3.13 WATER SERVICE

INTRODUCTION

This section discusses water service within the One Valley One Vision (OVOV) Planning Area. The OVOV Planning Area is composed of the County's Planning Area and the City's Planning Area. The County's Planning Area consists of unincorporated land within the OVOV Planning Area boundaries. The City's Planning Area consists of its incorporated boundaries and adopted Sphere of Influence (SOI). In this environmental impact report (EIR) water service section; water service is analyzed on a regional basis for the OVOV Planning Area based on the proposed buildout of the County's Area Plan and City's General Plan. The OVOV Planning Area is referred to in this section as the Santa Clarita Valley.

For the purposes of buildout under the proposed Area Plan, this analysis emphasizes water use over the next 20 years (2030). The proposed buildout of the OVOV Planning Area would generate a total water demand of 125,400 acre-feet per year (afy) in 2030 with 10 percent water conservation. Water demand would be served by local groundwater and State Water Project (SWP) water supplied by the Castaic Lake Water Agency (CLWA). Portions of the County's Planning Area outside the service area of CLWA would be served by local groundwater supplied by private wells. Non-potable water demand would be supplemented with the use of recycled (reclaimed) water from the existing Valencia WRP and the approved Newhall Ranch WRP.

Potable water would be supplied from the existing or planned water supplies of CLWA, including imported water from CLWA's SWP supplies. CLWA's water supplies, including imported water from the SWP, and other non-SWP supplies, are assessed in this EIR. Based on the information presented, an adequate supply of water would be available to serve the OVOV Planning Area at its proposed buildout population of 443,000. The water sources within the OVOV Planning Area will rely on local groundwater, SWP water, and recycled water from local WRPs.

Over the past several years, questions have been raised regarding the reliability of SWP water delivered by CLWA, the ability of local water purveyors to deliver an adequate and reliable supply of water to its customers, and the extent to which ammonium perchlorate discovered in local groundwater reduces the amount of local water available in the Valley. Provided below are answers to these questions, in non-technical terms.

Where does the OVOV Planning Area water come from (what are the supply sources)?

The OVOV Planning Area lies within the groundwater basin identified in Department of Water Resources (DWR) Bulletin 118 (2003 Update) as the Santa Clara River Valley Groundwater Basin, East Subbasin (Basin) (See **Appendix 3.13**). The Basin is comprised of two aquifer systems, the Alluvium and the Saugus Formation. The Alluvium (also referred to as the Alluvial aquifer) generally underlies the Santa Clara River and its several tributaries, and the Saugus Formation underlies practically the entire Upper Santa Clara River area.

As discussed above, the projected total water demand for buildout of the OVOV Planning Area is 125,400 afy in a normal/average year with 10 percent water conservation. Project water demand increases by approximately 10 percent in a dry year to a total of 137,900 afy with 10 percent water conservation afy. Water sources expected to serve the OVOV Planning Area are CLWA's supplies of local groundwater and SWP water to meet the potable demand, and recycled water from the approved Newhall Ranch WRP and existing Valencia WRP to help supply non-potable demand. These supplies are readily available from the CLWA, and existing and approved water reclamation plants (either the existing Valencia WRP or the approved Newhall Ranch WRP).

How reliable are the water supply sources for the OVOV Planning Area?

Both the Alluvial aquifer and the Saugus Formation can meet the groundwater demands for the Santa Clarita Valley under both short- and long-term conditions without creating any significant groundwater impacts. The groundwater component of the overall water supply in the Santa Clarita Valley derives from a groundwater operating plan developed by CLWA and the local retail purveyors over the past 20 years to meet water requirements (municipal, agricultural, small domestic), while maintaining the Basin in a sustainable condition (i.e., no long-term depletion of groundwater or interrelated surface water). This operating plan also addresses groundwater contamination issues in the Basin. This operating plan is based on the concept that pumping can vary from year-to-year to allow increased groundwater use in dry periods and increased recharge during wet periods, and to collectively assure that the Basin is adequately replenished through various wet/dry cycles. The operating yield for the Basin has been quantified as ranges of annual pumping volumes. The groundwater operating plan is further described below. The operating plan addresses both the Alluvial aquifer and the Saugus Formation.

Groundwater supplies were evaluated in the *2005 Urban Water Management Plan (UWMP)* and the 2005 *Analysis of Groundwater Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, Los Angeles*

County, California (Basin Yield Report). This evaluation resulted in the following findings: (a) both the Alluvial aquifer and the Saugus Formation are reasonable and sustainable sources of local water supplies at the yields stated in the *2005 UWMP* over the next 25 years; (b) the yields are not overstated and will not deplete or "dry-up" the groundwater basin; and (c) there is no need to reduce the yields for purposes of planning, as shown in both the *2005 UWMP* and the 2005 *Basin Yield Report* (see this EIR, **Appendix 3.13**, for the *2005 UWMP* and the *2005 Basin Yield Report*). In addition, both the *2005 UWMP* and 2005 *Basin Yield Report* determined that neither the Alluvial aquifer nor the Saugus Formation is in an overdraft condition, or projected to become overdrafted.

Alluvium

As stated in the *2007 Santa Clarita Valley Water Report, April 2008* (*2007 Water Report*) and the *2005 Urban Water Management Plan* (*2005 UWMP*; see this EIR, **Appendix 3.13**), the operating plan for the Alluvial aquifer involves pumping from the Alluvial aquifer in a given year, based on local hydrologic conditions in the eastern Santa Clara River watershed. Pumping ranges between 30,000 and 40,000 afy during normal/average and above-normal rainfall years. However, due to hydrogeologic constraints in the eastern part of the Basin, pumping is reduced to between 30,000 and 35,000 afy during locally dry years.

Saugus Formation

As stated in the *2007 Water Report* and the *2005 UWMP*, pumping from the Saugus Formation in a given year is tied directly to the availability of other water supplies, particularly from the SWP. During average year conditions within the SWP system, Saugus pumping ranges between 7,500 and 15,000 afy. Planned dry-year pumping from the Saugus Formation ranges between 15,000 and 25,000 afy during a dry year and can increase to between 21,000 and 25,000 afy if SWP deliveries are reduced for two consecutive dry years and between 21,000 and 35,000 afy if SWP deliveries are reduced for three consecutive dry years. Such pumping would be followed by periods of reduced (average-year) pumping, at rates between 7,500 and 15,000 afy, to further enhance the effectiveness of natural recharge processes that would recover water levels and groundwater storage volumes after the higher pumping during dry years.

Does the OVOV Planning Area rely on State Water Project supplies?

Yes. As indicated above, the OVOV Planning Area will use local groundwater, SWP water, and recycled water from local WRPs. These water sources meet the water demands of the proposed buildout and potable water would be used or relied upon from CLWA's existing or planned supplies. This EIR summarizes CLWA's supplies available to the Santa Clarita Valley as a whole.

The reliability of SWP water supplies varies depending upon several factors. The primary factors affecting SWP deliveries are the availability of SWP supplies and the SWP Contractors' demands for this water. Climatic conditions and other factors can significantly alter and reduce the availability of SWP water in any year. The amount of water the DWR determines is available and allocates for delivery in a given year is based on that year's hydrologic conditions, the amount of water in storage in the SWP system, current regulatory, environmental, and operational constraints, and the SWP Contractors' requests for SWP supplies.

CLWA takes delivery of its SWP water at Castaic Lake, a terminal reservoir on the West Branch of the California Aqueduct. From Castaic Lake, CLWA delivers its SWP supplies to the local retail water purveyors through an extensive transmission pipeline system. CLWA is one of 29 water agencies (commonly referred to as "SWP Contractors"), with a long-term SWP water supply contract with DWR. Each SWP contractor's SWP water supply contract contains a "Table A," which lists the maximum amount of water a contractor may request each year throughout the life of the contract. Currently, CLWA's annual Table A Amount is 95,200 acre-feet (af).[1, 2]

In an effort to assess the impacts of various conditions on SWP supply reliability, DWR released the *2007 State Water Project Delivery Reliability Report* (August 2008) (see **Appendix 3.13**). The report assists SWP Contractors in assessing the reliability of the SWP component of their overall supplies. The DWR computer-based reliability projections have been applied to CLWA's maximum Table A Amount yields in tabular form (see **Tables 3.13-11** through **3.13-14**).[3] The results show that adequate water supplies are available to meet the potable and non-potable demands of the proposed Area Plan buildout, in addition to existing and planned future uses in the Santa Clarita Valley, without resulting in significant environmental impacts to the Santa Clara River, the local Basin, or downstream users in Ventura County.

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1 CLWA's original SWP water supply contract with DWR was amended in 1966 for a maximum annual Table A Amount of 41,500 af. In 1991, CLWA purchased 12,700 af of annual Table A Amount from a Kern County water district, and in 1999 purchased an additional 41,000 af of annual Table A Amount from another Kern County water district, for a current total annual Table A Amount of 95,200 af.

2 See subsection, CLWA Imported Water Supplies and Facilities, this Section.

3 The tables in CLWA Imported Water Supplies and Facilities of this Section (see **Tables 3.13-11** through **3.13-14**) include CLWA's SWP and non-SWP supplies for the Santa Clarita Valley.

What is the likelihood of perchlorate contamination of the OVOV Planning Area water sources?

Valencia Water Company investigated the future risk of perchlorate contamination on its new wells. In summary, the approach used to investigate the potential capture of perchlorate-impacted groundwater by the new wells involved three sequential steps: identification of local and regional groundwater flow patterns in the Alluvium; application of a single layer groundwater flow model to examine the capture zone of the four-well "well field" under planned operating conditions; and interpretation of potential capture of perchlorate via examination of the well's theoretical independent capture zone relative to the known occurrence of perchlorate in the Alluvium. The latter step was subsequently augmented by considering other factors, such as the locations and magnitude of pumping between the new wells and the known occurrence of perchlorate, which affect the potential capture of perchlorate by the new wells. The groundwater supplies for buildout of the OVOV Planning Area are not considered to be at risk due to perchlorate contamination released from the former Whittaker-Bermite facility.[4]

Will either buildout of the OVOV Planning Area or perchlorate contamination result in overdrafting the local groundwater basin?

It has been suggested that the amount of water available from local groundwater supplies is overstated and that the effects of perchlorate contamination are not adequately analyzed in the *2005 UWMP*. This EIR contains an analysis of this issue, as does the *2005 UWMP*. An important aspect of this work was the completion of the *2005 Basin Yield Report* (see this EIR, **Appendix 3.13** [*2005 Basin Yield Report*]). The primary determinations made in that report are that, despite perchlorate contamination (1) both the Alluvial aquifer and the Saugus Formation are sustainable sources at the operational plan yields stated in the *2005 UWMP* over the next 25 years; (2) the yields are not overstated and will not deplete or "dry up" the groundwater basin; and (3) there is no need to reduce the yields shown in the *2005 UWMP*. Additionally, the Basin Yield Report concluded that neither the Alluvial aquifer nor the Saugus Formation is in an overdraft condition or projected to become overdrafted.

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4 See, *Potential Capture of Perchlorate Contamination*, Valencia Water Company's Wells E14–E17, Prepared by Luhdorff and Scalmanini for the Valencia Water Company, dated April 26, 2006. This report is found in Appendix 3.13 of this EIR.

Was a SB 610 Water Supply Assessment prepared for the OVOV Planning Area, and if so, what were the findings of that assessment?

No. An SB 610 water supply assessment was not completed for the proposed buildout of the County's Area Plan and City's General Plan (i.e., the OVOV Planning Area). Under SB 610, water supply assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code 10912[a]) subject to CEQA. Most, if not all, General Plans and General Plan updates in the State of California are evaluated through the preparation of a Program EIR per the CEQA. A Program EIR can be characterized as more of a "big picture" environmental document that analyzes large-scale projects on a macro level rather than at the micro level, which is what Project EIRs are used for. The Program EIR enables the County of Los Angeles and City of Santa Clarita to examine the overall effects of the proposed course of action and to take steps to avoid unnecessary adverse environmental effects at the macro level.

Do adequate and reliable water supplies exist in the Santa Clarita Valley to serve the existing population during future average, dry and multiple dry years?

Yes. In average years, dry years, and multiple-dry years, the data provided by CLWA and the local purveyors shows that adequate and reliable water supplies exist in the Santa Clarita Valley to serve the existing population during future average, dry, and multiple-dry years. (See EIR, **Tables 3.13-11** through **3.13-14**, below.)

Will adequate and reliable water supplies exist in the Valley to serve existing and future populations during average, dry and multiple dry years?

Yes. In order to analyze the cumulative water impacts of the proposed Area Plan in combination with other expected future growth, the amount and location of growth expected to occur in the OVOV Planning Area was predicted. A cumulative development scenario is analyzed for this water analysis in order to meet CEQA requirements. The cumulative scenario analyzed in this EIR is referred to as the "Santa Clarita Valley 2030 Buildout Scenario." Under this scenario, available supplies would exceed demand in average/normal years, a single-dry year, and multiple dry years through 2030. Therefore, the proposed buildout of the County's Area Plan would not contribute to any significant cumulative impacts on the Santa Clarita Valley's water supplies. Additionally, adequate and reliable water supplies will exist in the Valley to support its proposed buildout population of 443,000 during average, dry, and multiple dry years.

Does the proposed buildout of the County's Area Plan cause significant cumulative impacts on water supplies in the Santa Clarita Valley?

No. Because buildout of the County's Area Plan relies on local groundwater, imported SWP supplies, and recycled water to meet its potable and non-potable water demands, it would not contribute to any significant cumulative water impacts in the Santa Clarita Valley.

INTRODUCTION

This water service section discusses, at a programmatic level, the OVOV Planning Area's (i.e., Santa Clarita Valley) existing conditions relative to water supplies and demand, and the impacts of the Valley's proposed buildout on available water supplies. Impacts on water services from the proposed buildout of the County's Area Plan would be less than significant and no mitigation measures are required. Cumulative water service impacts from buildout of the Santa Clarita Valley would also be less than significant and no cumulative mitigation measures would be required.

EXISTING CONDITIONS

Water supply and demand in the Santa Clarita Valley is affected by existing conditions, including local climatic conditions, demographics in the region, existing topography and regional area geology and hydrology, surface water flows, effects of drought cycles both locally and regionally, and effects of urbanization in the valley. These local conditions are evaluated in several documents listed below. This list also identifies the documents that were used or relied upon in the preparation of this section.

The documents, some of which are referenced appendices, are incorporated by reference and are available for public inspection and review at CLWA (wholesale water agency) 22722 Soledad Canyon Road, Santa Clarita, California 91350, or the Valencia Water Company (local retail water supplier), 24631 Avenue Rockefeller, Valencia, California 91355. The documents referred to throughout this section were used in formulating an independent determination of the sufficiency of the identified water supplies to meet the proposed demands of the proposed buildout of the OVOV Planning Area.

- *2005 Urban Water Management Plan*, prepared for Castaic Lake Water Agency, CLWA Santa Clarita Water Division, Newhall County Water District, Valencia Water Company, Los Angeles County Waterworks District No. 36, prepared by Black & Veatch, Nancy Clemm, Kennedy Jenks Consultants, Jeff Lambert, Luhdorff & Scalmanini, Richard Slade and Associates, November 2005 (2005 UWMP).
- *Analysis of Groundwater Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, Los Angeles County, California*, prepared by CH2M HILL, in cooperation with Luhdorff & Scalmanini, in

support of the August 2001 Memorandum of Understanding between the Upper Basin Water Purveyors and the United Water Conservation District August 2005 (Basin Yield Study).

- *Santa Clarita Valley Water Report 2006*, prepared for CLWA, Los Angeles County Waterworks District No. 36, Santa Clarita Water Division, Newhall County Water District and Valencia Water Company by Luhdorff and Scalmanini, Consulting Engineers, May 2007 (SCVWR, 2007).
- *Santa Clarita Valley Water Report 2007*, prepared for CLWA, Los Angeles County Waterworks District No. 36, Santa Clarita Water Division, Newhall County Water District and Valencia Water Company by Luhdorff and Scalmanini, Consulting Engineers, April 2008 (SCVWR, 2008).
- *The Santa Clarita Valley 2007 Consumer Confidence Report*, prepared by CLWA, CLWA's Santa Clarita Water Division, Newhall County Water District, and Valencia Water Company, 2007.
- *The Santa Clarita Valley 2008 Water Quality Report*, prepared by CLWA, CLWA's Santa Clarita Water Division, Newhall County Water District, and Valencia Water Company, 2008.
- *2001 Update Report: Hydrogeologic Conditions in the Alluvial and Saugus Formation Aquifer Systems*, prepared for Santa Clarita Valley Water Purveyors by Richard C. Slade and Associates, LLC, July 2002 (Slade, 2002).
- *CLWA Capital Improvement Program* prepared by Kennedy/Jenks Consultants, 2003.
- *Water Supply Reliability Plan Draft Report* prepared for CLWA by Kennedy/Jenks Consultants, September 2003.
- *Memorandum of Understanding* between Castaic Lake Water Agency and Newhall County Water District, September 2005.
- *Memorandum of Understanding* between the Santa Clara River Valley Upper Basin Water Purveyors and United Water Conservation District, August 2001 (MOU, 2001).
- *Groundwater Management Plan – Santa Clara River Valley Groundwater Basin, East Subbasin*, prepared for CLWA by Luhdorff & Scalmanini Consulting Engineers, December 2003.
- *Regional Groundwater Flow Model for the Santa Clarita Valley: Model Development and Calibration*, prepared for Upper Basin Water Purveyors (CLWA, CLWA Santa Clarita Water Division, Newhall County Water District and Valencia Water Company) by CH2M HILL, April 2004.
- *Analysis of Perchlorate Containment in Groundwater near the Whittaker-Bermite Property, Santa Clarita, California*, prepared for Upper Basin Water Purveyors in support of the Department of Health Services 97-005 Permit Application by CH2M HILL, December 2004.
- *Analysis of Near-Term Groundwater Capture Areas for Production Wells Located Near the Whittaker-Bermite Property (Santa Clarita, California)*, prepared for Upper Basin Water Purveyors in support of the amended 2000 UWMP by CH2M HILL, December 21, 2004.

- *Water Supply Contract Between the State of California Department of Water Resources and CLWA, 1963* (plus amendments, including the "Monterey Amendment," 1995, and Amendment No. 18, 1999, the transfer of 41,000 acre-feet of SWP supplies from Kern County Water Agency to CLWA).
- *2002 Semitropic Groundwater Storage Program and Point of Delivery Agreement* among the Department of Water Resources of the State of California, CLWA and Kern County Water Agency.
- *2002 Draft Recycled Water Master Plan* prepared for CLWA by Kennedy/Jenks Consultants.
- *Draft Program Environmental Impact Report - Recycled Water Master Plan*, prepared for CLWA by Bon Terra Consulting, November 2006.
- *Final Program Environmental Impact Report - Recycled Water Master Plan*, prepared for CLWA by Bon Terra Consulting, March 2007.
- *2002 and 2003 Semitropic Groundwater Storage Programs* prepared for CLWA by Kennedy/Jenks Consultants.
- *Draft Environmental Impact Report – Supplemental Water Project Transfer of 41,000 acre-feet of State Water Project Table A Amount*, prepared for CLWA by Science Applications International Corporation, June 2004.
- *Final Environmental Impact Report – Supplemental Water Project Transfer of 41,000 acre-feet of State Water Project Table A Amount*, prepared for CLWA by Science Applications International Corporation, December 2004.
- *Draft Environmental Impact Report - Rosedale-Rio Bravo Water Storage District (RRBWSD) Water Banking and Exchange Program*, prepared for CLWA by Science Applications International Corporation, August 2005.
- *Final Environmental Impact Report - Rosedale-Rio Bravo Water Storage District (RRBWSD) Water Banking and Exchange Program*, prepared for CLWA by Science Applications International Corporation, October 2005.
- *Draft Environmental Impact Report - Castaic Lake Water Agency Water Acquisition from the Buena Vista Water Storage District and Rosedale-Rio Bravo Water Storage District Water Banking and Recovery Program*, prepared for CLWA by Science Applications International Corporation, June 2006.
- *Final Environmental Impact Report - Castaic Lake Water Agency Water Acquisition from the Buena Vista Water Storage District and Rosedale-Rio Bravo Water Storage District Water Banking and Recovery Program*, prepared for CLWA by Science Applications International Corporation, October 2006.
- California Department of Water Resources, *California's Groundwater*, Bulletin 118, Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin, February, 2004.

- California Department of Water Resources, *Groundwater Basins in California*, Bulletin 118-80, January 1980. (DWR Bulletin 118-80, 1980).
- California Department of Water Resources, *The State Water Project Delivery Reliability Report 2002*, May 2003. (DWR Reliability Report, May 2003).
- California Department of Water Resources, *The State Water Project Delivery Reliability Report 2005*, Final, April 2006. (DWR Reliability Report, April 2006).
- California Department of Water Resources, *The State Water Project Delivery Reliability Report 2007*, August 2008. (DWR Reliability Report, August 2008).
- California Department of Water Resources, *California's Drought* and associated publications, http://www.water.ca.gov/drought (accessed, December 8, 2008).
- 2008 *Water Master Plan, Draft*, (Santa Clarita Water Division of the Castaic Lake Water Agency), Civiltec Engineering, Inc., May 19, 2008.
- CLWA Letter to Los Angeles County Department of Regional Planning, February 2008.
- CLWA Letter to City of Santa Clarita and Los Angeles County Department of Regional Planning, June 2007.
- *Additional CEQA Findings Regarding the Newhall Ranch Final Additional Analysis to the Partially Certified Final EIR for the Newhall Ranch Specific Plan and Water Reclamation Plant*. March 2003. (Los Angeles County 2003).
- *Mitigated Negative Declaration – Groundwater Containment, Treatment and Restoration Project*, prepared by Kennedy/Jenks Consultants for Castaic Lake Water Agency, September 2005.
- *Interim Remedial Action Plan*, to facilitate and restore pumping of groundwater from two Saugus Formation production wells impacted by perchlorate, prepared by Kennedy/Jenks Consultants for Castaic Lake Water Agency and approved by the Department of Toxic Substances Control, December 2005.
- *Impact and Response to Perchlorate Contamination, Valencia Water Company Well Q2*, prepared by Luhdorff & Scalmanini Consulting Engineers, April 2005 (Q2 Report).
- *Analysis of Perchlorate Containment in Groundwater near the Whittaker-Bermite Property, Santa Clarita, California*, prepared by CH2MHill for the Upper Basin Water Purveyors in Support of the Department of Health Services 97-005 Permit Application, December 2004 and UWMP.
- *Newhall Ranch Revised Additional Analysis*, Volume VIII (Final Revised Text, Figures and Tables), prepared by Impact Sciences Inc., for Los Angeles County, May 2003.

