tamarisk infestations, analyzes the impacts resulting from the range of techniques, and identifies appropriate mitigation measures. This allows for the selection from a wide variety of techniques by future project proponents. Project proponents wishing to use techniques not covered by these programmatic permits would need to apply for individual permits for future removal projects. The EIR determined potential short-term significant impacts: Noise, Water Quality, and Biological Resources. However, due to the long term environmental benefits, a Statement of Overriding Considerations was adopted by the VCRCDD.

These efforts have not been budgeted separately and their costs are included in the Design/Engineering Task (Task 6). Also, please see Task 13 for PMP.

Budget Category (f): Construction Administration

Task 12: Construction Administration

Description: During construction, City staff and project management consultants will provide construction management and administration. This includes including daily on-site observation before the start of work; inspection of equipment to ensure good working order; checking progress and issues from previous day, developing action plan for working in consultation with on site biologist.

Deliverables: Quarterly and final reports.

Budget Category (g): Other Costs

Task 13: Project Monitoring Plan

Project Monitoring Plan Requirements (PMP): A monitoring plan shall be submitted to the State prior to disbursement of grant funds for construction or monitoring activities for this Project. Along with Attachment 6 Project Performance Measures Tables, the PMP may also include: a) Collect and maintain information regarding weed removal, planting/seeding (number, size, species, and location), bird/animal counts, and other project related activities, in accordance with the Santa Clara River Invasive Weeds Task Force, b) Compile and analyze collected data and use results to assess progress toward project objectives, c) Santa Clara River monthly monitoring of water quality (dissolved oxygen, pH, temperature, turbidity, conductivity, salinity, TDS).

Deliverables: PMP



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Budget Category (h): Construction/Implementation Contingency

Task 14: Construction Contingency

Description: A construction/implementation contingency effort is included for this project to cover the cost of potential change orders during implementation of Task 10 activities. In addition, this contingency task includes management of unknown conditions that may be encountered during construction or implementation of the project, such as to cover delays to avoid bird breeding season or the need for biological surveys to avoid sensitive species. The contingency is estimated to be 15% of the total cost of implementation and is based on professional knowledge for this type of project.

III. Other Required Information

Procedures

The City and stakeholders through the Task Force will be working with the US Fish and Wildlife Service to fund long-term management of previously cut arundo infestations. The BCN group of homeowners has all completed the CDFG's Landowner Access Agreement which allows access to their property for arundo removal.

CLWA is also the contracting entity that will be the recipient of the grant and act as the grant administrator. CLWA will execute an agreement with the City of Santa Clarita in order to implement the activities outlined in this proposal.

Standards

The project will be designed and constructed in accordance with the appropriate standards, including those from the Association of Testing and Materials (ASTM), American Water Works Association (AWWA), and other construction industry entities, as applicable. All California Department of Public Health requirements will be strictly enforced.

Status of Acquisition of Land or Right-of-Way

No land purchase or easements are required for this Project. However, if needed, the City has requested and been granted access to Los Angeles County property for staging or accessing land on flood control right-of-way or easements.

Permits

Required permits are described above in Task 8. Permits had previously been acquired, but will now need annual renewal to ensure compliance.

Status of Preparation and Completion of Environmental Requirements

CEQA has been previously complied with for the SC-1 project. CEQA for the BCN-1 portion of this Project has been completed by the CDFG in August 2011 with a Notice of Exemption.

The tribal notification requirement (PRC §75102) is not applicable to this project, as there are no California Native American tribes which are on the contact list maintained by the Native American Heritage Commission that have tribes that have traditional lands located within the area of the proposed project.



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Data Management and Monitoring Deliverables

The data management and monitoring procedures for the Project will be developed in the PMP, provided for in Task 13.

Work Items to Complete GWMP

CLWA prepared a groundwater management plan (GWMP) in accordance with the provisions of Water Code Section 10753.7, which was originally enacted by AB 3030, for its wholesale service area. CLWA's GWMP was drafted and adopted in 2002. Ordinance No. 34 documenting the adoption of the GWMP will be provided as documentation of this work product.

Submittals to Granting Agency

Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the grant contract will also be submitted to the granting agency.

Other Work Items

No other work items are anticipated to complete this project. It is possible that SC-1/BCN-1 will have a positive impact to the underlying groundwater basin by protecting the recharge area, replacing high water use non-native plants with natives, and improving the water quality by increasing the available surface and subsurface water; reducing erosion and sedimentation after native vegetation becomes established; reducing salinity in the water and soil produced by tamarisk trees; and improving hydrogeomorphological characteristics of the watershed. As SC-1/BCN-1 is not a recharge or groundwater management project; a GWMP need not be prepared.