- Nickel Water contract and environmental documentation (see, Newhall Ranch Revised Draft Additional Analysis, Volume II, prepared by Impact Sciences, Inc., for Los Angeles County, November 2002, Appendix 2.5(b), (c)).
- Technical Memorandum: *Potential Effects of Climate Change on Groundwater Supplies for the Newhall Ranch Specific Plan, Santa Clarita Valley, California*, prepared by GSI Water Solutions, Inc. (John Porcello), March 18, 2008.
- Summary Report to Department of Toxic Substances Control from AMEC Geomatrix regarding Former Whittaker-Bermite Facility, Santa Clarita, California, November 17, 2008.
- Statewide Drought Press Release and Executive Order S-06-08, June 4, 2008.

Please refer to the above-referenced documents for pertinent water supply assessment information.

WATER AGENCIES OF THE SANTA CLARITA VALLEY

Imported SWP supplies from CLWA are needed to serve the OVOV Planning Area's potable water demands, including the County's potable water demands. The OVOV Planning Area will use local groundwater, Nickel water, SWP supplies, and recycled water from local WRPs to meet its potable and non-potable water demands. Local supplies that are readily available include the local groundwater basin, contracts (Nickel water), and existing and approved WRPs. Because imported SWP supplies are relied upon, the following discussion of imported water supplies from CLWA is presented in this EIR for information purposes.

Castaic Lake Water Agency

CLWA, a wholesale public water agency, was formed in 1962 through passage of the "Castaic Lake Water Agency Law."[5] At that time, CLWA's purpose was contracting with State of California, through DWR, to acquire and distribute SWP water to its retail water purveyors. The retail purveyors are Santa Clarita Water District (SCWD), Los Angeles County Waterworks District No. 36 (LACWD No. 36), Newhall County Water District (NCWD) and Valencia Water Company (VWC).

Since 1962, subsequent legislation broadened CLWA's purpose, which now includes, but is not limited to, the following: (a) Acquire water from the state; (b) Distribute such water wholesale through a transmission system to be acquired or constructed by CLWA; (c) Reclaim (recycle) water; (d) Sell water at retail within certain boundaries; and (e) Exercise other related powers.

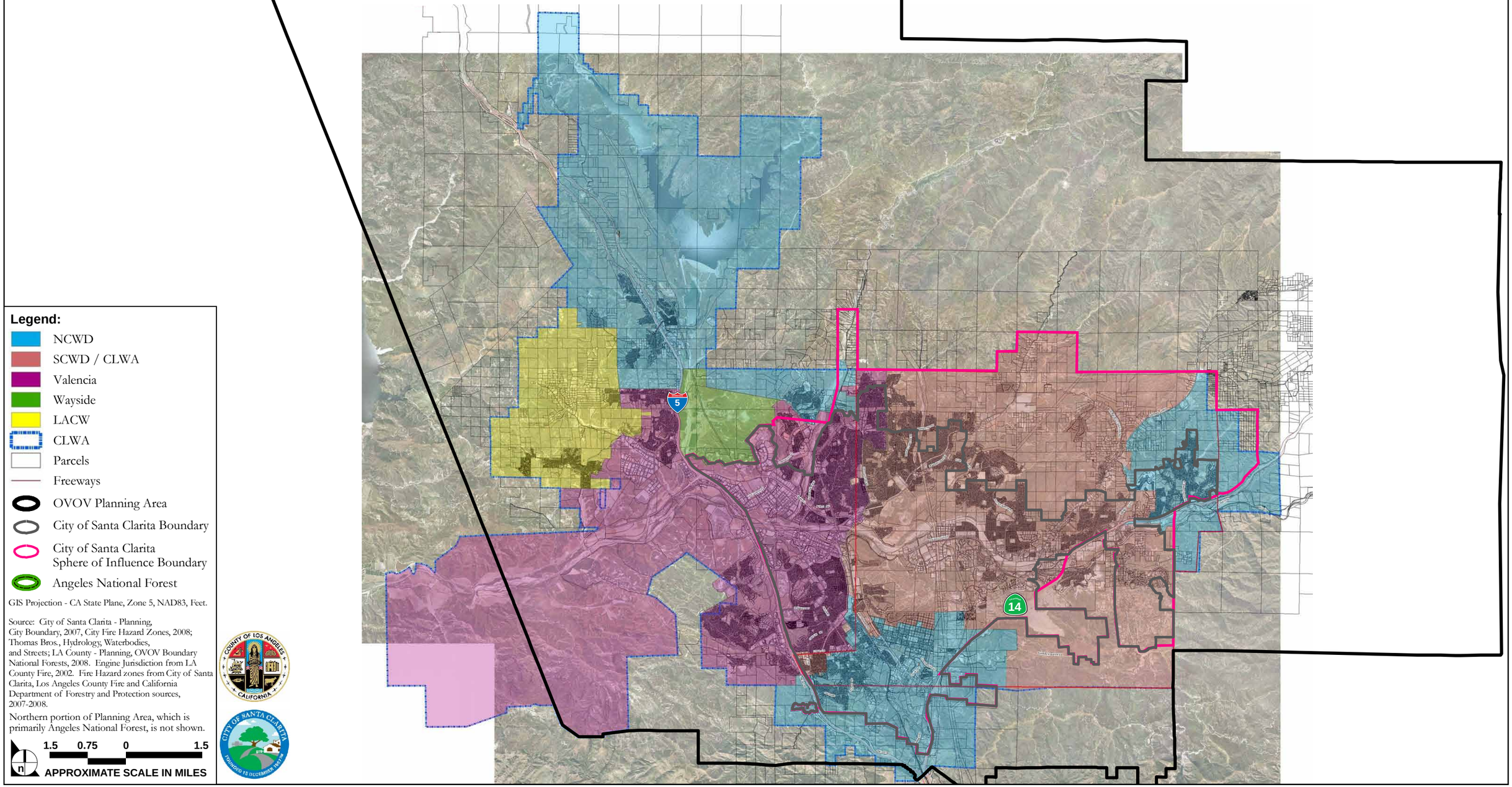
5 See, California Water Code Appendix Section 103-1, 103-15.

The CLWA service area comprises approximately 195 square miles (124,800 acres) in Los Angeles and Ventura counties. CLWA serves the incorporated and unincorporated areas in, or adjacent to, the Santa Clarita Valley. Most of this area, including the incorporated cities, is within the geographic boundaries of Los Angeles County, but it also extends into a small portion of eastern Ventura County. The service area includes largely urban areas, such as the City of Santa Clarita, other smaller communities, and rural areas. The West Branch of the California Aqueduct terminates at Castaic Lake, in the northern portion of the service area. **Figure 3.13-1, Castaic Lake Water Agency Service Area**, depicts the CLWA service area.

Adequate planning for, and the procurement of, a reliable water supply is a fundamental function of the CLWA and the local retail purveyors. CLWA obtains its water supply for wholesale purposes principally from the SWP and has a water supply contract with DWR for 95,200 af of SWP Table A Amount. (As discussed below, CLWA maintains other non-SWP supplies, including water from Buena Vista-Rosedale [11,000 afy].)

"Table A" is a term used in SWP water supply contracts. The "Table A Amount" is the annual maximum amount of water to which a SWP Contractor has a contract right to request delivery, and is specified in Table A of each SWP Contractor's water supply contract. The Table A Amount is not equivalent to actual deliveries of water in any given year, and the water actually available for delivery in any given year may be an amount *less* than the SWP Contractor's Table A Amount, depending upon hydrologic conditions, the amount of water in storage, the operational constraints, requirements imposed by regulatory agencies to meet environmental water needs, the amount of water requested by other SWP Contractors, climatic conditions, and other factors.

As stated, CLWA has an annual SWP Table A Amount of 95,200 af through its water supply contract with DWR. This Table A Amount is a maximum and does not reflect the actual amount of water available to CLWA from the SWP, which varies from year-to-year as described above. As background, CLWA's original SWP water supply contract with DWR was amended in 1966 for a maximum annual Table A Amount of 41,500 af. In 1991, CLWA purchased an additional 12,700 af of annual Table A Amount from a Kern County water district. In March 1999, CLWA purchased another 41,000 af of annual Table A Amount from the Wheeler Ridge-Maricopa Water Storage District by way of an amendment to its water supply contract. The amended water supply contract between CLWA and DWR is found in **Appendix**



Legend:

- NCWD
- SCWD / CLWA
- Valencia
- Wayside
- LACW
- CLWA
- Parcels
- Freeways
- OVOV Planning Area
- City of Santa Clarita Boundary
- City of Santa Clarita Sphere of Influence Boundary
- Angeles National Forest

GIS Projection - CA State Plane, Zone 5, NAD83, Feet.

Source: City of Santa Clarita - Planning, City Boundary, 2007, City Fire Hazard Zones, 2008; Thomas Bros., Hydrology, Waterbodies, and Streets; LA County - Planning, OVOV Boundary National Forests, 2008. Engine Jurisdiction from LA County Fire, 2002. Fire Hazard zones from City of Santa Clarita, Los Angeles County Fire and California Department of Forestry and Protection sources, 2007-2008.

Northern portion of Planning Area, which is primarily Angeles National Forest, is not shown.

1.5 0.75 0 1.5

APPROXIMATE SCALE IN MILES

SOURCE: City of Santa Clarita, County of Los Angeles, Valleywide General Plan - March 2008

FIGURE **3.13-1**

Castaic Lake Water Agency Service Area

3.13 of this EIR and discussed in detail in Topical Responses 4 and 5 of the Final EIR.[6]

In early 2007, CLWA finalized a Water Acquisition Agreement with the Buena Vista Water Storage District (Buena Vista) and the Rosedale-Rio Bravo Water Storage District (Rosedale-Rio Bravo) in Kern County. Under this Program, Buena Vista's high flow Kern River entitlements (and other acquired waters that may become available) are captured and recharged within Rosedale-Rio Bravo's service area on an ongoing basis. CLWA will receive 11,000 af of these supplies annually either through an exchange of Buena Vista's and Rosedale-Rio Bravo's SWP supplies or through direct delivery of water to the

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6 CLWA prepared an EIR to address the environmental consequences of the 1999 41,000 af transfer. The EIR for the 41,000-af transfer was the subject of litigation in Los Angeles County Superior Court (*Friends of the Santa Clara River v. Castaic Lake Water Agency* (Los Angeles County Superior Court, Case No. BS056954). CLWA prevailed in the litigation at the trial court; however, the project opponent (Friends of the Santa Clara River) filed an appeal. In January 2002, the Court of Appeal issued a decision ordering the trial court to decertify the EIR for the 41,000 af transfer agreement on the grounds that it had tiered from another EIR that had been subsequently decertified in other litigation. In doing so, however, the Court of Appeal also examined all of the petitioner's other arguments, found them to be without merit, and held that, if the tiering problem had not arisen, it would have affirmed the earlier trial court judgment upholding the EIR. (See, Appendix 3.13 [*Friends of the Santa Clara River v. Castaic Lake Water Agency* (2002) 95 Cal.App.4th 1373, 1387.].)

The Court of Appeal did not invalidate any portion of the completed 41,000 af transfer agreement. Instead, the Court of Appeal directed the trial court to vacate certification of the EIR, and to retain jurisdiction until CLWA corrected the tiering technicality by preparing a new EIR. (See, Appendix 3.13 [*Friends of the Santa Clara River*, 95 Cal.App.4th at p. 1388.].)

In October 2002, the Los Angeles County Superior Court refused to prohibit CLWA from using the 41,000 af of Table A water while a new EIR was being prepared. (See, **Appendix 3.13** [Judgment Granting Peremptory Writ of Mandate, *Friends of the Santa Clara River v. Castaic Lake Water Agency*, Case No. BS056954, filed October 25, 2002.].) The trial court decision on remand was appealed by Friends of the Santa Clara River in January 2003. On December 1, 2003, the appellate court denied any relief to Friends and affirmed the trial court's ruling. (See, **Appendix 3.13** [Appellate Court Opinion, *Friends of the Santa Clara River v. Castaic Lake Water Agency*, Court of Appeal, Second Appellate District, Division Four, Appellate No. B164027.].)

CLWA's revised EIR was subsequently certified by the CLWA Board of Directors on December 23, 2004. On January 24, 2005, separate lawsuits challenging the EIR for this same project were filed by California Water Impact Network and Planning and Conservation League in the Ventura County Superior Court. These cases were consolidated and transferred to Los Angeles County Superior Court. On May 22, 2007, after a hearing, the trial court issued a final Statement of Decision, which included a determination that the 41,000-afy transfer is valid and cannot be terminated or unwound. The trial court, however, also found one defect in the 2004 EIR and ordered CLWA to correct the defect and report back to the court. The defect did not relate to the environmental conclusions reached in the 2004 EIR; rather, CLWA is required to better establish the basis for selecting three alternative scenarios covered in the 2004 EIR. As a result, the trial court entered Judgment against CLWA and another writ of mandate issued directing CLWA set aside its certification of the 2004 EIR. (See, **Appendix 3.13** [Statement of Decision, *California Water Network v. Castaic Lake Water Agency*, Los Angeles County Superior Court No. BS098724, filed April 2, 2007 ("Chalfant Decision."].) The writ, however, specifically stated that it did not call for CLWA to set aside the 41,000-afy transfer. In July 2007, the petitioners appealed the trial court's decision and judgment, and cross-appeals have since been filed by CLWA and other parties. This appeal is still pending.

California Aqueduct via the Cross Valley Canal.[7] (For a summary of the existing and planned water supplies available for the CLWA service area, please refer to **Tables 3.13-11** and **3.13-14**, below.)

CLWA and the local retail purveyors have evaluated the long-term water needs (water demand) within its service area based on applicable county and city plans and has compared these needs against existing and potential water supplies. In addition, the *2005 UWMP* was prepared by CLWA and the local retail purveyors to address water supply and demand forecasts for the CLWA service area (over a 25-year horizon [2005-2030]).[8] Although information in the *2005 UWMP* was considered, this EIR does not rely solely on that information, and an independent analysis and determination of water-related impacts was carried out in this EIR for the proposed OVOV Planning Area.

Retail Water Purveyors

Four retail water purveyors provide water service to most residents of the Santa Clarita Valley. A description of the service areas of the local retail purveyors is provided below.

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7 In November 2006, a petition for writ of mandate was filed by California Water Impact Network, seeking to set aside CLWA's certification of the EIR for the Water Acquisition Agreement Project with Buena Vista and Rosedale-Rio Bravo. (*California Water Impact Network, et al. v. Castaic Lake Water Agency, et al.*, Los Angeles County Superior Court No. BS106546.) The petition was later amended to add Friends of the Santa Clara River (Friends) as a petitioner. In November 2007, the trial court filed its Statement of Decision finding that in certifying the EIR and approving the project, CLWA proceeded in a manner required by law, and that its actions were supported by substantial evidence. Judgment was entered in favor of CLWA in December 2007. Petitioners filed a notice of appeal on January 31, 2008. This appeal is pending.

8 On February 25, 2006, a lawsuit challenging the *2005 UWMP* was filed by California Water Impact Network and Friends of the Santa Clara River alleging that the plan violated the UWMP Act because it overstated availability of local groundwater and SWP supplies and it will allegedly facilitate unsustainable urban development resulting in harm to the Santa Clara River and its habitat (*California Water Impact Network, et al. v. Castaic Lake Water Agency, et al.*, Los Angeles County Superior Court No. BS103295). CLWA and other named parties opposed the litigation challenge. On August 3, 2007, after a hearing, the trial court rejected the litigation challenge to the 2005 UWMP. In that decision, the trial court concluded that substantial evidence supported the determination that the 41,000-afy transfer "remains a valid and reliable water source." Relying upon the evidence presented in the 2005 UWMP and record, the trial court identified the following evidence supporting the validity of the transfer: (a) it was completed in 1999 and DWR has allocated and annually delivered the water in accordance with the completed transfer; (b) the Court of Appeal held that the only defect in the 1999 CLWA EIR was that it tiered from the Monterey Agreement EIR, which was later decertified, and that defect was remedied by CLWA's preparation of the 2004 EIR that did not tier from the Monterey Agreement EIR; (c) the Monterey Settlement Agreement expressly authorizes operation of the SWP in accordance with the Monterey Amendments, which facilitated the 41,000 afy transfer; (d) Courts of Appeal have refused to enjoin the 41,000 afy transfer; and (e) the DWR/CLWA contract encompassing the transfer remains in full force and effect, and no court has ever questioned the validity of the contract, or enjoined the use of this portion of CLWA's SWP Table A supplies.
The trial court decision was the subject of an appeal; however, the parties have settled and the appeal was dismissed in October 2008. Thus, the 2005 UWMP remains valid and is no longer subject to any litigation.

The Los Angeles County Waterworks District #36 service area encompasses approximately 7,635 acres and includes the Hasley Canyon area and the unincorporated community of Val Verde. The District obtains its water supply from CLWA and from local groundwater. This district does not serve the City or its adopted SOI.

The Newhall County Water District (NCWD) service area includes unincorporated portions of Los Angeles County in the communities of Newhall, Canyon Country, Saugus and Castaic and portions of the City of Santa Clarita. The District supplies water from local groundwater and CLWA imported water.

CLWA Santa Clarita Water Division (SCWD) service area includes unincorporated portions of Los Angeles County in the communities of Newhall, Canyon Country, and Saugus and portions of the City of Santa Clarita. SCWD supplies water from local groundwater and CLWA imported water.

The Valencia Water Company service area includes unincorporated portions of Los Angeles County in the communities of Castaic, Stevenson Ranch and Valencia and a portion of the City of Santa Clarita. Valencia Water Company supplies water from local groundwater, CLWA imported water, and recycled water. Valencia is a public water utility regulated by the California Public Utilities Commission (PUC), and its service area currently includes portions of the Newhall Ranch Specific Plan site.

As of 2007, the retail water purveyors served approximately 68,200 connections in the Santa Clarita Valley. The specific breakdown by purveyor is provided in **Table 3.13-1, Retail Water Service Connections**.

Table 3.13-1
Retail Water Service Connections

Retail Water Purveyor	Connections
CLWA Santa Clarita Water Division (SCWD)	27,900
Los Angeles County Waterworks District #36	1,400
Newhall County Water District (NCWD)	9,500
Valencia Water Company	29,400
Total	**68,200**

*Source: 2007 Santa Clarita Valley Water Report, April 2008 (see this EIR, **Appendix 3.13**).*

SANTA CLARITA VALLEY WATER SUPPLIES – HISTORIC AND EXISTING USES

The *2007 Water Report* and *2005 UWMP* (see **Appendix 3.13**) contain useful local and regional water demand, supply and reliability planning information, particularly in the context of the perchlorate contamination detected in municipal-supply wells in the local Basin. In addition, the *2005 Basin Yield*

Report confirms that the CLWA/purveyor groundwater operating plan for the local groundwater basin in Santa Clarita Valley will not cause detrimental short or long-term effects to the groundwater and surface water resources in the Valley and, therefore, the local groundwater basin is sustainable.

Description of Groundwater Supplies

This section focuses on the available local groundwater supplies in the Santa Clarita Valley, including a summary of the adopted Groundwater Management Plan for the local Basin.

The Upper Santa Clara River Hydrologic Area

The Upper Santa Clara River Hydrologic Area (HA), as defined by DWR, is located almost entirely in northwestern Los Angeles County. The area encompasses about 654 square miles comprised of flat valley land (about 6 percent of the total area), and hills and mountains (about 94 percent of the total area) that border the Valley area. The mountains include the Santa Susana and San Gabriel Mountains to the south and the Sierra Pelona and Leibre-Sawmill Mountains to the north. Elevations range from about 800 feet on the Valley floor to about 6,500 feet in the San Gabriel Mountains. The headwaters of the Santa Clara River are at an elevation of about 3,200 feet at the divide separating this hydrologic area from the Mojave Desert.

The Santa Clara River and its tributaries flow intermittently from Lang Station westward about 35 miles to Blue Cut, just west of the Los Angeles County/Ventura County line, where it forms the outlet for the Upper Santa Clara River Hydrologic Area. The principal tributaries of the Santa Clara River in the Santa Clarita Valley are Castaic Creek, San Francisquito Creek, Bouquet Creek, and the South Fork of the Santa Clara River. In the Santa Clarita Valley, the Santa Clara River receives treated wastewater discharge from the existing Saugus and Valencia Water Reclamation Plants (WRPs), which are operated by County Sanitation Districts of Los Angeles County.

The Santa Clara River Valley East Groundwater Subbasin, beneath the Santa Clarita Valley in the Upper Santa Clara River HA, is the source of essentially all local groundwater used for water supply in the Santa Clarita Valley. Below Blue Cut, the Santa Clara River continues westward through Ventura County to its mouth near Oxnard. Along that route, the River traverses all or parts of six groundwater basins in Ventura County (Piru, Fillmore, Santa Paula, Oxnard Forebay, Oxnard Plain and Mound).

There are two primary precipitation gages in the Santa Clarita Valley, the Newhall-Soledad 32c gage and the NCWD gage. The National Climatic Data Center (NCDC) and Los Angeles County Department of Public Works (LACDPW) have maintained records for the Newhall-Soledad 32c gage since 1931. The

NCWD has maintained records for the NCWD gage since 1979. The cumulative records from these two gages correlate very closely, with the NCWD gage recording approximately 25 percent more precipitation than the Newhall-Soledad 32c gage. This is likely due to the location of the NCWD gage, which is at the base of the mountains rimming the southern edge of the Santa Clarita Valley.

The Santa Clarita Valley is characterized as having an arid climate. Historically, intermittent periods of less than average precipitation have typically been followed by periods of greater than average precipitation in a cyclical pattern, with each wetter or drier period typically lasting from one to five years. The long-term average precipitation is 18.1 inches (1931-2006). In general, periods of less than average precipitation have been longer and more moderate than periods of greater than average precipitation. Recently, the periods from 1971 to 1976, 1984 to 1991, and 1999 to 2003 have been drier than average; the periods from 1977 to 1983 and 1992 to 1996 have been wetter than average. Wet conditions that began in late 2004 continued into early 2005. Significant storm events in January 2005 produced over 13 inches of measured precipitation, or more than 70 percent of average annual precipitation in the first month of the year. Significant storm events continued in February 2006, resulting in nearly 17 inches of additional measured precipitation, or nearly 100 percent of average annual precipitation in February alone. In total, 2005 had about 37 inches of measured precipitation, or slightly more than 200 percent of long-term average precipitation. Those significantly wet conditions contributed to substantial groundwater recharge and decreased water demand that year. In contrast, total precipitation in 2006 was slightly less than 14 inches, or about 4 inches below the long-term average, resulting in water requirements that can be described as "normal" (as projected in the 2005 UWMP) and no dramatic changes in groundwater conditions, as described in the 2007 Santa Clarita Valley Water Report.

Santa Clara River Valley Groundwater Basin - East Subbasin

The OVOV Planning Area lies within the groundwater basin identified in DWR Bulletin 118 (2003 Update) as the Santa Clara River Valley Groundwater Basin, East Subbasin (Basin). The Basin is comprised of two aquifer systems, the Alluvium and the Saugus Formation. The Alluvium (also referred to as the Alluvial aquifer) generally underlies the Santa Clara River and its several tributaries, and the Saugus Formation underlies practically the entire Upper Santa Clara River area. There are also some scattered outcrops of terrace deposits in the Basin that likely contain limited amounts of groundwater. Since these deposits are located in limited areas situated at elevations above the regional water table and are also of limited thickness, they are of no practical significance as aquifers and, consequently, have not been developed for any significant water supply. **Figure 3.13-2, Santa Clara River Valley East Groundwater Basin – East Subbasin** illustrates the mapped extent of the Santa Clara River Valley East

Subbasin, which approximately coincides with the outer extent of the Alluvium and Saugus Formation. The CLWA service area and the location of the two existing water reclamation plants in the Valley also are shown on **Figure 3.13-2**.

Adopted Groundwater Management Plan

In 2001, as part of legislation authorizing CLWA to provide retail water service to individual municipal customers, Assembly Bill (AB) 134 included a requirement that CLWA prepare a groundwater management plan in accordance with the provisions of Water Code Section 10753.

CLWA adopted the Groundwater Management Plan (GWMP) on December 10, 2003.[9] The GWMP contains four management objectives, or goals, for the Basin, including (1) development of an integrated surface water, groundwater and recycled water supply to meet existing and projected demands for municipal, agricultural and other water uses; (2) assessment of Basin conditions to determine a range of operational yield values that use local groundwater conjunctively with supplemental SWP supplies and recycled water to avoid groundwater overdraft; (3) preservation of groundwater quality, and active characterization and resolution of groundwater contamination problems, including perchlorate; and (4) preservation of interrelated surface water resources, which includes managing groundwater in a manner that does not adversely impact surface and groundwater discharges or quality to downstream basins.

Prior to preparation and adoption of the GWMP, a local Memorandum of Understanding (MOU) process among CLWA, the purveyors, and United Water Conservation District (UWCD) in neighboring Ventura County had produced the beginning of local groundwater management, now embodied in the GWMP. In 2001, those agencies prepared and executed the MOU (see EIR, **Appendix 3.13** [MOU]). The MOU is a collaborative and integrated approach to several of the aspects of water resource management included in the GWMP. UWCD manages surface water and groundwater resources in seven groundwater basins, all located in Ventura County, downstream of the Basin. As a result of the MOU, the cooperating agencies have undertaken the following measures: (1) Integrated their database management efforts; (2) Developed and utilized a numerical groundwater flow model for analysis of groundwater basin yield and containment of groundwater contamination; and (3) Continued to monitor and report on the status of Basin conditions, as well as on geologic and hydrologic aspects of the overall stream-aquifer system.

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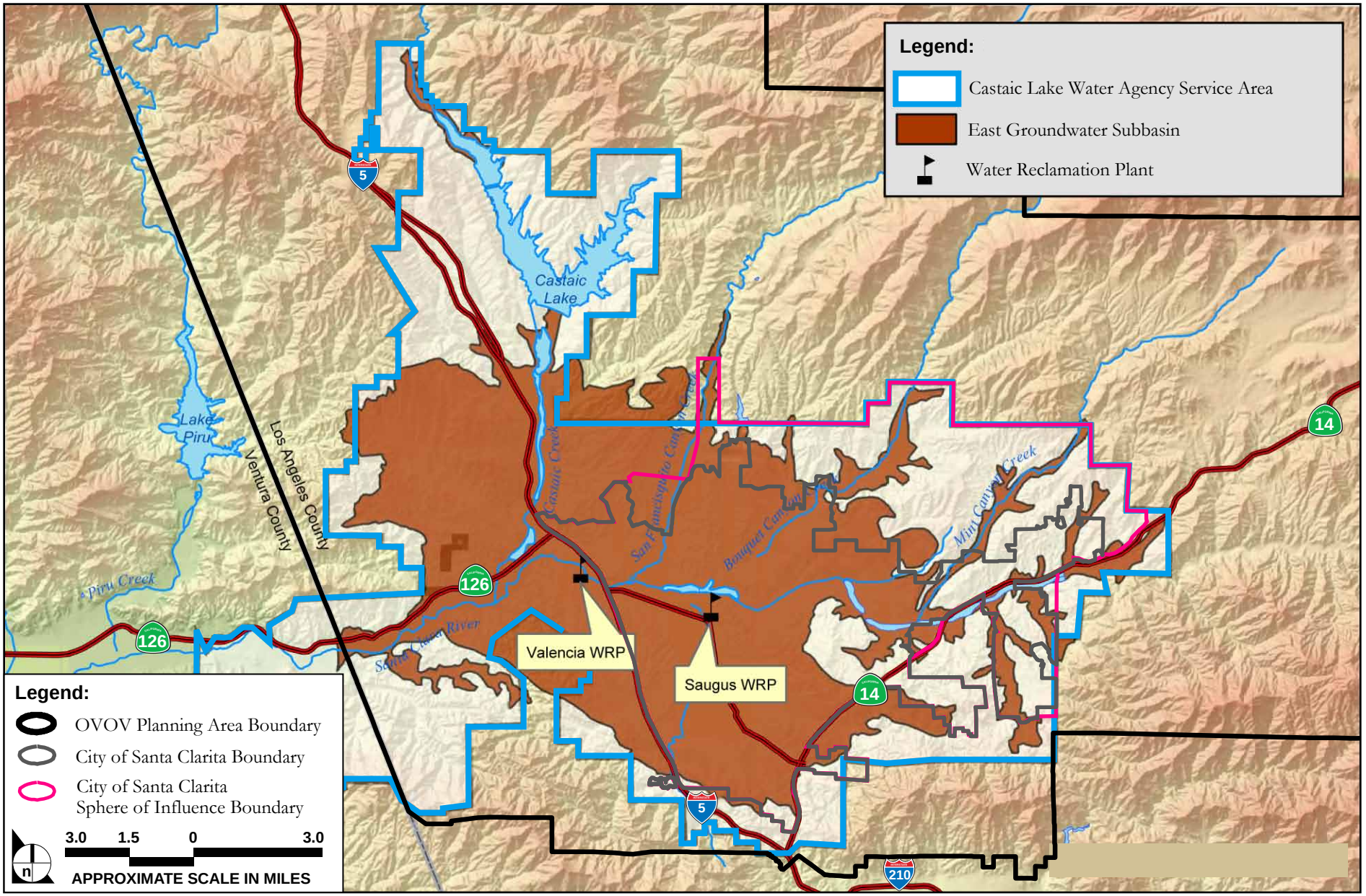
9 CLWA's Groundwater Management Plan, adopted December 10, 2003, is found in **Appendix 3.13** of this EIR.



SOURCE: Luhdorff & Scalmanini Consulting Engineers – January 2006

FIGURE **3.13-2**

Santa Clara River Valley East Groundwater Basin – East Subbasin

112-023•08/09

The adopted GWMP includes 14 elements intended to accomplish the Basin management objectives listed above. In summary, the plan elements include:

- monitoring of groundwater levels, quality, production and subsidence;
- monitoring and management of surface water flows and quality;
- determination of Basin yield and avoidance of overdraft;
- development of regular and dry-year emergency water supply;
- continuation of conjunctive use operations;
- long-term salinity management;
- integration of recycled water;
- identification and mitigation of soil and groundwater contamination, including involvement with other local agencies in investigation, cleanup, and closure;
- development and continuation of local, state and federal agency relationships;
- groundwater management reports;
- continuation of public education and water conservation programs;
- identification and management of recharge areas and wellhead protection areas;
- identification of well construction, abandonment, and destruction policies; and
- provisions to update the groundwater management plan.

Work on a number of the GWMP elements had been ongoing for some time prior to adoption of the GWMP. This work continues on an on-going basis. An important aspect of this work was completion of the *2005 Basin Yield Report* (see EIR, **Appendix 3.13** [*2005 Basin Yield Report*]). The primary determinations made in that report are that (1) both the Alluvial aquifer and the Saugus Formation are sustainable sources at the operational plan yields stated in the *2005 UWMP* over the next 25 years; (2) the yields are not overstated and will not deplete or "dry up" the groundwater basin; and (3) there is no need to reduce the yields shown in the *2005 UWMP*. Additionally, the Basin Yield Report concluded that neither the Alluvial aquifer nor the Saugus Formation is in an overdraft condition, or projected to become overdrafted.

Available Groundwater Supplies

Groundwater Operating Plan – The groundwater component of overall water supply in the Santa Clarita Valley derives from a groundwater operating plan developed by CLWA and the local retail purveyors over the past 20 years to meet water requirements (municipal, agricultural, small domestic), while maintaining the Basin in a sustainable condition (i.e., no long-term depletion of groundwater or interrelated surface water). This operating plan also addresses groundwater contamination issues in the Basin, all consistent with both the GWMP and the MOU described above. This operating plan is based on the concept that pumping can vary from year-to-year to allow increased groundwater use in dry periods and increased recharge during wet periods, and to collectively assure that the Basin is adequately replenished through various wet/dry cycles. As described in the GWMP and the MOU, the operating yield concept has been quantified as ranges of annual pumping volumes.

The ongoing work of the MOU has produced two important reports. The first report, dated April 2004, documents the development and calibration of the groundwater flow model for the Santa Clarita Valley.[10] The second report, dated August 2005, presents the modeling analysis of the CLWA/retail water purveyor groundwater operating plan for the valley, and concludes that the plan will not cause detrimental short or long-term effects to the groundwater and surface water resources in the valley and, therefore, the plan is a reliable, sustainable component of water supply for the valley.[11] The analysis of sustainability for groundwater and interrelated surface water is described further in Appendix C to the *2005 UWMP* (see, **Appendix 3.13)**.

The groundwater operating plan, summarized in **Table 3.13-2, Groundwater Operating Plan for the Santa Clarita Valley**, is further described below. The operating plan addresses both the Alluvium and Saugus Formation.

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10 See, *Regional Groundwater Flow Model for the Santa Clarita Valley: Model Development and Calibration*, prepared for the Upper Basin Water Purveyors by CH2MHill, April 2004. This report was updated by CH2MHill in a report entitled, *Calibration Update of the Regional Groundwater Flow Model for the Santa Clarita Valley, Santa Clarita, California*, August 2005. Copies of these two reports are available for public review and inspection in **Appendix 3.13** of this EIR.

11 See, *Analysis of Groundwater Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, Los Angeles County, California*, prepared by CH2MHill in cooperation with Luhdorff & Scalmanini Consulting Engineers, August 2005. This report is available for public review and inspection in **Appendix 3.13** of this EIR.

Table 3.13-2
Groundwater Operating Plan for the Santa Clarita Valley

Aquifer	Groundwater Production (af) Normal Years	Dry Year 1	Dry Year 2	Dry Year 3
Alluvium	30,000 to 40,000	30,000 to 35,000	30,000 to 35,000	30,000 to 35,000
Saugus	7,500 to 15,000	15,000 to 25,000	21,000 to 25,000	21,000 to 35,000
Total	**37,500 to 55,000**	**45,000 to 60,000**	**51,000 to 60,000**	**51,000 to 70,000**

*Source: 2007 Water Report (April 2008) (**Appendix 3.13**) and 2005 UWMP.*

Alluvium

As stated in the 2007 Water Report and the *2005 UWMP*, the operating plan for the Alluvial aquifer involves pumping from the Alluvial aquifer in a given year, based on local hydrologic conditions in the eastern Santa Clara River watershed. Pumping ranges between 30,000 and 40,000 afy during normal/average and above-normal rainfall years. However, due to hydrogeologic constraints in the eastern part of the Basin, pumping is reduced to between 30,000 and 35,000 afy during locally dry years.

Saugus Formation

As stated in the 2007 Water Report and the *2005 UWMP*, pumping from the Saugus Formation in a given year is tied directly to the availability of other water supplies, particularly from the SWP. During average year conditions within the SWP system, Saugus pumping ranges between 7,500 and 15,000 afy. Planned dry-year pumping from the Saugus Formation ranges between 15,000 and 25,000 afy during a drought year and can increase to between 21,000 and 25,000 afy if SWP deliveries are reduced for two consecutive years and between 21,000 and 35,000 afy if SWP deliveries are reduced for three consecutive years. Such pumping would be followed by periods of reduced (average-year) pumping, at rates between 7,500 and 15,000 afy, to further enhance the effectiveness of natural recharge processes that would recover water levels and groundwater storage volumes after the higher pumping during dry years. For reference to the groundwater operating plan historical and projected groundwater pumping by retail water purveyor, please refer to **Table 3.13-3, Historical Groundwater Production by the Retail Water Purveyors,** and **Table 3.13-4, Projected Groundwater Production (Normal Year)**.

Table 3.13-3
Historical Groundwater Production by the Retail Water Purveyors

Basin Name	Groundwater Pumped (af)[1]						
	2001	2002	2003	2004	2005	2006	2007
Santa Clara River Valley East Subbasin							
CLWA Santa Clarita Water Division							
- Alluvium	9,896	9,513	6,424	7,146	12,408	13,156	10,686
- Saugus Formation	0	0	0	0	0	0	0
LA County Waterworks District #36							
- Alluvium	0	0	0	380	343	0	0
- Saugus Formation	0	0	0	0	0	0	0
Newhall County Water District							
- Alluvium	1,641	981	1,266	1,582	1,389	2,149	1,806
- Saugus Formation	2,432	3,395	2,513	3,739	3,435	3,423	3,691
Valencia Water Company							
- Alluvium	10,518	11,603	11,707	9,862	12,228	11,884	13,140
- Saugus Formation	835	965	1,068	1,962	2,513	2,449	2,367
Total	***25,322***	***26,457***	***22,978***	***24,671***	***32,316***	***33,061***	***31,690***
- Alluvium	22,055	22,097	19,397	18,970	26,368	27,189	25,632
- Saugus Formation	3,267	4,360	3,581	5,701	5,948	5,872	6,058
% of Total Municipal Water Supply	**42%**	**39%**	**34%**	**34%**	**46%**	**45%**	**35%**

Notes:
[1] *Pumping for municipal and industrial uses only. Does not include pumping for agricultural and miscellaneous uses.*
*Source: 2005 UWMP and 2007 Santa Clarita Valley Water Report, April 2008, Tables II-2 - II-5. (See **Appendix 3.13**.)*

Table 3.13-4
Projected Groundwater Production (Normal Year)

Basin Name	Range of Groundwater Pumping (af)[1,2,3]				
	2010	2015	2020	2025	2030
Santa Clara River Valley East Subbasin					
CLWA Santa Clarita Water Division					
- Alluvium	6,000–14,000	6,000–14,000	6,000–14,000	6,000–14,000	6,000–14,000
- Saugus Formation	3,000	3,000	3,000	3,000	3,000

Basin Name	Range of Groundwater Pumping (af)[1,2,3]				
	2010	2015	2020	2025	2030
LA County Waterworks District #36					
- Alluvium	0	0	0	0	0
- Saugus Formation	500–1,000	500–1,000	500–1,000	500–1,000	500–1,000
Newhall County Water District					
- Alluvium	1,500–3,000	1,500–3,000	1,500–3,000	1,500–3,000	1,500–3,000
- Saugus Formation	3,000–6,000	3,000–6,000	3,000–6,000	3,000–6,000	3,000–6,000
Valencia Water Company					
- Alluvium	12,000–20,000	12,000–20,000	12,000–20,000	12,000–20,000	12,000–20,000
- Saugus Formation	2,500–5,000	2,500–5,000	2,500–5,000	2,500–5,000	2,500–5,000

Notes:

[1] *The range of groundwater production capability for each purveyor varies based on a number of factors, including each purveyor's capacity to produce groundwater, the location of its wells within the Alluvium and Saugus Formation, local hydrology, availability of imported water supplies and water demands.*

[2] *To ensure sustainability, the purveyors have committed that the annual use of groundwater pumped collectively in any given year will not exceed the purveyors' operating plan as described in the Basin Yield Study and reported annually in the Santa Clarita Valley Water Report. As noted in the discussion of the purveyors' operating plan for groundwater in Table 3-6 of the 2005 UWMP, the "normal" year quantities of groundwater pumped from the Alluvium and Saugus Formation are 30,000 to 40,000 afy and 7,500 to 15,000 afy, respectively.*

[3] *Groundwater pumping shown for purveyor municipal and industrial uses only.*

*Source: 2005 UWMP (see EIR, **Appendix 3.13**)*

Three factors affect the availability of groundwater supplies under the groundwater operating plan. They are (1) sufficient source capacity (wells and pumps); (2) sustainability of the groundwater resource to meet pumping demand on a renewable basis; and (3) protection of groundwater sources (wells) from known contamination, or provisions for treatment in the event of contamination. All three factors are discussed below, and are addressed in further detail in Chapter 5 and Appendices C and D to the *2005 UWMP* (see EIR, Appendix 3.13 [2005 UWMP]).

Alluvial Aquifer

Based on a combination of historical operating experience and recent groundwater modeling analysis, the Alluvial aquifer can supply groundwater on a long-term sustainable basis in the overall range of 30,000 to 40,000 afy, with a probable reduction in dry years to a range of 30,000 to 35,000 afy. Both of those ranges include about 15,000 afy of Alluvial pumping for current agricultural water uses and an estimated pumping of up to about 500 afy by small private pumpers. The dry year reduction is a result of practical constraints in the eastern part of the Basin, where lowered groundwater levels in dry periods have the effect of reducing pumping capacities in that shallower portion of the aquifer.

Background. Total pumping from the Alluvium in 2007 was about 38,800 af, a decrease of about 4,200 af from the preceding year.[12] Approximately 7,700 af was pumped from the underlying, deeper Saugus Formation, which was slightly higher than in 2006 by about 400 af. Neither pumping volume resulted in any notable overall change in groundwater conditions (water levels, water quality, etc.) in either aquifer system. Total water requirements in 2007 were met by a combination of about 46,500 af from local groundwater resources (about 31,700 af for municipal and about 1,400 af for agricultural and other uses), about 45,300 af of SWP and other imported water, and about 470 af of recycled water.

In a longer-term context, there has been a change in municipal/agricultural pumping distribution since SWP deliveries began in 1980, toward a slightly higher fraction for municipal water supply, which reflects the general land use changes in the area. Ultimately, on a long-term average basis since the importation of SWP water, total Alluvial pumping has been almost 31,500 afy, which is at the lower end of the range of operational yield of the Alluvium. The overall historic record of Alluvial pumping is illustrated in Figure III-2 of the 2007 Water Report.

Groundwater levels in various parts of the basin have historically exhibited different responses to both pumpage and climatic fluctuations. During the last 20 to 30 years, depending on location, Alluvial groundwater levels have remained nearly constant (generally toward the western end of the basin), or have fluctuated from near the ground surface when the basin is full, to as much as 100 feet lower during intermittent dry periods of reduced recharge (generally toward the eastern end of the basin). For illustration of the various groundwater level conditions, the Alluvial wells have been grouped into areas with similar groundwater level patterns as illustrated in Figure III-3 of the 2007 Water Report. Figures III-4 and III-5 of the 2007 Water Report present historical groundwater levels organized into hydrograph form (groundwater elevation v. time) for four areas throughout the basin. The other areas shown in Figure III-3 exhibit groundwater level responses that are similar to those illustrated in the four areas.

The "Mint Canyon" area, located at the far eastern end of the groundwater basin, and the nearby "Above Saugus WRP" and "Bouquet Canyon" areas generally exhibit similar groundwater level responses. Those parts of the Alluvium have historically experienced a number of alternating wet and dry hydrologic conditions (2007 Water Report, Figure III-4) during which groundwater level declines have been followed by returns to historic highs. When water levels are low, well yields and pumping capacities in this area can be impacted. The affected purveyors typically respond by increasing use of Saugus Formation and

[12] Santa Clarita Valley Water Report 2007. Castaic Lake Water Agency (CLWA), Luhdorff & Scalmanini Consulting Engineers. April 2008. pg.ES-1

imported SWP supplies, as shown in Table II-8 of the 2007 Water Report. The purveyors also shift a fraction of the Alluvial pumping that would normally be supplied by "Mint Canyon" area wells to areas further west, where well yields and pumping capacities remain fairly constant because of smaller groundwater level fluctuations. As shown in Figure III-6 of the 2007 Water Report, the purveyors decreased total Alluvial pumping from the "Mint Canyon" area steadily from 2000 through 2003, and correspondingly increased pumping in the "Below Saugus WRP" and "Below Valencia WRP" areas. In spite of a continued period of below-average precipitation from 1999 to 2003, that progressive decrease in pumping resulted in a cessation of groundwater level decline in the "Mint Canyon" area in 2002 and 2003. Subsequently, wet conditions in late 2004, continuing into 2005, resulted in full recovery of groundwater storage. With such high groundwater levels, pumping in the "Mint Canyon" area was increased in 2005 and further increased in 2006, with no significant change in groundwater levels in 2005 and a slight decrease in 2006.

The "Below Saugus WRP" area (2007 Water Report, Figure III-4), along the Santa Clara River immediately downstream of the Saugus WRP, and the "San Francisquito Canyon" area generally exhibit similar groundwater levels. In this middle part of the basin, historical groundwater levels were lower in the 1950s and 1960s than current levels. Groundwater levels in this area notably recovered as pumping declined through the 1960s and 1970s. They have subsequently sustained generally high levels for much of the last 30 years, with three dry-period exceptions: mid-1970s, late 1980s to early 1990s, and the late 1990s to early 2000s. Recoveries to previous high groundwater levels followed both of the short dry-period declines in the 1970s and 1990s. Most recently, groundwater levels recovered significantly following a wetter than average year in 2004 and significantly wet 2005. In 2007, groundwater levels remained largely unchanged in this area.

The "Castaic Valley" area is located along Castaic Creek below Castaic Lake. In that area, groundwater levels have remained fairly constant, with slight responses to climatic and other fluctuations, since the 1950s (2007 Water Report, Figure III-5). Small changes in groundwater levels in 2007 were consistent with other short-term historical fluctuations. The long-term, generally constant trend remained through 2007.

The "Below Valencia WRP" area is located along the Santa Clara River downstream of the Valencia WRP, where discharges of treated effluent from the Valencia WRP to the Santa Clara River contribute to groundwater recharge. Groundwater levels in this area exhibit slight, if any, response to climatic fluctuations, and have remained fairly constant since the 1950s despite, over the last 20 years, a notable increase in pumping that continued through 2007 in that area (2007 Water Report, Figure III-5 and III-6).

In summary, depending on the period of available data, all the history of groundwater levels in the Alluvium shows the same general picture: recent (last 30 years) groundwater levels have exhibited historic highs; in some locations, there are intermittent dry-period declines (resulting from use of some groundwater from storage) followed by wet-period recoveries (and associated refilling of storage space). On a long-term basis, whether over the last 27 years since importation of supplemental SWP water, or over the last 40 to 50 years (since the 1950s - 1960s), the Alluvium shows no signs of water level-related overdraft (i.e., no trend toward decreasing water levels and storage). Consequently, pumping from the Alluvium has been and continues to be sustainable, well within the operational yield of that aquifer on a long-term average basis, and also within the operating yield in almost every individual year.

Adequacy of Supply. For municipal water supply, with existing wells and pumps, the three retail water purveyors with Alluvial wells (NCWD, SCWD, and VWC) have a combined pumping capacity from active wells (not contaminated by perchlorate) of 35,820 gallons per minute (gpm), which translates into a current full-time Alluvial source capacity of approximately 58,000 afy.[13] Alluvial pumping capacity from all the active municipal supply wells is summarized in **Table 3.13-5, Active Municipal Groundwater Source Capacity – Alluvial Aquifer Wells**. The locations of the various municipal Alluvial wells throughout the Basin are illustrated on **Figure 3.13-3, Municipal Alluvial Well Locations, Santa Clara River Valley, East Groundwater Subbasin**. These capacities do not include one Alluvial aquifer well that has been inactivated due to perchlorate contamination, the SCWD Stadium well, which represents another 800 gpm of pumping capacity, or full-time source capacity of about 1,290 afy.

In terms of adequacy and availability, the combined active Alluvial groundwater source capacity of municipal wells is approximately 58,000 afy. This is more than sufficient to meet the municipal, or urban, component of groundwater supply from the Alluvium, which is currently 20,000 to 25,000 afy of the total planned Alluvial pumping of 30,000 to 40,000 afy. (The balance of Alluvial pumping in the operating plan is for agricultural and other small private, pumping.)

Sustainability. Until recently, the long-term renewability of Alluvial groundwater was empirically determined from approximately 60 years of recorded experience. This empirical data confirmed long-term stability in groundwater levels and storage, with some dry period fluctuations in the eastern part of the Basin, over a historical range of total Alluvial pumpage from as low as about 20,000 afy to as high as about 43,000 afy. These empirical observations have been complemented by the development and

13 As stated, this figure includes the pumping capacity of Valencia Water Company's Well Q2, which was returned to active service as a result of the permitting and installation of wellhead treatment, which removes perchlorate pumped from the well to a non-detect level.

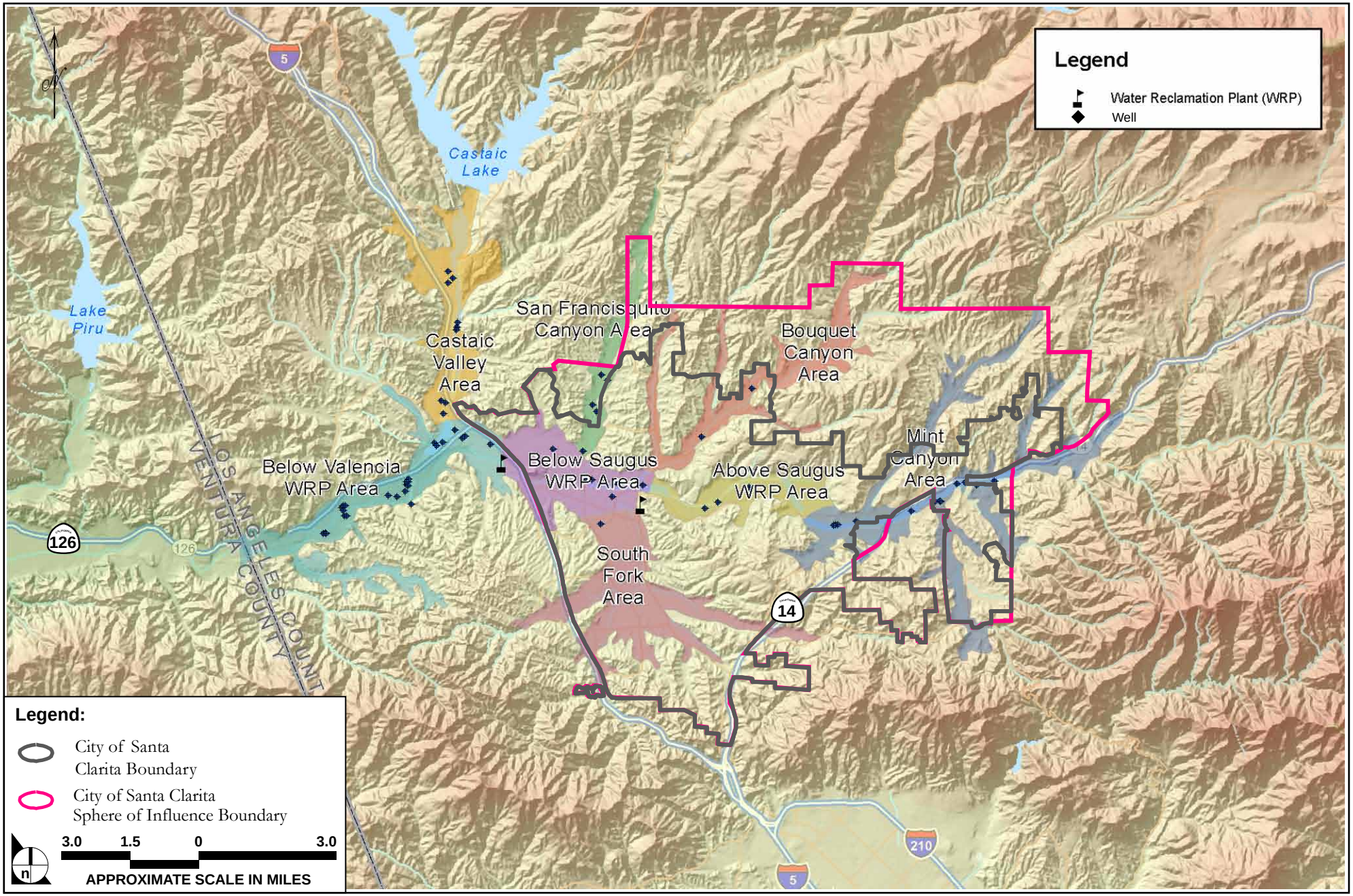
application of a numerical groundwater flow model, which has been used to predict aquifer response to the planned operating ranges of pumping. The numerical groundwater flow model also has been used to analyze the control of perchlorate contaminant migration under selected pumping conditions that would restore, with treatment, pumping capacity inactivated due to perchlorate contamination detected in some wells in the Basin. The latter use of the model is described in Chapter 5 of the *2005 UWMP*, which addresses the Saugus Formation and the overall approach to the perchlorate contamination found in four Saugus wells.

To examine the yield of the Alluvium or, the sustainability of the Alluvium on a renewable basis, the groundwater flow model was used to examine the long-term projected response of the aquifer to pumping for municipal and agricultural uses in the 30,000 to 40,000 afy range under average/normal and wet conditions, and in the 30,000 to 35,000 afy range under locally dry conditions. To examine the response of the entire aquifer system, the model also incorporated pumping from the Saugus Formation in accordance with the normal (7,500–15,000 afy) and dry year (15,000–35,000 afy) operating plan for that aquifer. The model was run over a 78-year hydrologic period, which was selected from actual historical precipitation to examine a number of hydrologic conditions expected to affect both groundwater pumping and groundwater recharge. The selected 78-year simulation period was assembled from an assumed recurrence of 1980 to 2003 conditions, followed by an assumed recurrence of 1950 to 2003 conditions. The 78-year period was analyzed to define both local hydrologic conditions (normal and dry), which affect the rate of pumping from the Alluvium, and hydrologic conditions that affect SWP operations, which in turn affect the rate of pumping from the Saugus. The resultant simulated pumping cycles included the distribution of pumping for each of the existing Alluvial aquifer wells, for normal and dry years, respectively, as shown in **Table 3.13-5**.

Table 3.13-5
Active Municipal Groundwater Source Capacity – Alluvial Aquifer Wells

Wells	Pump Capacity (gpm)	Max Annual Capacity (af)	Normal Year Production[(1)] (af)	Dry-Year Production (af)
NCWD				
Castaic 1	600	960	385	345
Castaic 2	425	680	166	125
Castaic 4	270	430	100	45
Pinetree 1	300	480	164	N/A
Pinetree 3	550	880	545	525
Pinetree 4	500	800	300	N/A
NCWD Subtotal	2,645	4,230	1,660	1,040
SCWD				
Clark	600	960	782	700
Guida	1,000	1,610	1,320	1,230
Honby	950	1,530	696	870
Lost Canyon 2	850	1,370	741	640
Lost Canyon 2A	825	1,330	1,034	590
Mitchell 5B	700	1,120	557	N/A
N. Oaks Central	1,000	1,610	822	1,640
N. Oaks East	950	1,530	1,234	485
N. Oaks West	1,400	2,250	898	N/A
Sand Canyon	750	1,200	930	195
Sierra	1,500	2,410	846	N/A
SCWD Subtotal	10,525	16,920	9,860	6,350
Valencia Water Co.				
Well D	1,050	1,690	690	690
Well E-15	1,400	2,260	N/A	N/A
Well N	1,250	2,010	620	620
Well N7	2,500	4,030	1,160	1,160
Well N8	2,500	4,030	1,160	1,160
Well Q2	1,200	1,930	985	985
Well S6	2,000	3,220	865	865
Well S7	2,000	3,220	865	865
Well S8	2,000	3,220	865	865
Well T7	1,200	1,930	970	970
Well U4	1,000	1,610	935	935
Well U6	1,250	2,010	825	825
Well W9	800	1,290	600	600
Well W10	1,500	2,410	865	865
Well W11	1,000	1,610	350	350
Valencia Subtotal	22,650	36,470	11,065	11,065
Total Purveyors	**35,820**[1]	**57,620**[2]	**22,585**[2]	**18,455**[2]

Notes:
Source: Valencia Water Company, 2008
[1] *Based on recent annual pumping.*
[2] *Currently active wells only; capacity will slightly increase by restoration of perchlorate-contaminated wells.*



SOURCE: 2007 Santa Clarita Valley Water Report (April 2008)

FIGURE **3.13-3**

Municipal Alluvial Well Locations; Santa Clara River Valley, East Groundwater Subbasin

Simulated Alluvial aquifer response to the range of hydrologic conditions and pumping stresses is essentially a long-term repeat of the historical conditions that have resulted from similar pumping over the last several decades. The resultant response consists of (1) generally constant groundwater levels in the middle to western portion of the Alluvium and fluctuating groundwater levels in the eastern portion as a function of wet and dry hydrologic conditions; (2) variations in recharge that directly correlate with wet and dry hydrologic conditions; and (3) no long-term decline in groundwater levels or storage. The Alluvial aquifer is considered a sustainable water supply source to meet the Alluvial portion of the operating plan for the Basin. This is based on the combination of actual experience with Alluvial aquifer pumping at capacities similar to those planned for the future and the resultant sustainability (recharge) of groundwater levels and storage, and further based on modeled projections of aquifer response to planned pumping rates that also show no depletion of groundwater.

Aquifer Protection. After addressing the issues of pumping capacity and long-term sustainability of the Alluvial aquifer, the remaining key consideration related to current and future use of the Alluvium is the impact of perchlorate contamination. As of this writing, perchlorate has been detected in two Alluvial municipal-supply wells in the basin; however, wellhead treatment has been permitted and installed at one of the two impacted wells, Valencia Water Company's Well Q2. The treatment removes perchlorate pumped from the well to a non-detect level. As discussed in the *2005 UWMP*, Chapter 5 and Appendix D, there has been extensive investigation of the extent of perchlorate contamination, which, in combination with the groundwater modeling previously described, has led to the current plan for integrated control of contamination migration and restoration of impacted pumping (well) capacity in 2006.

In summary, the short-term response plan for the protection of other Alluvial wells, down gradient from the former Whittaker-Bermite site, is to promptly install wellhead treatment to ensure adequate water supplies. This plan complements the longer-term source control actions being undertaken by the Whittaker-Bermite property owner under supervision of the Department of Toxic Substances Control (DTSC) to address perchlorate contamination in the northern Alluvium (to the north of the former Whittaker-Bermite site), and the subsequent restoration of the one other perchlorate-contaminated Alluvial well (Stadium well). The long-term plan also includes the CLWA groundwater containment, treatment and restoration project to prevent further downstream migration of perchlorate, the treatment of water extracted as part of the containment process, and the recovery of lost local groundwater production from the Saugus Formation.[14]

14 For further information regarding CLWA's groundwater containment, treatment and restoration project, please refer to Appendix E of the *2005 UWMP*.

Saugus Formation

Based on historical operating experience and extensive recent testing and groundwater modeling analysis, the Saugus Formation can supply water on a long-term sustainable basis in a normal range of 7,500 to 15,000 afy, with intermittent increases to 25,000 to 35,000 af in dry years. The dry-year increases, based on limited historical observation and modeled projections, demonstrate that a small amount of the large groundwater storage in the Saugus Formation can be pumped over a relatively short (dry) period. This would be followed by recharge (replenishment) of that storage during a subsequent normal-to-wet period when pumping would be reduced.

Background. Total pumping from the Saugus in 2007 was about 7,700 af, or about 400 af more than in the preceding year.[15] Of the total Saugus pumping in 2007, most (nearly 6,000 af) was for municipal water supply, and the balance (about 1,700 af) was for agricultural and other irrigation uses. Historically, groundwater pumping from the Saugus peaked in the early 1990s and then steadily declined through the remainder of that decade. Since then, Saugus pumping had been in the range of about 4,000 to 6,500 afy, with the increase to about 7,700 af in 2007. On a long-term average basis since the importation of SWP water, total pumping from the Saugus Formation has ranged between a low of about 3,700 afy (in 1999) and a high of nearly 15,000 afy (in 1991); average pumping from 1980 to present has been about 6,700 afy. These pumping rates remain well within, and generally at the lower end of, the range of operational yield of the Saugus Formation. The overall historic record of Saugus pumping is illustrated in Figure III-8 of the 2007 Water Report.

Unlike the Alluvium, which has an abundance of wells with extensive water level records, the water level data for the Saugus Formation are limited by both the distribution of the wells in that Formation and the periods of water level record. The wells that do have water level records extending back to the mid-1960s indicate that groundwater levels in the Saugus Formation were highest in the mid-1980s and are currently higher than they were in the mid-1960s (2007 Water Report, Figure III-9). Based on these data, there is no evidence of any historic or recent trend toward permanent water level or storage decline.

Consistent with the 2001 Update Report (Slade), the 2005 Basin Yield Report (CH2MHill and Luhdorff and Scalmanini Consulting Engineers), and the 2005 UWMP, the management practice of the purveyors continues to be to maintain groundwater storage and associated water levels in the Saugus Formation so that supply is available during drought periods, when Alluvial pumping might be reduced and SWP

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15 Santa Clarita Valley Water Report 2007 (CLWA). Luhdorff & Scalmanini Consulting Engineers. April 2008. pp. ES-1

supplies also could be decreased. The period of increased pumping during the early 1990s is a good example of this management strategy. Most notably, in 1991, when SWP deliveries were substantially reduced, increased pumping from the Saugus made up almost half of the decrease in SWP deliveries. The increased Saugus pumping over several consecutive dry years (1991–1994) resulted in short-term declining groundwater levels, reflecting the use of water from storage. However, groundwater levels subsequently recovered when pumping declined, reflecting recovery of groundwater storage in the Saugus Formation.

Adequacy of Supply. For municipal water supply with existing wells, the three retail water purveyors with Saugus wells (NCWD, SCWD, and VWC) have a combined pumping capacity from active wells (not contaminated by perchlorate) of 14,900 gpm, which translates into a full-time Saugus source capacity of 24,000 afy. Saugus pumping capacity from all the active municipal supply wells is summarized in **Table 3.13-6, Active Municipal Groundwater Source Capacity—Saugus Formation Wells**, and the locations of the various active municipal Saugus wells are illustrated on **Figure 3.13-4, Saugus Well Locations, Santa Clara River Valley, East Groundwater Subbasin**. These capacities do not include the four Saugus wells contaminated by perchlorate, although they indirectly reflect the capacity of one of the contaminated wells, VWC's Well 157, which has been sealed and abandoned, and replaced by VWC's Well 206 in a non-impacted part of the Basin. The four contaminated wells, one owned by NCWD and two owned by SCWD, in addition to the VWC well, represent a total of 7,900 gpm of pumping capacity (or full-time source capacity of about 12,700 afy) inactivated due to perchlorate contamination.

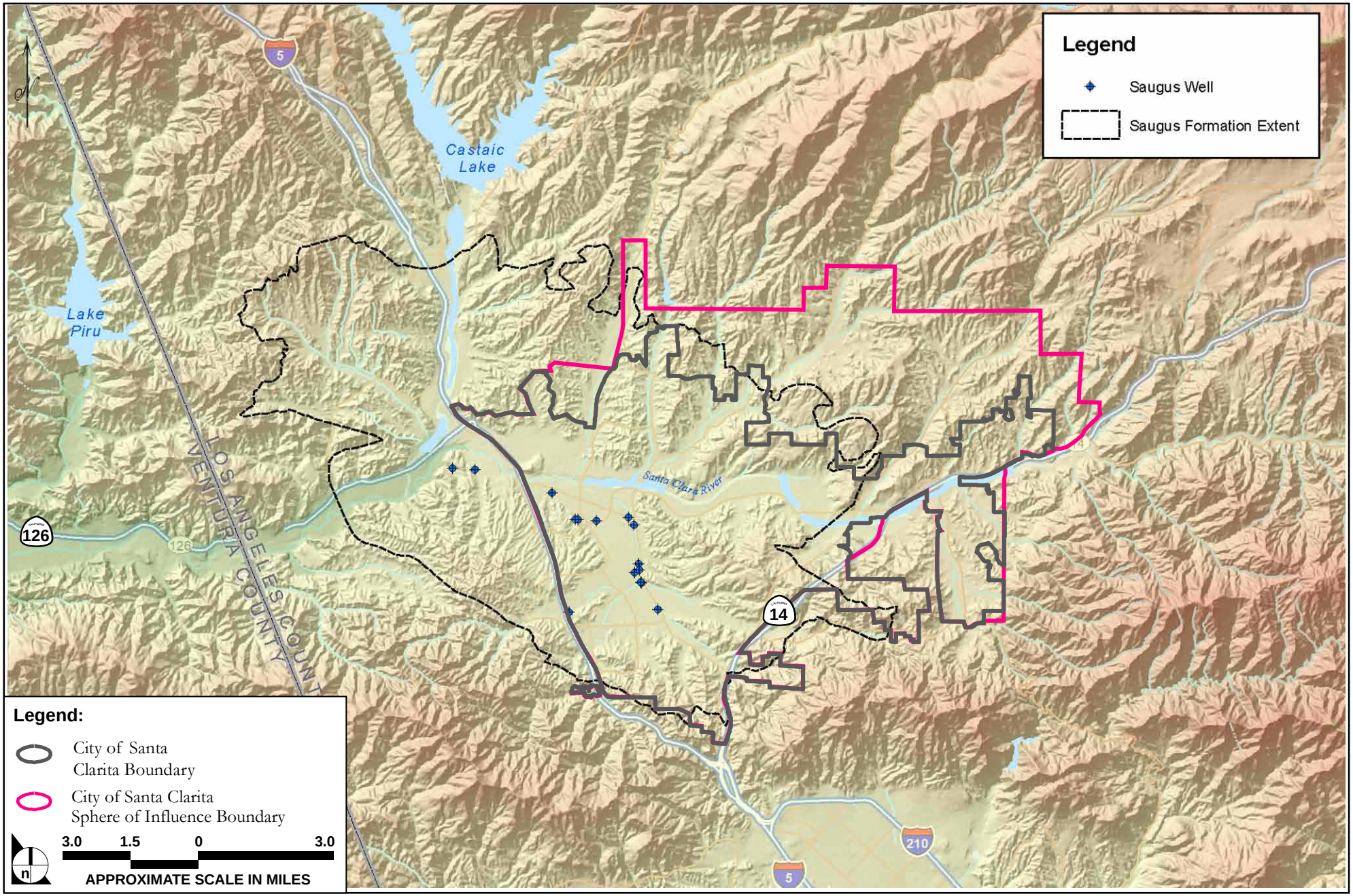
In terms of adequacy and availability, the combined active Saugus groundwater source capacity of municipal wells of 24,000 afy, is more than sufficient to meet the planned use of Saugus groundwater in normal years of 7,500 to 15,000 afy. During the currently scheduled two-year time frame for restoration of impacted Saugus capacity (as discussed further in Chapter 5 of the *2005 UWMP*), this currently active capacity is more than sufficient to meet water demands, in combination with other sources, if both of the next two years are dry. At that time, the combination of currently active capacity and restored impacted capacity, through a combination of treatment at two of the impacted wells and replacement well construction, will provide sufficient total Saugus capacity to meet the planned use of Saugus groundwater during multiple dry-years of 35,000 af, if that third year is also a dry year.

Table 3.13-6
Active Municipal Groundwater Source Capacity—Saugus Formation Wells

Wells	Pump Capacity (gpm)	Max Annual Capacity (af)	Normal Year Production[1] (af)	Dry-Year Production (af)
NCWD				
12	2,300	3,700	1,315	2,044
13	2,500	4,030	1,315	2,044
NCWD Subtotal	4,800	7,730	2,630	4,088
Valencia Water Co.				
159	500	800	50	50
160	2,000	3,220	1,000	1,330
201	2,400	3,870	100	3,577
205	2,700	4,350	1,000	3,827
206	2,500	4,030	1,175	3,500
Valencia Subtotal	10,100	16,270	3,325	12,284
Total Purveyors	**14,900**	**24,000**[2]	**5,955**[2]	**16,372**

Notes:
[1] *Based on recent annual pumping.*
[2] *Currently active wells only; additional capacity to meet dry-year operating plan would be met by restoration of contaminated wells and new well construction.*
Source: Valencia Water Company, 2007.

Sustainability. Until recently, the long-term sustainability of Saugus groundwater was empirically determined from limited historical experience. The historical record shows fairly low annual pumping in most years, with a single four-year period of increased pumping up to about 15,000 afy that produced no long-term depletion of the substantial groundwater storage in the Saugus. Those empirical observations have now been complemented by the development and application of the numerical groundwater flow model, which has been used to examine aquifer response to the operating plan for pumping from both the Alluvium and the Saugus and also to examine the effectiveness of pumping for both contaminant extraction and control of contaminant migration within the Saugus Formation. The latter aspects of Saugus pumping are discussed in further detail in Chapter 5 of the *2005 UWMP*.



SOURCE: 2007 Santa Clarita Valley Water Report (April 2008)

FIGURE **3.13-4**

Saugus Well Locations; Santa Clara River Valley, East Groundwater Subbasin

To examine the yield of the Saugus Formation or, its sustainability on a renewable basis, the groundwater flow model was used to examine long-term projected response to pumping from both the Alluvium and the Saugus over the 78-year period of hydrologic conditions using alternating wet and dry periods as have historically occurred. The pumping simulated in the model was in accordance with the operating plan for the Basin. For the Saugus, simulated pumpage included the planned restoration of recent historic pumping from the perchlorate-impacted wells. In addition to assessing the overall recharge of the Saugus, that pumping was analyzed to assess the effectiveness of controlling the migration of perchlorate by extracting and treating contaminated water close to the source of contamination.

Simulated Saugus Formation response to the ranges of pumping under assumed recurrent historical hydrologic conditions is consistent with actual experience under smaller pumping rates. The response consists of (1) short-term declines in groundwater levels and storage near pumped wells during dry-period pumping; (2) rapid recovery of groundwater levels and storage after cessation of dry-period pumping; and (3) no long-term decreases or depletion of groundwater levels or storage. The combination of actual experience with Saugus pumping and recharge up to about 15,000 afy, now complemented by modeled projections of aquifer response that show long-term utility of the Saugus at 7,500 to 15,000 afy in normal years and rapid recovery from higher pumping rates during intermittent dry periods, shows that the Saugus Formation can be considered a sustainable water supply source to meet the Saugus portion of the operating plan for the Basin.

Aquifer Protection. The remaining key consideration related to current and future use of the Saugus Formation is the impact of perchlorate contamination. The nature and extent of the contamination, and the plans to contain the migration of perchlorate and restore impacted Saugus well capacity are addressed in CLWA's groundwater containment, treatment and restoration project, as discussed in the *2005 UWMP*, Chapter 5 and Appendix E. This project proposes to contain further downstream migration of perchlorate from the former Whittaker-Bermite site, treat water extracted as part of the containment process, and recover lost groundwater production from the impacted wells in the Saugus Formation.

Impacted Alluvial and Saugus Wells

A small group of wells that have been impacted by perchlorate represent a temporary loss of well capacity within the CLWA service area. Of the six wells that were initially removed from active water supply service upon the detection of perchlorate, four wells with a combined flow rate of 7,200 gallons per minute (gpm) remain out of service, as discussed further in Chapter 5 of the *2005 UWMP*. However, CLWA and the purveyors have developed an implementation plan that would restore this well capacity. The implementation plan includes a combination of treatment facilities and replacement wells.

Treatment facilities for impacted wells are under construction (treatment facilities are well over 75 percent completed, and pipelines are over 35 percent completed). The start-up and operation is scheduled for 2009.

CLWA, in conjunction with the local retail water purveyors, is proceeding with a two-prong perchlorate contamination treatment program. The first prong is to protect non-impacted wells by pumping contaminated groundwater near the former Whittaker-Bermite site, thus preventing further migration within the aquifer and recovering costs incurred in responding to the perchlorate contamination. The second prong of the program is to restore the production capacity and water supply from wells that have been temporarily closed due to the detection of perchlorate. As outlined below, CLWA's containment and water supply restoration program is well underway.

CLWA developed an Interim Remedial Action Plan (IRAP) to address the groundwater perchlorate contamination, and that action plan was approved by DTSC in January 2006. Construction of the perchlorate treatment system and associated pipelines took place in August 2006. Monitoring wells required for the project have been constructed. The final design for treatment facilities and pipelines was completed in May 2007. Bidding has been completed, the contract has been awarded, and construction has commenced for the major construction work.

Significantly, CLWA and the retail water purveyors entered into a settlement agreement in connection with the 2000 lawsuit brought against Whittaker-Bermite whereby CLWA and the purveyors estimate they will receive up to $100 million to construct the necessary perchlorate treatment facilities and pipelines; establish replacement wells as necessary; and, fund the operation and maintenance of these facilities for a period up to 30 years.

Under the terms of the settlement agreement, the current and former owners of the Whittaker-Bermite site and their insurers will provide funding to construct replacement wells for the Stadium well and the NC-11 well, and a treatment plant to remove perchlorate from Saugus wells 1 and 2. Funding also will be provided to pay for the replacement of well V-157 (already undertaken), and the installation of wellhead treatment at well Q2, also already undertaken. The settlement agreement provides funds to operate and maintain the treatment system for up to 30 years, an amount the water agencies estimate could be as much as $50 million.

As noted above, the treatment facilities already are under construction and the settlement agreement provides almost $12 million to reimburse the agencies for past expenditures. In addition, a $10 million "rapid response fund" will be established to allow the water agencies to immediately treat specified wells

that could become impacted by perchlorate contamination in the future. Costs not covered in the settlement agreement, such as the federal government's fair share of monitoring and treatment, will be sought via grant funding, including money made available by the Department of Defense.

Because certain defendants had previously filed for bankruptcy protection, the settlement agreement required approval by the U.S. Bankruptcy Court. On June 14, 2007, the Bankruptcy Court granted that approval. Final approval of the settlement agreement also required good-faith settlement determination by the U.S. District Court; that approval was granted on July 13, 2007. The District Court's action constitutes the final required court approval; accordingly, all payments under the settlement agreement were due by approximately August 13, 2007.[16] Payment under the settlement was received in August 2007.

Water Quality in the Alluvial Aquifer and Saugus Formation

Given that one of the sources of potable water for the OVOV Planning Area is from the local Basin, in particular the Alluvial aquifer, local groundwater quality is an important consideration.

Overview

The groundwater quality of the Alluvial aquifer and the Saugus Formation consistently meets drinking water standards set by the U.S. Environmental Protection Agency (U.S. EPA) and the California Department of Health Services (DHS). The water is delivered by the local retail purveyors in the CLWA service area for domestic use without treatment, although the water is disinfected by the retail purveyors prior to delivery. Existing water quality conditions for urban water uses in the CLWA service area are documented in the Santa Clarita Valley Water Quality Reports. The latest report is the 2008 Santa Clarita Valley Water Report. This report provides the cumulative results of thousands of water quality tests performed each year in the Santa Clarita Valley on CLWA's and the local purveyors' water supplies.

An annual Consumer Confidence Report (CCR) also is provided to all Santa Clarita Valley residents who receive water from the local retail water purveyors in the CLWA service area. The latest CCR is the 2008 Santa Clarita Valley Consumer Confidence Report. In that report, there is detailed information about the results of the testing of groundwater quality and treated SWP water supplied to the residents of the Santa

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16 The "Castaic Lake Water Agency Litigation Settlement Agreement," and the "Order Granting Joint Motion for Court Approval, Good Faith Settlement Determination and Entry of Consent Order," filed July 13, 2007, which are incorporated by reference, are available for public inspection and review at Impact Sciences, Inc., 803 Camarillo Springs Road, Suite A-1, Camarillo, California 93012.

Clarita Valley. Water quality regulations are constantly changing as contaminants that are typically not found in drinking water are discovered and new standards are adopted. In addition, existing water quality standards are becoming more stringent in terms of allowable levels in drinking water. However, all groundwater produced by the retail water purveyors in the Santa Clarita Valley meets or exceeds stringent drinking water quality regulations set by USEPA, the Department of Public Health (DPH), and the continuing oversight of the California Public Utilities Commission (CPUC).

Groundwater Quality – Alluvium

Groundwater quality is a key factor in assessing the Alluvial aquifer as a municipal and agricultural water supply. In terms of the aquifer system, there is no convenient long-term record of water quality, (i.e., water quality data in one or more single wells that spans several decades and continues to the present). Thus, in order to examine a long-term record of water quality in the Alluvium, individual records have been integrated from several wells completed in the same aquifer materials and in close proximity to each other to examine historical trends in general mineral groundwater quality throughout the basin. Based on these records of groundwater quality, wells within the Alluvium have experienced historical fluctuations in general mineral content, as indicated by electrical conductivity (EC), which correlates with fluctuations of individual constituents that contribute to EC. The historic water quality data indicates that, on a long-term basis, there has not been a notable trend and, specifically, there has not been a decline in water quality within the Alluvium.

Specific conductance within the Alluvium exhibits a westward gradient, corresponding with the direction of groundwater flow in the Alluvium. EC is lowest in the easternmost portion of the Basin, and highest in the west. Water quality in the Alluvium generally exhibits an inverse correlation with precipitation and streamflow, with a stronger correlation in the easternmost portion of the Basin, where groundwater levels fluctuate the most. Wet periods have produced substantial recharge of higher quality (low EC) water, and dry periods have resulted in declines in groundwater levels, with a corresponding increase in EC (and individual contributing constituents) in the deeper parts of the Alluvium.

Specific conductance throughout the Alluvium is currently below the Secondary (aesthetic) Upper Maximum Contaminant Level of 1600 micromhos per centimeter (umhos/cm). The presence of long-term consistent water quality patterns, although intermittently affected by wet and dry cycles, supports the conclusion that the Alluvial aquifer is a viable on-going water supply source in terms of groundwater quality. The analysis of groundwater sustainability was summarized in a Basin Yield Report (CH2MHill and LSCE, 2005). The consultants utilized a regional groundwater flow model, along with a review of historical observations over a 60-year period. The report concluded that the Alluvial and Saugus aquifers

historically have been and continue to be in good operating condition and that the water purveyors' groundwater operating plan as described in the 2003 GWMP, 2005 UWMP, and the 2007 Santa Clarita Valley Water Report is sustainable and can be relied upon for long-term planning purposes. Increased pumping consistent with the water purveyors' groundwater operating plan would not effect perchlorate remediation. The perchlorate remediation plan was reviewed and approved by DTSC. Please refer to this EIR, **Appendix 3.13**, for the Basin Yield Report.

Perchlorate. The most notable groundwater quality issue in the Alluvium is perchlorate contamination. In 2002, one Alluvial well (Stadium well), located near the former Whittaker-Bermite facility, was inactivated for municipal water supply due to detection of perchlorate slightly below the Notification Level.[17] In early 2005, perchlorate was detected in a second Alluvial well, Valencia Water Company's Well Q2. Valencia Water Company's response was to remove the well from active water supply service and to rapidly seek approval for installation of wellhead treatment and return of the well to service. As part of outlining its plan for treatment and return of the well to service, Valencia Water Company analyzed the impact of the temporary inactivation of the well on its water supply capability; and the analysis determined that Valencia Water Company's other sources are sufficient to meet demand and the inactivation of Well Q2 thus had no impact on Valencia Water Company's water supply capability.[18] Valencia Water Company proceeded through mid-2005 to gain approval for installation of wellhead treatment (ion-exchange as described below), including environmental review, and completed installation of the wellhead treatment facilities in September 2005. Well Q2 was returned to active water supply service in October 2005 and remains operational.

On-going monitoring of all active municipal wells near the Whittaker-Bermite site has shown no detections of perchlorate in any active Alluvial wells. However, based on a combination of proximity to the Whittaker-Bermite site and prevailing groundwater flow directions, complemented by findings in the on-going on-site and off-site investigations by Whittaker-Bermite and the Army Corps of Engineers

17 "Notification level" means the concentration level of a contaminant in drinking water delivered for human consumption that the state DHS has determined, based on available specific information, does not pose a significant health risk but warrants notification pursuant to applicable law. Notification levels are non-regulatory, health-based advisory levels established by the state DHS for contaminants in drinking water for which maximum contaminant levels have not been established. Notification levels are established as precautionary measures for contaminants that may be considered candidates for establishment of maximum contaminant levels, but have not yet undergone or completed the regulatory standard setting process prescribed for the development of maximum contaminant levels. Notification levels are not drinking water standards.

18 See, *Impact and Response to Perchlorate Contamination, Valencia Water Company, Well Q2*, prepared for Valencia Water Company by Luhdorff & Scalmanini Consulting Engineers, April 2005. This report is available for public review and inspection in **Appendix 3.13** of this EIR.

(Corps), there is logical concern that perchlorate could impact nearby, down-gradient Alluvial wells (see, *2005 UWMP*, Appendix D). As a result, provisions are in place to respond to perchlorate contamination if it should occur. The groundwater model was used to examine capture zones around Alluvial wells under planned operating conditions (pumping capacities and volumes) for the time period through currently scheduled restoration of impacted wells in 2006.[19] The capture zone analysis of Alluvial wells generally near the Whittaker-Bermite site, shown on **Figure 3.13-5, Forecasted Two-Year Groundwater Capture Zones for Active Alluvial Production Wells Located Closest to the Whittaker-Bermite Property Santa Clarita, California**, suggests that inflow to those wells will either be upgradient of the contamination site, or will be from the Alluvium beyond where perchlorate is most likely to be transported, with the possible exception of the Valencia Water Company's Pardee wellfield, which includes Wells N, N7, and N8. Although the capture zone analysis does not show the Pardee wells to be impacted, they are considered to be at some potential risk due to the proximity of their capture zone to the Whittaker-Bermite site.

The combined pumping capacity of Valencia Water Company's Pardee wells is 6,200 gpm, which equates to about 10,000 af of maximum annual capacity. However, in the operating plan for both normal and dry year Alluvial pumping, the planned use of those wells represents 2,940 afy of the total 30,000- to 40,000-afy Alluvial groundwater supply. Thus, if the wells were to become contaminated with perchlorate, they would represent an amount of the total Alluvial supply that could be readily replaced, on a short-term interim basis, by utilizing an equivalent amount of imported water from CLWA or by utilizing existing capacity from other Alluvial wells (see, **Table 3.13-5**, above). Furthermore, if the Pardee wells were to become contaminated by perchlorate contamination, Valencia Water Company has made site provisions at its Pardee wellfield for installation of wellhead treatment. Such treatment would be the same as once installed at Valencia's Well Q2, and would result in the impacted Pardee wells being promptly returned to active service.

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19 See, Technical Memorandum entitled, *Analysis of Near-Term Groundwater Capture Areas for Production Wells Located Near the Whittaker-Bermite Property (Santa Clarita, California)*, prepared by CH2MHill, for the Santa Clarita Valley Water Purveyors, dated December 21, 2004. This memorandum is available for public review and inspection in **Appendix 3.13** of this EIR.

Legend:

City of Santa Clarita Boundary

City of Santa Clarita Sphere of Influence Boundary

LEGEND

CONTAMINATED PRODUCTION WELL

- ALLUVIUM
- SAUGUS

UNCONTAMINATED PRODUCTION WELL

- ALLUVIUM
- SAUGUS

MONITORING WELL

- ALLUVIUM
- SAUGUS

TWO-YEAR GROUNDWATER CAPTURE ZONE

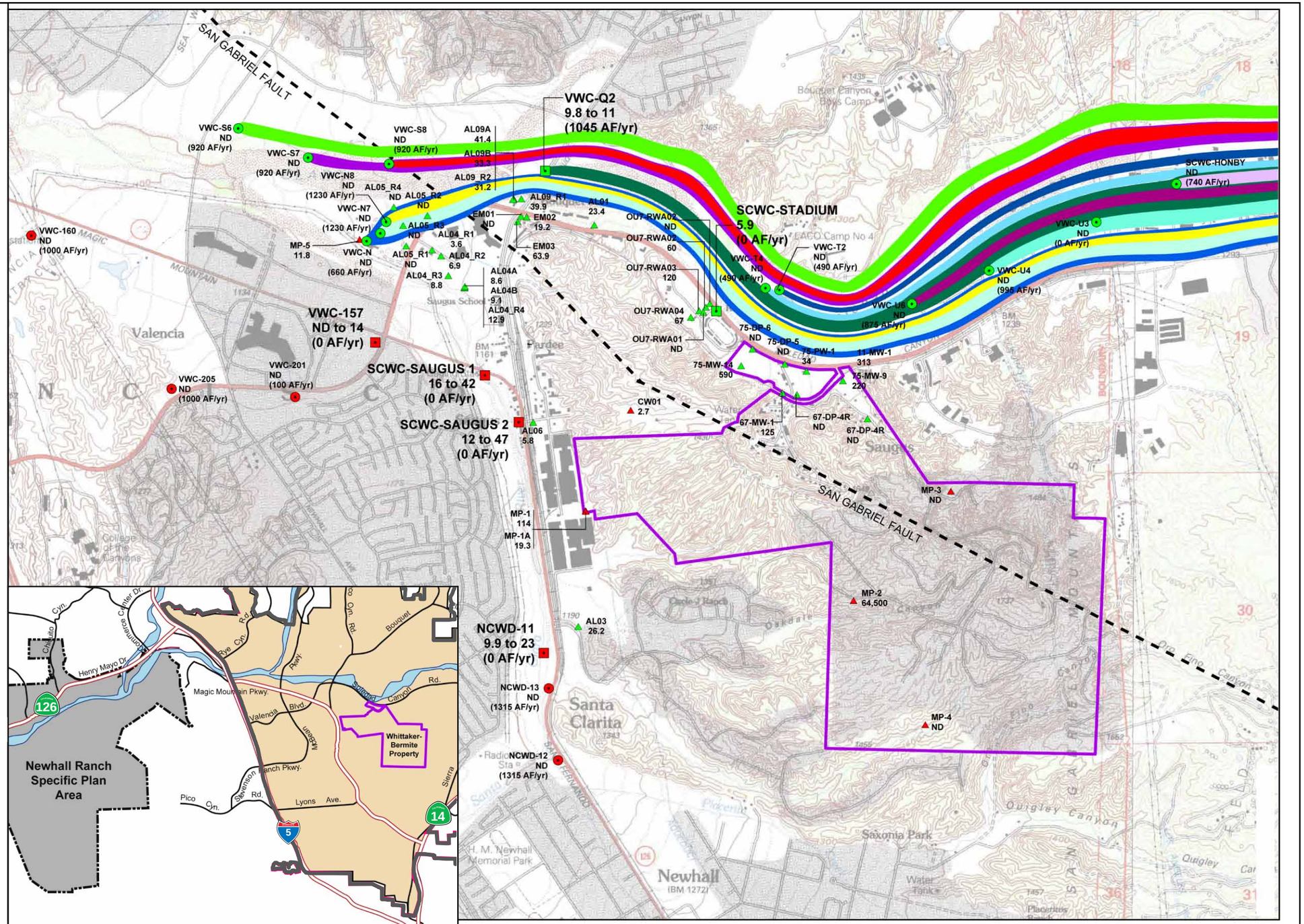
- SCWC-HONBY
- VWC-N
- VWC-N7
- VWC-N8
- VWC-Q2
- VWC-S6
- VWC-S7
- VWC-S8
- VWC-T2
- VWC-T4
- VWC-U4
- VWC-U6
- WHITTAKER-BERMITE PROPERTY BOUNDARY

NOTES:

1. VALUES PRESENTED UNDER WELL SYMBOLS REPRESENT PERCHLORATE CONCENTRATION IN GROUNDWATER (µg/L).
2. PUMPING VALUES IN PARENTHESES ARE ANNUAL PUMPING VOLUMES
3. ND = PERCHLORATE NOT DETECTED IN GROUNDWATER SAMPLE.
4. µg/L = MICROGRAMS PER LITER; AF/yr = acre feet per year
5. FLOWPATHS ARE DELINEATED USING AN EFFECTIVE POROSITY OF 0.10 IN THE ALLUVIAL AQUIFER AND 0.05 IN THE SAUGUS FORMATION.

2000 1000 0 2000

APPROXIMATE SCALE IN FEET



SOURCE: Luhdorff & Scalmanini Consulting Engineers – January 2006

FIGURE **3.13-5**

Forecasted Two-Year Groundwater Capture Zones for Active Alluvial Production Wells Located Closest to the Whittaker-Bermite Property Santa Clarita, California

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In addition, in June 2005, a work plan was completed for a pilot remediation pumping program in the Northern Alluvium and certain on-site subareas east/southeast, or generally upgradient, of the impacted Stadium well. That program is operational and basically involves the establishment of containment, generally along the northern boundary of the Whittaker-Bermite site, upgradient of the Stadium well, by continuous pumping of a former Whittaker-Bermite facility well, at a continuous low capacity, complemented by pumping at several groundwater "hot spots" also generally upgradient of the Stadium well. Extracted water is treated at Whittaker-Bermite's existing on-site treatment system. Generally consistent with the Saugus restoration concept, the Northern Alluvium pumping program would have the concurrent objectives of preventing site-related contaminants from leaving the site and removing some contamination from groundwater such that it can be removed in the on-site treatment process prior to discharge of the water back to the Basin. As of November 3, 2008, approximately 13.5 million gallons of groundwater have been treated and discharged under the new NPDES permit authorizing such activities. The plan is to continue routine weekly and monthly NPDES sampling, treatment, and discharge in compliance with NPDES permit requirements.[20]

Groundwater Quality – Saugus Formation

Similar to the Alluvium, groundwater quality in the Saugus Formation is a key factor in assessing that aquifer as a municipal and agricultural water supply. As with groundwater level data, long-term Saugus groundwater quality data is not sufficiently extensive (few wells) to permit any basin-wide analysis or assessment of pumping-related impacts on quality. As with the Alluvium, EC has been chosen as an indicator of overall water quality, and records have been combined to produce a long-term depiction of water quality. Water quality in the Saugus Formation has not historically exhibited the precipitation-related fluctuations seen in the Alluvium. Based on the historical record over the last 50 years, groundwater quality in the Saugus has exhibited a slight overall increase in EC. More recently, several wells within the Saugus Formation have exhibited an additional increase in EC similar to that seen in the Alluvium. In 2004, monthly data collected by Valencia Water Company for two Saugus wells shows that the overall level of EC remained fairly stable during the year. Levels of EC in the Saugus Formation remain below the Secondary (aesthetic) Upper Maximum Contaminant Level for EC. Groundwater quality within the Saugus will continue to be monitored to ensure that degradation that presents concern relative to the long-term viability of the Saugus as a municipal water supply does not occur.

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20 See Summary Report to Department of Toxic Substances Control from AMEC Geomatrix regarding Former Whittaker-Bermite Facility, Santa Clarita, California, November 17, 2008. This report is found in **Appendix 3.13** of this EIR.

Perchlorate. As with the Alluvium, the most notable groundwater quality issue in the Saugus Formation is perchlorate contamination. Since 1997, four Saugus wells have been inactivate for water supply service due to the presence of perchlorate. While the inactivation of those wells does not limit the ability of the purveyors to meet water demands, there is a program and schedule in place that involves installation of treatment facilities to both extract contaminated water and control migration in the Saugus Formation, such that the impacted capacity is restored and perchlorate migration is controlled in 2006. To date, there has been no additional detection of perchlorate in any other municipal-supply wells in the Saugus Formation.

In the interim, the question of whether existing active Saugus wells are likely to be contaminated by perchlorate migration prior to the installation of treatment and pumping for perchlorate contamination control has been evaluated by using the groundwater flow model to analyze capture zones of existing active wells through 2006, the scheduled period for permitting, installation of treatment, and restoration of impacted capacity. For that analysis, recognizing current hydrologic conditions and available supplemental SWP supplies, the rate of Saugus pumping was conservatively projected to be in the normal range (7,500 to 15,000 afy) for the near-term. The results of the capture zone analysis, illustrated on **Figure 3.13-6, Forecasted Two-Year Groundwater Capture Zones for Active Saugus Production Wells Located Closest to the Whittaker-Bermite Property Santa Clarita, California**, were that the two nearest downgradient Saugus wells, Valencia Water Company's Wells 201 and 205, would draw water from very localized areas around the wells and would not draw water from locations where perchlorate has been detected in the Saugus Formation. As shown on the figure, the capture zone analysis projected Well 201 would potentially draw Saugus groundwater from areas located up to 450 feet east of the well, but was unlikely to draw water from areas farther to the east through that time period. During the same time, Well 205 would potentially draw Saugus groundwater from areas as much as 650 feet to the east and northeast of this well.

As a result, the currently active downgradient Saugus wells are expected to remain active as sources of water supply in accordance with the overall operating plan for the Saugus Formation, given the generally low planned pumping from the nearest downgradient Saugus wells in the operating plan through 2006, after which restored capacity and resultant aquifer hydraulic control are scheduled to be in place.

Legend:

City of Santa Clarita Boundary

City of Santa Clarita Sphere of Influence Boundary

LEGEND

CONTAMINATED PRODUCTION WELL

- ALLUVIUM
- SAUGUS

UNCONTAMINATED PRODUCTION WELL

- ALLUVIUM
- SAUGUS

MONITORING WELL

- ALLUVIUM
- SAUGUS

TWO-YEAR GROUNDWATER CAPTURE ZONE

- NC-12
- NC-13
- VWC-160
- VWC-201
- VWC-205
- WHITTAKER-BERMITE PROPERTY BOUNDARY

NOTES:

1. VALUES PRESENTED UNDER WELL SYMBOLS REPRESENT PERCHLORATE CONCENTRATION IN GROUNDWATER (µg/L).
2. PUMPING VALUES IN PARENTHESES ARE ANNUAL PUMPING VOLUMES.
3. ND = PERCHLORATE NOT DETECTED IN GROUNDWATER SAMPLE.
4. µg/L = MICROGRAMS PER LITER; AF/yr = acre feet per year
5. FLOWPATHS ARE DELINEATED USING AN EFFECTIVE POROSITY OF 0.10 IN THE ALLUVIAL AQUIFER AND 0.05 IN THE SAUGUS FORMATION.

2000 1000 0 2000

APPROXIMATE SCALE IN FEET

SAN GABRIEL FAULT

VWC-S6 ND (920 AF/yr)
VWC-S7 ND (920 AF/yr)
VWC-S8 ND (920 AF/yr)
VWC-N8 ND (1230 AF/yr)
VWC-N7 ND (1230 AF/yr)
VWC-N ND (660 AF/yr)
VWC-160 ND (1000 AF/yr)
MP-5 11.8
AL05_R4 ND
AL05_R2 ND
AL05_R3 ND
AL05_R1 ND
AL04_R1 3.6
AL04_R2 6.9
AL04_R3 8.8
AL09A 41.4
AL09B 33.3
AL09_R2 31.2
AL09_R1 39.9
EM01 ND
EM02 19.2
EM03 63.9
AL01 23.4
AL04A 8.6
AL04B 9.1
AL04_R4 12.9
VWC-Q2 9.8 to 11 (1045 AF/yr)
VWC-157 ND to 14 (0 AF/yr)
SCWC-SAUGUS 1 16 to 42 (0 AF/yr)
SCWC-SAUGUS 2 12 to 47 (0 AF/yr)
VWC-201 ND (100 AF/yr)
VWC-205 ND (1000 AF/yr)
AL06 5.8
CW01 2.7
OU7-RWA02 ND
OU7-RWA02 60
OU7-RWA03 120
OU7-RWA04 67
OU7-RWA01 ND
SCWC-STADIUM 5.9 (0 AF/yr)
VWC-T4 ND (490 AF/yr)
VWC-T2 ND (490 AF/yr)
75-DP-6 ND
75-DP-5 ND
75-PW-1 34
75-MW-14 590
11-MW-1 313
75-MW-9 220
67-MW-1 125
67-DP-4R ND
67-DP-4R ND
MP-1 114
MP-1A 19.3
MP-3 ND
MP-2 64,500
MP-4 ND
AL03 26.2
NCWD-11 9.9 to 23 (0 AF/yr)
NCWD-13 ND (1315 AF/yr)
NCWD-12 ND (1315 AF/yr)
VWC-U3 ND (0 AF/yr)
VWC-U4 ND (995 AF/yr)
VWC-U6 ND (875 AF/yr)
SCWC-HONBY ND (740 AF/yr)
Newhall Ranch Specific Plan Area
Whittaker-Bermite Property
Valencia
Newhall
Saugus
Bouquet Canyon
Soledad Canyon
Magic Mountain Pkwy.
Valencia Blvd.
Henry Mayo Dr.
Pico Cyn.
Stevenson Ranch Pkwy.
Lyons Ave.
Sierra Hwy.
Quigley Canyon
Saxonia Park
H. M. Newhall Memorial Park
College of the Canyons

SOURCE: Luhdorff & Scalmanini Consulting Engineers – January 2006

FIGURE **3.13-6**

Forecasted Two-Year Groundwater Capture Zones for Active Saugus Production Wells Located Closest to the Whittaker-Bermite Property Santa Clarita, California

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Perchlorate Treatment Technology

Effective technologies presently exist to treat perchlorate in water in order to meet drinking water standards. In a publication from the U.S. EPA, *Region 9 Perchlorate Update*,[21] the U.S. EPA discussed the current state of perchlorate treatment technology, and the current and planned treatment development efforts being carried out as part of U.S. EPA Superfund program studies, U.S. Air Force research, water utility-funded studies, and the federally funded research effort underway by the East Valley Water District, California and the American Water Works Association Research Foundation (AWWARF). The U.S. EPA also summarized two of the technologies that are in use today, which are capable of removing perchlorate from groundwater supplies, the ion exchange and biological treatment methods.

A number of full-scale perchlorate treatment systems have been implemented in California and other states. In an effort to evaluate the various available treatment technologies, CLWA commissioned an investigation to identify and evaluate alternative treatment processes effective in removing perchlorate. The scope of that investigation included resolving permitting issues pertaining to the construction and certification of a treatment facility, conducting bench-scale and pilot-scale tests to determine treatment process performance, and preparing preliminary capital and operations and maintenance cost estimates.

Three treatment technologies, an ion exchange system and two biological systems, were selected for study. All three systems were determined to be effective in removing perchlorate.[22] However, there was considerable uncertainty with respect to the capital and operations and maintenance costs associated with each process. Therefore, a technical group comprised of representatives from CLWA, the retail water purveyors, and consultants retained by Whittaker-Bermite agreed to solicit competitive bids for the design, construction, and operation of both ion exchange and biological treatment systems. After thorough evaluation of several bids, the technical group determined that ion exchange is the preferred technology based upon treatment performance, ease of regulatory compliance, and comparison of costs associated with construction and operations and maintenance.

The preferred single-pass ion exchange treatment technology does not generate a concentrated perchlorate waste stream that would require additional treatment before discharge to a sanitary sewer or a brine line (if one is available). This technology incorporates an active resin (a material that attracts

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21 See U.S. EPA Internet website, *Perchlorate*, and *Region 9 Perchlorate Update*, found at http://www.epa.gov/ogwdw/ccl/perchlor/perchlo.html, and included in **Appendix 3.13** of this EIR.

22 See *Treatment of Perchlorate Contaminated Groundwater from the Saugus Aquifer, TM 3 Bench and Pilot Test Results*, Carollo Engineers, February 2004. A copy of this report is available for public review and inspection in **Appendix 3.13** of this EIR.

perchlorate molecules) that safely removes the perchlorate from water. The resin is contained in pressure vessels and the water is pumped through the vessel. The resin is eventually replaced with new resin after a period of time. The old resin is removed and transported by truck to an approved waste disposal site where it is safely destroyed. This technology is reliable for use in drinking water systems.

DHS has approved operation of perchlorate treatment plants, and those plants currently in operation are listed in **Table 3.13-7**, **Perchlorate Treatment Summary**.

Table 3.13-7
Perchlorate Treatment Summary

Location	Treatment Plant Capacity (gallons per minute)	Concentration of Perchlorate in Groundwater (parts per billion)	Concentration of Perchlorate after Treatment (parts per billion)
1. Valencia Water Company (Santa Clarita Valley – Well Q2)	1,300	<11	ND
2. La Puente Valley County Water District (Baldwin Park)	2,500	<200	ND
3. San Gabriel Valley Water Company (El Monte)	7,800	<80	ND
4. Lincoln Avenue Water Company (Altadena)	2,000	<20	ND
5. City of Riverside	2,000	<60	ND
6. City of Rialto	2,000	<10	ND
7. City of Colton	3,500	<10	ND
8. Fontana Union Water Company	5,000	<15	ND

ND = non-detect. The non-detect level represents concentrations less than 4 parts per billion.
Source: Perchlorate Contamination Treatment Alternatives, prepared by the Office of Pollution Prevention and Technology Development, DTSC, California Environmental Protection Agency, Draft January 2004.

Based on (1) the results of CLWA's investigation of perchlorate removal technologies; (2) the technical group's evaluation; and (3) DHS' approval of single-pass ion exchange for treatment in other settings, CLWA and the local retail water purveyors are planning single-pass ion exchange for the treatment technology for restoration of impacted capacity (wells) in accordance with the permitting, testing, and installation process described in the *2005 UWMP*. The wellhead treatment installed at Valencia Water Company's Well Q2 in October 2005 is the same single-pass ion exchange as is planned for restoration of impacted Saugus well capacity.

Groundwater Pollutants of Concern

Research conducted on the effects on groundwater from stormwater infiltration by Pitt et al. (1994) indicate that the potential for contamination is dependent on a number of factors, including the local hydrogeology and the chemical characteristics of the pollutants of concern. Chemical characteristics that influence the potential for groundwater impacts include high mobility (low absorption potential), high solubility fractions, and abundance in runoff and dry weather flow. As a class of constituents, trace metals tend to adsorb onto soil particles and are filtered out by the soils. This has been confirmed by extensive data collected beneath stormwater detention/retention ponds in Fresno (conducted as part of the Nationwide Urban Runoff Program) that showed trace metals tended to be adsorbed in the upper few feet in the bottom sediments. Bacteria also are filtered out by soils. More mobile constituents, such as chloride and nitrate, would have a greater potential for infiltration.

The pollutants of concern for the groundwater quality analysis are those that are anticipated or that have the potential to be generated by the land uses associated with the buildout of the OVOV Planning Area. The pollutants specific to each land use have been identified based on water quality data collected in Los Angeles County. Pollutants generated by these land uses have the potential to impact groundwater via infiltration of runoff in project design features, direct infiltration of irrigation water and stormwater, exfiltration or seepage from sewers or stormwater drains, and direct discharges of treated wastewater to the Santa Clara River.

Nitrate. Nitrate+nitrite-N is a pollutant of concern for purposes of evaluating groundwater quality impacts based upon the potential use of nitrogen fertilizers and nitrates high mobility in groundwater.

Bacteria. The Basin Plan contains numeric criteria for bacteria in drinking water sources. Bacteria are not highly mobile in groundwater and are easily removed through filtration in soils (for example, as with septic tank discharges). Bacteria in stormwater originating from pets and wildlife is not expected to exceed the numeric criteria and, therefore, is not a pollutant of concern.

Taste and Odor. The Basin Plan contains a narrative objective for taste and odors that cause a nuisance or adversely affect beneficial uses. Undesirable tastes and odors in groundwater may be a nuisance and may indicate the presence of a pollutant(s). Odor associated with water can result from natural processes, such as the decomposition of organic matter or the reduction of inorganic compounds, such as sulfate. Other potential sources of odor causing substances, such as industrial processes, will not occur as part of the proposed project. Therefore, taste and odor-producing substances are not pollutants of concern for the proposed project.

Mineral Quality: TDS, Sulfate, Chloride, and Boron. Mineral quality in groundwater is largely influenced by the mineral assemblage of soils and rocks that it comes into contact with. Elevated mineral concentrations could impact beneficial uses; however, the minerals listed in the Basin Plan are not believed to be pollutants of concern due to the anticipated runoff concentrations and the typical mineral concentrations in irrigation water (Castaic Lake Water Agency), which are below the Basin Plan objectives (**Table 3.13-8**). Therefore, these constituents are not considered pollutants of concern for the OVOV Planning Area.

Table 3.13-8
Comparison of Basin Plan Mineral Groundwater Objectives with Mean Measured Values in Los Angeles County and SWP Water Quality at Castaic Lake

Mineral	Los Angeles Basin Plan Groundwater Quality Objective[1] (mg/L)	Range of Mean Concentrations in Urban Runoff[2] (mg/L)	Typical Concentration in CLWA Water[3] (mg/L)
Total Dissolved Solids	700	53 – 237	279
Sulfate	250	7 – 35	57
Chloride	100	4 – 50	47

[1] *Santa Clara-Bouquet and San Francisquito Canyons Subbasin*
[2] *Source: Los Angeles County, 2000. Includes all monitored land uses.*
[3] *Source: The Santa Clarita Valley Water Quality Report (2008)*

Other Groundwater Quality Issues

Methyl-Tertiary Butyl Ether (MTBE). MTBE has been a concern for the past several years, and on May 17, 2000, DPH adopted a primary MCL for MTBE of 0.013 mg/L. CLWA and the local retail purveyors have been testing for MTBE since 1997 and, to date, have not detected it in any of the production wells.

Total Trihalomethanes (TTHMs). In 2002, the U.S. EPA implemented the new Disinfectants and Disinfection Byproducts Rule. In part, this rule establishes a new MCL of 80 ug/L (based on an annual running average) for TTHM. TTHMs are byproducts created when chlorine is used as a means for disinfection. In 2005, CLWA and the local retail purveyors implemented an alternative method of disinfection, chloramination, to maintain compliance with the new rule and future regulations relating to

disinfection byproducts.[23] TTHM concentrations have remained significantly below the MCL since implementation of the alternative disinfection method.

Arsenic. The U.S. EPA revised the federal MCL for arsenic from 50 µg/l to 10 µg/l. Historically, naturally occurring arsenic has been detected at concentrations of less that 5 µg/l in local groundwater supplies and at concentrations of less than 3 µg/l in SWP water supplies. The analytical results for arsenic for most groundwater wells in the Valley have been non-detect where the detection limit was 2 µg/l (Luhdorff and Scalmanini, 2004).

Imported Water Supplies

Imported water supplies from CLWA are needed to serve the OVOV Planning Area's water demand. The OVOV Planning Area will use local groundwater, SWP supplies, and recycled water from local water reclamation plants to meet its potable and non-potable water demands. Potable water would be used or relied upon from CLWA's existing or planned SWP supplies, including the 41,000-afy water transfer, which is part of those supplies. The following discussion of imported water supplies is presented in this EIR for information purposes.

State Water Project and Associated Facilities

The SWP is a water supply, storage, and distribution system that includes 28 storage facilities, reservoirs, and lakes; 20 pumping plants; six pumping-generating plants and hydroelectric power plants; and about 660 miles of aqueducts and pipelines.[24] Principal SWP facilities are shown on **Figure 3.13-7**.

In the southern Sacramento-San Joaquin Delta (Delta), water is pumped into the 444-mile-long California Aqueduct at the Clifton Court Forebay by the Banks Pumping Plant (or by agreement with the U.S. Bureau of Reclamation, at the Central Valley Project's (CVP) Tracy Pumping Plant). SWP water exports for users south of the Banks and Tracy pumping plants are currently limited by a series of water quality and operational constraints, governed primarily by the SWRCB Water Right Decision 1641 (D-1641), as amended. D-1641 was adopted by the SWRCB in 1999; prior to that time, SWP water exports from the Delta were limited by the SWRCB's Water Right Decision 1485 (adopted in 1978), Order Water Right (WR) 95-6 (adopted in 1995), and Order WR 98-09 (adopted in 1998). In addition, DWR has acknowledged constraints on the SWP system due to recent federal court litigation (*Natural Resources*

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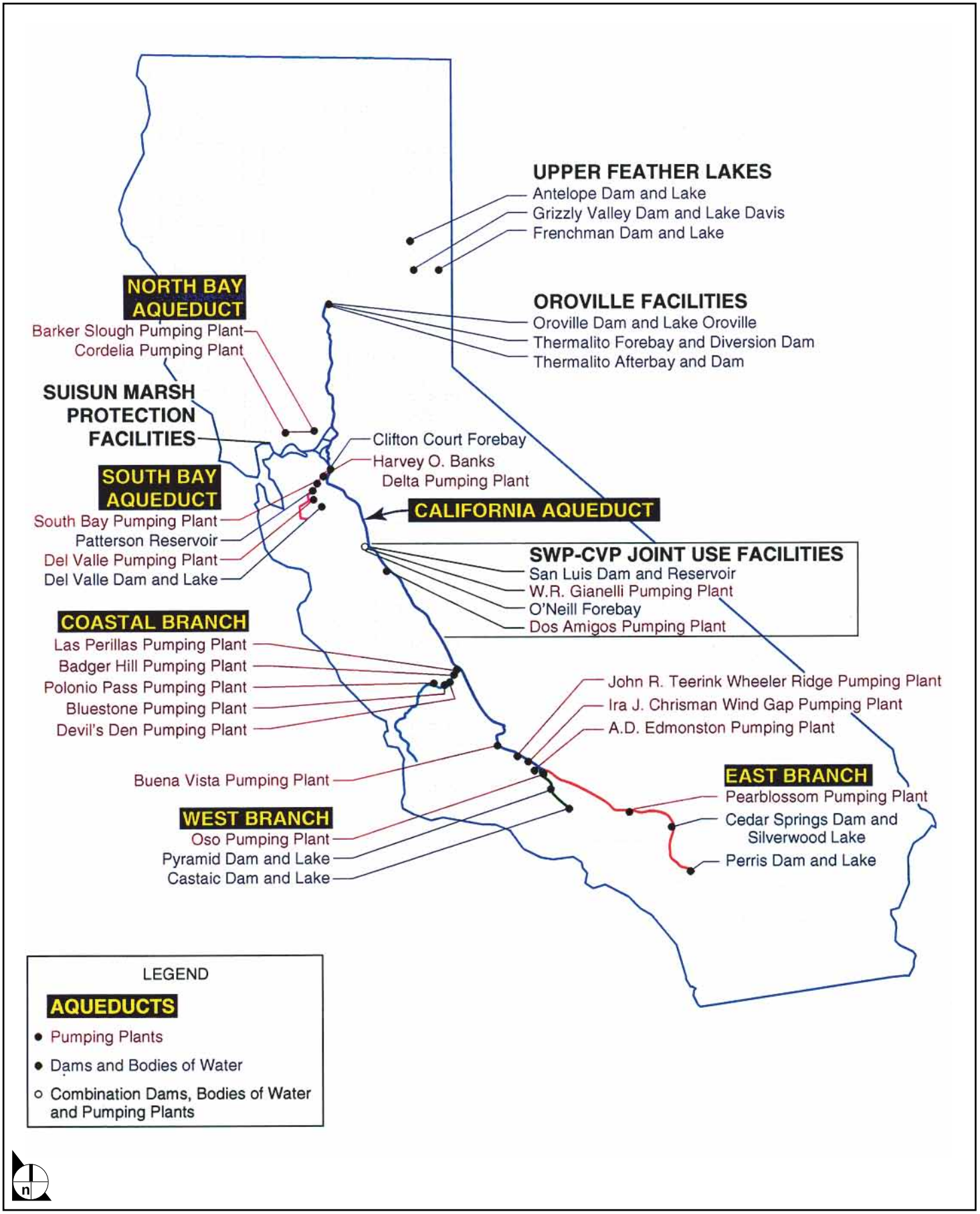
23 See EPA site: http://www.epa.gov/region09/water/drinking/files/dwsha_0607.pdf.

24 DWR. 2001. Bulletin 132-00: Management of the California State Water Project. December 2001.

Defense Council v. Kempthorne, 506 F.Supp.2d 322 (E.D. Cal. 2007) (*Wanger* Decision - Delta smelt); and *Pacific Coast Federation of Fishermen's Associations, et al. v. Gutierrez, et al.*, No. 06-CV-00245-OWW-GSA (E.D. Cal. 2008) (*Wanger* Decision - Chinook salmon/steelhead). DWR has stated that it will operate the SWP and its facilities in accordance with all statutory requirements, and, in the immediate short-term time frame, operate the SWP using the remedies imposed by the federal court in the *Wanger* Decision to provide protection for Delta smelt, a listed fish species. Further, DWR has stated that a new Biological Opinion for Delta smelt will replace the trial court's order regarding the operation of the SWP, and the new Biological Opinion would continue to provide the mitigation required to address the SWP's impact on the Delta smelt and other listed fish species. (The current status of the Delta smelt Biological Opinion and the associated litigation is provided below.)

From the southern Delta facilities, water in the California Aqueduct travels along the west side of the San Joaquin Valley and is delivered directly to SWP Contractors or is stored in San Luis Reservoir, the SWP's main storage facility south of the Delta. Water is conveyed via the California Aqueduct to the urban region of the Bay area, and south of San Luis Reservoir, to the primarily agricultural regions in the San Joaquin Valley and the primarily urban regions of the Central Coast and southern California. Water is diverted from the California Aqueduct and delivered directly to SWP Contractors in the central and southern San Joaquin Valley at various locations along the California Aqueduct. The California Aqueduct traverses the west side of the San Joaquin Valley, and water is pumped through a series of four pumping plants (Dos Amigos, Buena Vista, Teerink, and Chrisman) before reaching the Edmonston Pumping Plant. The Edmonston Pumping Plant pumps water over the Tehachapi Mountain Range, and the California Aqueduct then divides into the East Branch and the West Branch. Water intended for use by CLWA is conveyed through the West Branch to Quail and Pyramid Lakes and then to Castaic Lake, the terminus for the West Branch.



SOURCE: DWR (1997a)

FIGURE **3.13-7**

Principal State Water Program Facilities

SWP Operations, Deliveries, and Constraints[25]

In the early 1960s, DWR began entering into individual water supply contracts with various urban and agricultural public water supply agencies (i.e., SWP Contractors). The total planned annual delivery capability of the SWP and the sum of all SWP Contractors' maximum Table A amounts specified in the water supply contracts were approximately 4.2 million acre-feet (maf). The initial SWP storage facilities were designed to meet SWP Contractors' water demands in the early years of the project, with construction of additional storage facilities planned as demands increased. Conveyance facilities were generally designed and constructed to deliver full Table A Amounts to SWP Contractors. Water deliveries to SWP Contractors began as initial SWP facilities were completed in the late 1960s and early 1970s; however, no additional SWP storage facilities have been constructed since that time.

From 1990 to 2003, actual SWP annual deliveries of Table A supplies to SWP Contractors ranged from approximately 550,000 af in 1991 to approximately 3.2 maf in 2000 and 2003 (excluding Article 21 deliveries). The primary factors affecting the amount of Table A deliveries are the availability of SWP supplies and the SWP Contractors' demands for this water. Climatic conditions and other factors can also significantly alter and reduce the availability of SWP water in any year. The amount of water DWR determines is available and allocates for delivery in a given year is based on that year's hydrologic conditions, the amount of water in storage in the SWP system, current regulatory, operational, and environmental constraints, and the SWP Contractors' requests for SWP supplies. Even in years when additional Table A supplies are available, the amount of water DWR allocates is limited to SWP Contractors' requests. The requests of many SWP Contractors during this 14-year period were less than their full Table A Amount, so SWP Contractor requests limited allocations in some years. In addition, since SWP Contractors' water needs may change during the year (*e.g.*, due to higher than anticipated local precipitation and supplies), they may not take delivery of all of the Table A supply allocated to them. Since historically low SWP Contractor demands have limited deliveries in wetter years when additional supplies were available, historic deliveries only provide an indication of actual SWP delivery capability in supply-limited dry years.

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25 Bulletin 132-04, Management of the California State Water Project (September 2005), is the most recent published data by DWR for SWP operations and deliveries to SWP Contractors. Because Bulletin 132-04 covers SWP activities through calendar year 2003, the SWP delivery information presented in this EIR includes information through calendar year 2003, which is the latest year available. (See this EIR, **Appendix 3.13** [Bulletin 132-04, Management of the California State Water project (September 2005)].)

To determine the SWP delivery capability under current and future conditions, DWR uses a computer model (currently, CALSIM II) that simulates operations of the SWP and CVP. DWR's most recently published estimates of SWP delivery reliability are included in DWR's State Water Project Delivery Reliability Report 2007 (August 2008).[26]

As background, DWR has assessed the impact of various conditions on SWP supply reliability since 2003. (See DWR Reliability Report, May 2003). The report assisted SWP contractors in assessing the reliability of the SWP component of their overall supplies. DWR subsequently issued its 2005 SWP Delivery Reliability Report (April 2006). This updated analysis estimated that the SWP, using existing facilities operated under current regulatory and operational constraints, and with all contractors requesting delivery of their full Table A Amounts in most years, could deliver 77 percent of total Table A Amounts on a long-term average basis. The 2005 UWMP's discussion of SWP supply reliability is based on the analysis contained in the DWR 2005 Delivery Reliability Report, April 2006.

Since that time, DWR released the 2007 State Water Project Delivery Reliability Report (August 2008). This Report updates the 2005 Delivery Reliability Report, and describes three areas of significant uncertainty to SWP delivery reliability: (a) the recent and significant decline in pelagic organisms in the Delta (open-water fish such as striped bass, Delta smelt, and longfin smelt); (b) climate change and sea level rise; and (c) the vulnerability and potential failure of Delta levees. The inclusion of new areas of uncertainty distinguishes the 2007 State Water Project Delivery Reliability Report from earlier reports by including estimates of the potential reductions to SWP delivery reliability due to the pelagic organism decline and future climate changes.

As described in the 2007 State Water Project Delivery Reliability Report (August 2008), simulations to evaluate future (2027) SWP delivery reliability incorporate the current interim court-ordered operating rules related to Delta smelt and a range of possible climate change impacts to hydrology in the Central Valley. The interim operating rules for Delta smelt are simulated at a more restricted level and a less restricted level for Delta exports to provide a range of estimated water deliveries. Therefore, for 2007, two studies were conducted. For 2027, 10 simulations were used to reflect the four assumed scenarios for climate change and the two levels of operating rules.

The 2007 State Water Project Delivery Reliability Report (August 2008) includes the information presented in **Tables 3.13-9, Average And Dry Period SWP Table A Deliveries From The Delta Under**

26 See this EIR, **Appendix 3.13** (The State Water Project Delivery Reliability Report 2007, August 2008).

Current Conditions, and **3.13-10, Average And Dry Period SWP Table A Deliveries From The Delta Under Future Conditions**, below, which provide average and dry period estimated deliveries for current conditions (2007) and future conditions (2027), and compares those figures to those in the DWR 2005 Delivery Reliability Report.

Table 3.13-9
Average and Dry Period SWP Table A Deliveries from the Delta Under Current Conditions

SWP Table A Delivery from the Delta (in percent of maximum Table A[1])						
Study of Current Conditions	**Long-term Average[2]**	**Single dry-year (1977)**	**2-year drought (1976-1977)**	**4-year drought (1931-1934)**	**6-year drought (1987-1992)**	**6-year drought (1929-1934)**
2005 SWP Reliability Report, Study 2005	68%	4%	41%	32%	42%	37%
Update with 2007 Studies[3]	63%	6%	34%	35%	35%	34%

Notes:

[1] *Maximum Table A Amount is 4,133 thousand acre-feet/year.*

[2] *1922–1994 for 2005 Delivery Reliability Report; 1922–2003 for Update with 2007 studies.*

[3] *Values reflect averaging annual deliveries from the two scenarios of Old and Middle River flow targets described in Table 6-3 of the 2007 Delivery Reliability Report.*

Source: DWR Delivery Reliability Report, 2007 (August 2008), Table 6-5.

Table 3.13-9 shows that estimates of updated SWP deliveries under current conditions during dry periods are less than earlier estimated. SWP deliveries may be reduced to 34 percent of maximum Table A during the two-year drought of 1976–1977. The 6-year drought of 1987–1992 is estimated to provide 35 percent of maximum Table A, a reduction of 289 thousand acre-feet (taf)/year when compared to the 2005 estimate. The four-year drought of 1931-1934 is the exception with SWP deliveries estimated to increase 3 percent of maximum Table A, from 32 to 35 percent.

Table 3.13-10 includes estimates of SWP Table A deliveries for a single-year and multi-year droughts. It also includes the average of Table A deliveries for comparison purposes. Estimates of updated SWP deliveries under current conditions during dry periods can range 5 percent of maximum Table A. This is a range of almost 210 taf/yr. With the period 1931-1934 being the exception, all other multi-year droughts show reduced deliveries. The reductions range from 2 percent to 13 percent of maximum Table A amounts, from 83 taf/yr to 540 taf/yr.

Table 3.13-10
Average And Dry Period SWP Table A Deliveries From The Delta Under Future Conditions

Study of Future Conditions	SWP Table A Delivery from the Delta (in percent of maximum Table A[1]) Long-term Average[2]	Single dry-year (1977)	2-year drought (1976-1977)	4-year drought (1931-1934)	6-year drought (1987-1992)	6-year drought (1929-1934)
2005 SWP Reliability Report, Study 2025	77%	5%	40%	33%	42%	38%
Update with 2027 Studies[3]	66-69%	7%	26-27%	32-37%	33-35%	33-36%

Notes:
[1] *Maximum Table A Amount is 4,133 thousand acre-feet/year.*
[2] *1922-1994 for 2005 Delivery Reliability Report; 1922-2003 for Update with 2027 studies.*
[3] *Range in values reflects four modified scenarios of climate change: annual Table A deliveries were first interpolated between full 2050 level and no climate change scenarios, then averaged over the two scenarios of Old and Middle River flow targets.*
Source: DWR Delivery Reliability Report, 2007 (August 2008), Table 6-14.

As shown, under the updated Future Conditions (2027), average SWP delivery amounts may decrease from 8 to 11 percent of maximum Table A Amounts as compared to earlier estimates in the 2005 Delivery Reliability Report. This decrease in reliability results in an estimated average delivery of 66 percent to 69 percent (versus 77 percent as identified in the 2005 Delivery Reliability Report).

Applying the 66 percent figure (most conservative of the 66 to 69 percent range) to CLWA's Table A Amount of 95,200 af, results in approximately 62,800 af expected under average Future Conditions (2027) according to the 2007 State Water Project Delivery Reliability Report (August 2008). This is compared to the 77 percent, or 73,300 af, included in the water supply planning in the 2005 UWMP in 2030 in an average year.

Further Discussion of Constraints. A topic of growing concern for water planners and managers is global climate change and the potential impacts it could have on California's future water supplies. DWR's California Water Plan Update 2005 contains the first-ever assessment of such potential impacts in a California Water Plan. Volume 1, Chapter 4 of the Water Plan, *Preparing for an Uncertain Future*, lists the potential impacts of global climate change, based on more than a decade of scientific studies on the subject. In addition, please refer to **Section 3.4**, **Global Climate Change**, of this EIR, which contains the best available information on the subject of global climate change and its effects on California's water supplies.

Changes in Sierra snowpack patterns (the source of the SWP's water supply in Lake Oroville), hydrologic patterns, sea level, rainfall intensity and statewide water demands are all possible should global climate change prove to be increasing through time. Computer models (such as CALVIN) have been developed to show water planners what types of effect climate change could have on the water supply. DWR has committed to continue to update and refine these models based on ongoing scientific data collection, and to incorporate this information into future California Water Plans, so that agencies like CLWA and the purveyors can plan accordingly.

DWR's 2007 State Water Project Delivery Reliability Report (August 2008) also addresses global climate change and its effects on the state's water resources, particularly the SWP's ability to deliver water. For the SWP, climate change has the potential to simultaneously affect the availability of source water, the ability to convey water, and users' demands for water. These potential effects are described further in the 2007 State Water Project Delivery Reliability Report (August 2008), pp. 29 through 36.

In addition, recent state and federal court litigation has had an impact upon the availability and reliability of imported SWP supplies. For example, in October 2006, plaintiff, Watershed Enforcers, a project of the California Sportfishing Protection Alliance, filed a lawsuit in Alameda County Superior Court alleging that DWR was not in compliance with the CESA and did not have the required state incidental take permit to protect the Delta smelt as part of DWR's pumping operations at the Harvey O. Banks Pumping Plant located near the town of Tracy (*Watershed Enforcers, et al. v. California Department of Water Resources, et al.* Alameda County Superior Court No. RG06292124 [*Watershed* decision]). In April 2007, the court agreed with the plaintiff and ordered a shutdown of pumping from the Delta if appropriate permits could not be obtained in 60 days. In May 2007, DWR filed an appeal of the trial court's decision, which automatically stayed the decision pending the outcome of the appeal. At the same time, DWR entered into a Memorandum of Understanding with CDFG to jointly work with the appropriate federal agencies to develop a federal Biological Opinion that complies with CESA. During preparation of the new Biological Opinion, DWR committed itself to actions related to protecting the Delta smelt and other species through adaptive management provisions. Upon completion of this effort, DWR plans to submit a request to CDFG for a consistency determination under CESA that would allow for incidental take based on the new federal Biological Opinion.

The *Wanger* Decisions also have affected imported SWP supplies. The background of the *Wanger* Decisions and their implications are discussed further below.

2007 *Wanger* Decision. On February 16, 2005, the USFWS issued its Biological Opinion, determining that the operations and criteria for both the CVP and SWP would not result in jeopardy to the Delta smelt. On

May 20, 2005, the Natural Resources Defense Council (NRDC) and others filed a supplemental complaint in federal court against the Secretary of the Interior and the Director of USFWS, challenging the adequacy of the 2005 Biological Opinion. On June 9, 2006, plaintiffs filed their motion for summary judgment. On July 6, 2006, in light of new information, the U.S. Bureau of Reclamation (Bureau), operator of CVP, requested that USFWS reinitiate consultation on the operations plan and criteria for the CVP. Notwithstanding the request for reinitiation of consultation, the parties proceeded with briefing their cross-motions for summary judgment and, on May 25, 2007, the U.S. District Court for the Eastern District, the Honorable Oliver W. Wanger, presiding, found that the 2005 Biological Opinion was inadequate and that the no-jeopardy determination was arbitrary, capricious, and contrary to the law.[27]

Thereafter, on August 31, 2007, Judge Wanger announced an initial ruling, which outlined an operational plan calling for reductions in water supplies to protect the Delta smelt. The Court specified that reduced operations would last until the fall of 2008, while federal agencies develop a revised Biological Opinion for Delta smelt that will ensure the SWP's and CVP's compliance with the requirements of the federal Endangered Species Act. (The current status of the Delta smelt Biological Opinion and the associated litigation is provided below.)

On December 14, 2007, Judge Wanger issued a final court order, which curtails Delta pumping to protect the Delta smelt. The range of reduced operations is consistent with earlier estimates made by DWR following the Court's initial ruling in August 2007. Following Judge Wanger's final ruling, DWR performed additional modeling and analysis of the impacts of the *Wanger* Decision on Delta pumping. According to DWR, the final ruling will primarily affect export pumping between January and June 2008, when juvenile Delta smelt are at greatest risk of entrainment in pumps. Further, DWR has stated that the actual impact on SWP water supply will depend on a number of factors, including the locations where adult smelt spawn and offspring hatch, levels of precipitation for the year, and water temperatures affecting how quickly the fish migrate. The Court's restrictions on SWP/CVP operations will last until the fall of 2008 (see below), while the revised Biological Opinion for Delta smelt is completed. The revised Biological Opinion is expected to impose restrictions that may continue reduced pumping operations in the SWP/CVP until broader solutions are implemented for the Bay-Delta.

2008 *Wanger* Decision. U.S. District Court Judge Oliver Wanger also recently invalidated a 2004 biological opinion issued by the National Marine Fisheries Service (NMFS). The 2004 NMFS Biological Opinion determined that, pursuant to section 7 of the federal ESA, the operation of the Delta pumps

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27 The 2007 *Wanger* decision (*Natural Resources Defense Council v. Kempthorne*, 506 F.Supp.2d 322 (E.D. Cal. 2007)) is found in **Appendix 3.13** of this Draft EIR.

would not jeopardize the continued existence of three listed Delta fish species protected under the federal ESA, namely, the winter-run Chinook salmon, the Central Valley spring-run Chinook salmon, and the Central Valley steelhead. Judge Wanger invalidated the biological opinion by relying on several of the factual findings made by NMFS in that opinion. Judge Wanger also faulted the biological opinion for, among other issues, failing to adequately analyze the impact of the operations plan on the critical habitat of the three species.[28]

After Judge Wanger's ruling, the court held hearings in June and July 2008 on possible remedies; however, no further remedies were imposed beyond the curtailments already issued with respect to the Delta smelt in the prior 2007 *Wanger* Decision.

On November 14, 2008, the California Fish and Game Commission listed the longfin smelt as a threatened species under the California Endangered Species Act. The Commission also voted to change the state protected status of the Delta smelt from threatened to endangered. In response, on December 9, 2008, the State Water Contractors and other water agencies filed litigation challenging the Commission's decision on the longfin smelt. The litigation asserts that the Commission's decision may impose new restrictions on SWP and CVP water pumping operations from the Delta without any significant corresponding benefit to the fish species; and, in doing so, violates provisions of the California Endangered Species Act. The litigation is still pending, and the outcome cannot be predicted as of this writing.

On December 15, 2008, USFWS issued the new Biological Opinion for Delta smelt. The Opinion continues restrictions on SWP and federal CVP operations that have been in place under Judge Wanger's order concerning Delta smelt. However, the Opinion also imposes new requirements for Delta outflows under certain conditions and requires increased reservoir releases in the fall of some years to reduce salinity. DWR has not yet issued a new "State Water Project Delivery Reliability Report," which is expected to address the ramifications of the new Biological Opinion, and its effects on SWP supplies and deliveries. DWR is expected to issue the 2009 State Water Project Delivery Reliability Report in 2010. In response, on March 5, 2009, the State Water Contractors and others filed litigation challenging the new Delta smelt Biological Opinion. The litigation challenges the Opinion's regulatory restrictions placed on the SWP water pumping operations, and asserts that the Opinion violates provisions of the federal Endangered Species Act. The litigation is still pending, and the outcome cannot be predicted as of this writing.

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28 The 2008 *Wanger* decision (*Pacific Coast Federation of Fishermen's Associations, et al. v. Gutierrez, et al.*, No. 06-CV-00245-OWW-GSA (E.D. Cal. 2008)) is found in **Appendix 3.13** of this Draft EIR.

The *Watershed* Decision, the two *Wanger* Decisions, and the recent actions taken by USFWS and California Fish and Game Commission, as well as the associated litigation, have serious implications on imported SWP/CVP water supplies throughout California. These implications are outlined below based on the best available current information.

In terms of short-term water supply availability, there have been short-term effects related to issues presented in the *Watershed* and *Wanger* Decisions. For example, pumping operations were shut down for approximately nine days in June 2007 due to concerns over the declining number of Delta smelt. DWR then operated the pumps at limited levels for several weeks while waiting for the smelt to migrate to cooler waters. DWR then resumed normal operations in July 2007. There is also concern that the remedy adopted by the District Court could ultimately become part of the conditions in the new incidental take permit, which is currently subject to litigation. These concerns, if they materialize, could limit the percentage of SWP water that can be delivered to SWP Contractors, including CLWA. If such remedies are not ultimately part of the incidental take permit, the permit itself may contain conditions that would lower the percentage of SWP water made available for delivery to Southern California, including the Santa Clarita Valley.

Because of these concerns, Governor Schwarzenegger directed DWR to take immediate action to improve conditions in the Delta.[29] According to the Office of the Governor, the Governor is building on his Strategic Growth Plan from last year, which consists of approximately $6 billion to upgrade California's water systems. The Governor's plan invests $4.5 billion to develop additional surface and groundwater storage. The plan also includes $1 billion toward restoration of the Delta, including development of a new conveyance system, $250 million to support restoration projects on the Klamath, San Joaquin, and Sacramento rivers, and the Salton Sea project, and $200 million for grants to California communities to help conserve water. Using existing resources, DWR will implement numerous actions, including screening Delta agriculture intake pumps to protect smelt, restoring the North Delta's natural habitat, improving the Central Delta water flow patterns, and improving DWR's ability to respond to Delta emergencies, such as levee failures.

The Governor also has directed the Delta Vision Blue Ribbon Task Force to develop a delta management plan. The Task Force presented its findings and recommendations in early 2008, and its strategic plan was issued at the end of 2008. The final report includes a suite of strategic recommendations for long-term, sustainable management of the Bay-Delta. Please refer to the Delta Vision website for the final report and

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29 For the Governor's release issued July 17, 2007, please refer to http://gov.ca.gov/ index.php?/print-version/press-release/6972/, which is included in Appendix B of the Final EIR.

associated information (http://deltavision.ca.gov/ [last visited March 20, 2009]). The Bay-Delta Conservation Plan is also underway. The Plan is intended to ensure compliance with federal and state Endangered Species Act requirements in the Delta. The $1 billion proposed in the Governor's comprehensive plan will be used to fund recommendations from both the Delta Vision Task Force and the Conservation Plan.[30]

Over the long-term, water supply availability and reliability will continue to be assessed by DWR in DWR's biennial State Water Project Delivery Reliability Reports. These reports take into account a myriad of factors in evaluating long-term water supply availability and reliability. These factors include multiple sources of water, a range of water demands, timing of water uses, hydrology, available facilities, regulatory restraints, including pumping constraints due to impacts on listed fish species, water conservation strategies, and future weather patterns. The *Watershed* Decision, the two *Wanger* Decisions, and the USFWS Delta smelt Biological Opinion highlight the regulatory restraints applicable to SWP supplies, which have impacted DWR deliveries of SWP supplies in the past, and could curtail such deliveries in the future.

Following the final court order issued in the 2007 *Wanger* Decision, representatives of CLWA and the four local retail water purveyors met with Los Angeles County and City of Santa Clarita planning staff to coordinate water supply and land use planning activities for the Santa Clarita Valley. In addition, DWR has since issued the 2007 State Water Project Delivery Reliability Report (August 2008).

Based on this updated information, CLWA has determined that, while the court-ordered operating rules related to Delta smelt (or a Biological Opinion premised on those operating rules) are in effect, there are sufficient water supplies available for pending and future residential and commercial development within the CLWA service area for the foreseeable future through 2030 as set forth in the 2005 UWMP.[31]

CLWA Imported Water Supplies and Facilities

CLWA receives SWP and non-SWP water through the terminus of the West Branch of the California Aqueduct at Castaic Lake. Water supplies (whether derived from local or imported water supplies) require treatment (filtration and disinfection) prior to distribution. The SWP water from Castaic Lake is treated at the Earl Schmidt Filtration Plant (ESFP) and Rio Vista Water Treatment Plant (RVWTP) (both

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30 Please refer to the DWR 2007 State Water Project Delivery Reliability Report (August 2008) for the current status of planning activities that may affect SWP delivery reliability, pp. 25-28 (a copy of which is found in **Appendix 3.13** of this EIR).

31 Please refer to CLWA's letter to the City of Santa Clarita and the Los Angeles County Department of Regional Planning (June 2007), a copy of which is found in Appendix 3.13 of the Draft EIR.

owned and operated by CLWA), and is distributed to the four retail water purveyors through a system of pipelines.

The RVWTP is planned for future expansion from its current 30 million gallons per day (mgd) treatment capacity to 60 mgd, and eventually to 90 mgd as demands for treated water increase. ESFP operates at a treatment capacity of 56 mgd. The current combined capacity of the two treatment plants is approximately 86 mgd.

Santa Clarita Valley Water Supply. The current water supply for the Santa Clarita Valley is derived from both local and imported sources. The principal components of this supply are imported water from the SWP and local groundwater from both the Alluvial aquifer and the Saugus Formation. Since 2003, these water supplies have been augmented by the initiation of deliveries from CLWA's recycled water program.

In addition to these supplies, which are available and used to meet service area demands every year, CLWA also has storage programs that are planned for use under shortage situations (e.g., during drier years when imported supplies are limited). These storage programs improve the reliability of CLWA's overall supplies by enabling existing supplies that are not needed in wetter years to be stored for use in drier years, but they do not increase the supplies available to meet service area demand every year.

Table 3.13-11, Summary of Current and Planned Water Supplies and Banking Programs, summarizes the existing and planned water supplies and banking programs for the CLWA service area. According to CLWA, the information presented on this table is not intended to be an operational plan for how supplies would be used in a particular year, but rather an identification of the complete range of water supplies available under varying hydrologic conditions. Diversity of supply allows CLWA and the local retail purveyors the option of drawing on multiple sources of supply in response to changing conditions, such as varying weather patterns (average/normal years, single-dry years, multiple dry years), fluctuations in delivery amounts of SWP water, natural disasters, perchlorate-impacted wells, and other factors. Based on CLWA's conservative water supply and demand assumptions over the next 20 years (i.e., through 2030 as described in the 2005 UWMP), in combination with conservation of non-essential demand during certain dry years, the water supply plan described in the 2005 UWMP achieves CLWA's and the local retail purveyors' goal of delivering reliable and high-quality water supply for their customers, even during dry periods.[32] Additional tables are provided below that address available water supplies in the Santa Clarita Valley in normal/average years, single-dry years, and multiple-dry years over a 20-year planning horizon.

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32 CLWA recently articulated the above determinations, through its retail water division (CLWA Santa Clarita Water Division), in the *Final SWP SB 610 Water Supply Assessment for the Skyline Project* (September 2008), p. 30. This document is available for public inspection and review at CLWA, 22722 Soledad Canyon Road, Santa Clarita, California 91350, and is incorporated by reference in this EIR.

Average/Normal Year. **Table 3.13-12, Projected Average/Normal Year Supplies and Demands**, summarizes water supplies available to meet demands over the 20-year planning period during an average/normal year. As presented in the table, water supply is broken down into existing and planned water supply sources, including wholesale (imported) water, local supplies, and banking programs. Demands are also reflected on the table, both with and without the effects of an estimated 10 percent urban reduction resulting from the implementation of conservation Best Management Practices.

Single-Dry Year. **Table 3.13-13, Projected Single-Dry Year Supplies and Demands**, shows the existing and planned water supplies available to meet demands for the CLWA service area over the 20-year planning period, during a single-dry year. The SWP supplies projected to be available in a single-dry year are based on a repeat of the worst-case hydrologic conditions that occurred in California in 1977. Demand during dry years was estimated to increase by 10 percent.

Multiple-Dry Years. **Table 3.13-14, Projected Multiple-Dry Year Supplies and Demands**, shows the existing and planned water supplies available to meet demands for the CLWA service area over the 20-year planning period, during multiple-dry years. The multiple-dry year is based on a repeat of the worst-case four-year drought in California from 1931–1934. Demand during multiple-dry years was estimated to increase by 10 percent.

As shown on each table, SWP supply estimates are based on the data presented in the DWR 2007 State Water Project Delivery Reliability Report (August 2008), with SWP water supplies allocated among SWP contractors in accordance with their water supply contract provisions currently in effect.[33]

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33 The water supply contracts between DWR and the SWP Contractors include provisions regarding how total available SWP water supplies are allocated among SWP Contractors. The allocation provisions currently in effect are as they were amended by the Monterey Amendments. The Monterey Amendments have been in effect for more than ten years, but pursuant to litigation, is undergoing a second environmental review by DWR. In October 2007, DWR released the new Draft EIR analyzing the Monterey Amendments to the SWP contracts, including Kern water bank transfers and associated actions as part of the Monterey Settlement Agreement (SCH No. 2003011118). This Draft EIR, also known as the Monterey Plus Draft EIR, addresses the significant environmental impacts of changes to the SWP operations that are a consequence of the Monterey Amendments and the Monterey Settlement Agreement. It also discusses the project alternatives, growth inducement, water supply reliability, as well as potential areas of controversy and concern. The Draft EIR is available for public inspection and review by contacting DWR in Sacramento or from DWR's Web site, http://www.des.water.ca.gov/mitigation_restoration_branch/rpmi_section/projects/EIR_index.cfm. The Monterey Plus Draft EIR is incorporated by reference in this EIR.

Table 3.13-11
Summary of Current and Planned Water Supplies and Banking Programs[1]

Water Supply Sources	Supply (af) 2007	2010	2015	2020	2025	2030
Existing Supplies[1]						
Wholesale (Imported)	64,680	78,667	79,667	79,287	80,287	80,287
SWP Table A Supply[2]	60,000	60,000	61,000	62,000	63,000	63,000
Buena Vista-Rosedale	0	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	0	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA)[3]	4,680	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account (Ventura County)[3] [4]	0	1,380	1,380	0	0	0
Local Supplies						
Groundwater	40,000	46,000	46,000	46,000	46,000	46,000
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000	35,000
Saugus Formation	5,000	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**106,380**	**126,367**	**127,367**	**126,987**	**127,987**	**127,987**
Existing Banking Programs[3]						
Semitropic Water Bank[5]	50,870	50,870	0	0	0	0
Rosedale-Rio Bravo[7]	20,000	20,000	20,000	20,000	20,000	20,000
Semitropic Water Bank – Newhall Land[8]	0	18,828	18,828	18,828	18,828	18,828
Total Existing Banking Programs	**70,870**	**89,698**	**38,828**	**38,828**	**38,828**	**38,828**
Planned Supplies[1]						
Local Supplies						
Groundwater	0	10,000	10,000	20,000	20,000	20,000
Restored wells (Saugus Formation)	0	10,000	10,000	10,000	10,000	10,000
New Wells (Saugus Formation)	0	0	0	10,000	10,000	10,000
Recycled Water - CLWA (6)	0	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**0**	**10,000**	**13,100**	**28,800**	**34,500**	**41,100**

Water Supply Sources	Supply (af) 2007	2010	2015	2020	2025	2030
Planned Banking Programs (3)						
Additional Planned Banking	0	0	20,000	20,000	20,000	20,000
Total Planned Banking Programs	**0**	**0**	**20,000**	**20,000**	**20,000**	**20,000**

[1] *The values shown under "Existing Supplies" and "Planned Supplies" are supplies projected to be available in average/normal years. The values shown under "Existing Banking Programs" and "Planned Banking Programs" are either total amounts currently in storage, or the maximum capacity of program withdrawals. In 2008, CLWA also acquired approximately 850 af of non-SWP water supply by entering into a water transfer agreement with Yuba County Water Agency (YCWA); however, CLWA has not yet updated its water supplies/demand tables to reflect this additional non-SWP supply.*

[2] *SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available, based on Tables 6-5 and 6-14 of DWR's "State Water Project Delivery Reliability Report 2007." Year 2030 figure is calculated by multiplying by DWR's 2027 percentage of 66%.*

[3] *Supplies shown are total amounts that can be withdrawn, and would typically be used only during dry years.*

[4] *Initial term of the Ventura County entities' flexible storage account is 10 years (from 2006 to 2015).*

[5] *Supplies shown are the total amount currently in storage, and would typically be used only during dry years. Once the current storage amount is withdrawn, this supply would no longer be available and in any event, is not available after 2013.*

[6] *Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.*

[7] *CLWA has 64,900 af of recoverable water as of 12/31/07 in the Rosedale-Rio Bravo Water Banking and Recovery Program.*

[8] *Supplies shown are the total amount currently in storage. As of December 31, 2007, there is 18,828 af of water stored in the Semitropic Groundwater Storage Bank by The Newhall Land and Farming Company for the Newhall Ranch Specific Plan. The stored water can be extracted from the bank in dry years in amounts up to 4,950 afy. Newhall Ranch is located within the CLWA service area.*

Source: CLWA (October 2008)

Table 3.13-12
Projected Average/Normal Year Supplies and Demands

Water Supply Sources	Supply (af) 2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)	73,007	73,707	74,407	75,107	75,407
SWP Table A Supply (1)	60,400	61,100	61,800	62,500	62,800
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA) (2)	0	0	0	0	0
Flexible Storage Account (Ventura County) (2)	0	0	0	0	0
Local Supplies					
Groundwater	46,000	46,000	46,000	46,000	46,000
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000
Saugus Formation	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	120,707	121,407	122,107	122,807	123,107

Water Supply Sources	Supply (af) 2010	2015	2020	2025	2030
Existing Banking Programs					
Semitropic Water Bank [2]	0	0	0	0	0
Rosedale-Rio Bravo [2]	0	0	0	0	0
Semitropic Water Bank – Newhall Land [2]	0	0	0	0	0
Total Existing Banking Programs	0	0	0	0	0
Planned Supplies					
Local Supplies					
Groundwater	0	0	0	0	0
Restored wells (Saugus Formation) [2]	0	0	0	0	0
New Wells (Saugus Formation) [2]	0	0	0	0	0
Recycled Water - CLWA [3]	0	1,600	6,300	11,000	15,700
Recycled Water – Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	0	3,100	8,800	14,500	21,100
Planned Banking Programs					
Additional Planned Banking [2]	0	0	0	0	0
Total Planned Banking Programs	0	0	0	0	0
Total Existing and Planned Supplies and Banking	120,707	124,507	130,907	137,307	144,207
Total Estimated Demand (w/o conservation) [4]	100,050	109,400	117,150	128,400	138,300
Conservation [5]	(8,600)	(9,700)	(10,700)	(11,900)	(12,900)
Total Adjusted Demand	91,450	99,700	106,450	116,500	125,400

[1] *SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available on Tables 6-5 and 6-14 of DWR's "State Water Project Delivery Reliability Report 2007." Year 2030 figure is calculated by multiplying by DWR's 2027 percentage of 66%.*

[2] *Not needed during average/normal years.*

[3] *Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.*

[4] *Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.*

[5] *A 10 percent reduction on urban portion of total normal demand is estimated to result from conservation best management practices, as discussed in CLWA's 2005 UWMP, Chapter 7.*

Source: CLWA (October 2008)

Table 3.13-13
Projected Single-Dry Year Supplies and Demands

Water Supply Sources	Supply (af) 2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)	24,567	24,767	23,587	23,887	23,987
SWP Table A Supply [1]	5,900	6,100	6,300	6,600	6,700
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA)	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account (Ventura County)[2]	1,380	1,380	0	0	0

Water Supply Sources	Supply (af) 2010	2015	2020	2025	2030
Local Supplies					
Groundwater	47,500	47,500	47,500	47,500	47,500
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**73,767**	**73,967**	**72,787**	**73,087**	**73,187**
Existing Banking Programs					
Semitropic Water Bank [3]	17,000	0	0	0	0
Rosedale-Rio Bravo [5]	20,000	20,000	20,000	20,000	20,000
Semitropic Water Bank – Newhall Land [10]	4,950	4,950	4,950	4,950	4,950
Total Existing Banking Programs	**41,950**	**24,950**	**24,950**	**24,950**	**24,950**
Planned Supplies					
Local Supplies					
Groundwater	10,000	10,000	20,000	20,000	20,000
Restored wells (Saugus Formation)	10,000	10,000	10,000	10,000	10,000
New Wells (Saugus Formation)	0	0	10,000	10,000	10,000
Recycled Water – CLWA [4]	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**10,000**	**13,100**	**28,800**	**34,500**	**41,100**
Planned Banking Programs					
Additional Planned Banking [6]	0	20,000	20,000	20,000	20,000
Total Planned Banking Programs	**0**	**20,000**	**20,000**	**20,000**	**20,000**
Total Existing and Planned Supplies and Banking[11]	125,717	132,017	146,537	152,537	159,237
Total Estimated Demand (w/o conservation) [7] [8]	110,100	120,300	128,900	141,200	152,100
Conservation [9]	(9,500)	(10,700)	(11,700)	(13,100)	(14,200)
Total Adjusted Demand	100,600	109,600	117,200	128,100	137,900

[1] *SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of single dry year deliveries projected to be available on Tables 6-5 and 6-14 of DWR's "State Water Project Delivery Reliability Report 2007." Year 2030 figure is calculated by multiplying by DWR's 2027 percentage of 7%.*

[2] *Initial term of the Ventura County entities' flexible storage account is 10 years (from 2006 to 2015).*

[3] *The total amount of water currently in storage is 50,870 af, available through 2013. Withdrawals of up to this amount are potentially available in a dry year, but given possible competition for withdrawal capacity with other Semitropic banking partners in extremely dry years, it is assumed here that about one third of the total amount stored could be withdrawn.*

[4] *Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.*

[5] *CLWA has 64,900 af of recoverable water as of 12/31/07 in the Rosedale-Rio Bravo Water Banking and Recovery Program.*

[6] *Assumes additional planned banking supplies available by 2014.*

[7] *Assumes increase in total demand of 10 percent during dry years.*

[8] *Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.*

[9] *A 10 percent reduction on urban portion of total normal year demand is estimated to result from conservation best management practices ([urban portion of total normal year demand x 1.10] * 0.10), as discussed in CLWA's 2005 UWMP, Chapter 7.*

[10] *Delivery of stored water from the Newhall Land Semitropic Groundwater Bank requires further agreements between CLWA and Newhall.*

[11] *In 2008, CLWA also acquired approximately 850 af of non-SWP water supply by entering into a water transfer agreement with Yuba County Water Agency (YCWA); however, CLWA has not yet updated its water supplies/demand tables to reflect this additional non-SWP supply.*

Source: CLWA (October 2008)

Table 3.13-14
Projected Multiple-Dry Year Supplies and Demands[1]

Water Supply Sources	Supply (af) 2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)	47,017	46,317	45,277	44,477	44,277
SWP Table A Supply [2]	32,900	32,200	31,500	30,700	30,500
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA) [3]	1,170	1,170	1,170	1,170	1,170
Flexible Storage Account (Ventura County) [3]	340	340	0	0	0
Local Supplies					
Groundwater	47,500	47,500	47,500	47,500	47,500
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation [4]	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**96,217**	**95,517**	**94,477**	**93,677**	**93,477**
Existing Banking Programs					
Semitropic Water Bank [3]	12,700	0	0	0	0
Rosedale-Rio Bravo [6] [7]	5,000	15,000	15,000	15,000	15,000
Semitropic Water Bank – Newhall Land [12]	4,950	4,950	4,950	4,950	4,950
Total Existing Banking Programs	**22,650**	**19,950**	**19,950**	**19,950**	**19,950**
Planned Supplies					
Local Supplies					
Groundwater	6,500	6,500	6,500	6,500	6,500
Restored wells (Saugus Formation) [4]	6,500	6,500	5,000	5,000	5,000
New Wells (Saugus Formation) [4]	0	0	1,500	1,500	1,500
Recycled Water [5]	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**6,500**	**9,600**	**15,300**	**21,000**	**27,600**
Planned Banking Programs					
Additional Planned Banking [7] [8]	0	5,000	15,000	15,000	15,000
Total Planned Banking Programs	**0**	**5,000**	**15,000**	**15,000**	**15,000**

Water Supply Sources	Supply (af) 2010	2015	2020	2025	2030
Total Existing and Planned Supplies and Banking[13]	**125,367**	**130,067**	**144,727**	**149,627**	**156,027**
Total Estimated Demand (w/o conservation)	110,100	120,300	128,900	141,200	152,100
Conservation [11]	(9,500)	(10,700)	(11,700)	(13,100)	(14,200)
Total Adjusted Demand	100,600	109,600	117,200	128,100	137,900

[1] *Supplies shown are annual averages over four consecutive dry years (unless otherwise noted).*
[2] *SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available during the worst case four-year drought of 1931-1934 as provided in Tables 6-5 and 6-14 of DWR's "State Water Project Delivery Reliability Report 2007." Year 2030 figure is calculated by multiplying by DWR's 2027 percentage of 32%.*
[3] *Based on total storage amount available ÷ by 4-yr dry pd.). Initial term of the Ventura County entities' flexible storage account is 10 years (2006–2015).*
[4] *Total Saugus pumping is the avg. annual amount that would be pumped under the groundwater operating plan summarized in Table 3-6, 2005 UWMP.*
[5] *Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.*
[6] *CLWA has 64,900 af of recoverable water as of 12/31/07 in the Rosedale-Rio Bravo Water Banking and Recovery Program.*
[7] *Average dry year period supplies could be up to 20,000 af for each program depending on storage amounts at the beginning of the dry period.*
[8] *Assumes additional planned banking supplies available by 2014.*
[9] *Assumes increase in total demand of 10 percent during dry years.*
[10] *Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.*
[11] *A 10 percent reduction on urban portion of total normal year demand is estimated to result from conservation best management practices ([urban portion of total normal year demand x 1.10] * 0.10), as discussed in CLWA's 2005 UWMP, Chapter 7.*
[12] *Delivery of stored water from the Newhall Land Semitropic Groundwater Bank requires further agreements between CLWA and Newhall.*
[13] *In 2008, CLWA also acquired approximately 850 af of non-SWP water supply by entering into a water transfer agreement with Yuba County Water Agency (YCWA); however, CLWA has not yet updated its water supplies/demand tables to reflect this additional non-SWP supply.*

Source: CLWA (October 2008)

Additional Annual Imported Water Supplies

According to CLWA, as shown on **Tables 3.13-11** through **3.13-14**, the following existing additional annual water supplies are available to meet demands when necessary.

Buena Vista/Rosedale-Rio Bravo Water Acquisition Project

CLWA has finalized a Water Acquisition Agreement with the Buena Vista and the Rosedale-Rio Bravo districts in Kern County. Under this program, Buena Vista's high flow Kern River entitlements (and other acquired waters that may become available) are captured and recharged within Rosedale-Rio Bravo's service area on an ongoing basis. CLWA will receive 11,000 af per year of these supplies annually either

through direct delivery of water to the California Aqueduct via the Cross Valley Canal or by exchange of Buena Vista's and Rosedale-Rio Bravo's SWP supplies.[34]

Nickel Water

The Newhall Ranch Revised Additional Analysis (Volume VIII, May 2003) provides that the Specific Plan applicant has secured 1,607 af of water under contract with Nickel Family LLC in Kern County. This water is 100 percent reliable on a year-to-year basis and not subject to the annual fluctuations that can occur to the SWP in dry-year conditions. This additional supply was added by CLWA to the updated water supply/demand tables to reflect current information (see **Tables 3.13-11** through **3.13-14**).

Additional Imported Water Supplies from Banking Programs

According to CLWA, as shown on **Tables 3.13-11**, **3.13-13**, and **3.13-14**, the following existing additional water supplies are available from banking programs to meet demands when necessary.

Flexible Storage Accounts

One of CLWA's Flexible Storage Accounts described in its 2005 UWMP permits it to store up to 4,684 af in Castaic Lake. Any of this amount that CLWA withdraws must be replaced by CLWA within five years of its withdrawal. CLWA manages this storage by keeping the account full in normal and wet years and then delivering that stored amount (or portions of it) during dry periods. The account is refilled during the next year that adequate SWP supplies are available to CLWA to do so. CLWA also has recently negotiated with Ventura County water agencies to obtain the use of its Flexible Storage Account. This will allow CLWA access to another 1,376 af of storage in Castaic Lake. CLWA's access to this additional storage is available on a year-to-year basis for 10 years, beginning in 2006.

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34 In November 2006, a petition for writ of mandate was filed by California Water Impact Network, seeking to set aside CLWA's certification of the EIR for the Water Acquisition Agreement Project with Buena Vista and Rosedale-Rio Bravo. (*California Water Impact Network, et al. v. Castaic Lake Water Agency, et al.*, Los Angeles County Superior Court No. BS106546.) The petition was later amended to add Friends of the Santa Clara River (Friends) as a petitioner. In November 2007, the trial court filed its Statement of Decision finding that in certifying the EIR and approving the project, CLWA proceeded in a manner required by law, and that its actions were supported by substantial evidence. Judgment was entered in favor of CLWA in December 2007. Petitioners filed a notice of appeal on January 31, 2008. This appeal is pending.

Yuba County Water Agency Transfer Agreement

Approximately 850 af of non-SWP water supply is available to CLWA in critically dry years as a result of DWR entering into agreements with the Yuba County Water Agency (YCWA) and the Bureau of Reclamation (Reclamation) related to settlement of water rights issues on the Lower Yuba River (Yuba Accord). Additional supplies could be available to CLWA in wetter years. The quantity of water would vary depending upon hydrology and the extent of participation by other SWP contractors. For purposes of analysis, however, and based on CLWA entering into a water transfer agreement with YCWA, CLWA has projected that approximately 850 af of water would be available to CLWA under the Yuba Accord in a critically dry year.

Semitropic Water Storage District Banking

The 2005 UWMP identifies two existing contracts with the Semitropic Water Storage District under which CLWA has stored 59,000 acre-feet of water. (2005 UWMP, p. 3-22.) In accordance with the terms of CLWA's storage agreements with Semitropic, 90 percent of the banked amount, or a total of 50,870 af, is recoverable through 2012-2013 to meet CLWA water demands when needed. CLWA's approval of one of the contracts (for the 2002 banking program) was challenged in *California Water Network v. Castaic Lake Water Agency*, Ventura Superior Court Case No. CIV 215327. The trial court entered judgment in favor of CLWA. This ruling was appealed. All issues regarding the 2002 banking program with Semitropic were conclusively resolved in favor of CLWA in June 2006.

Rosedale-Rio Bravo Water Banking

The 2005 UWMP identifies one existing contract with the Rosedale-Rio Bravo Water Storage District under which CLWA has 64,900 af of recoverable water as of December 31, 2007. (2005 UWMP, p. 3 through 23.) This banking program currently offers storage and pump-back capacity of 20,000 afy, with up to 100,000 af of storage capacity. This stored water will be called upon to meet demands when required and is recoverable through 2035.

Newhall Land - Semitropic Water Storage District Banking

The Specific Plan applicant has entered into an agreement to reserve and purchase water storage capacity of up to 55,000 af in the Semitropic Water Storage District Groundwater Banking Project (Newhall Ranch Revised Additional Analysis [Volume VIII, May 2003]). Sources of water that could be stored include, but are not limited to, the Nickel Water. The stored water could be extracted in dry years in amounts up to 4,950 afy. As of December 31, 2007, there is 18,828 af of water stored in the Semitropic Groundwater

Storage Bank by the Specific Plan applicant for the Specific Plan. Newhall Ranch is located within the CLWA service area. Delivery of stored water from the Newhall Semitropic Groundwater Bank requires further agreements between CLWA and the Specific Plan applicant. However, the Nickel water would only be needed on the Specific Plan site in years when all of the Newhall agricultural water has been used, which is estimated to occur after the 21st year of project construction. As a result, there is more than ample time for CLWA and the applicant to arrive at the necessary delivery arrangements and related agreements.

The 2005 UWMP also discusses water banking storage and pumpback capacity both north and south of CLWA's service area, the latter of which would provide an emergency supply in case of catastrophic outage along the California Aqueduct. With short-term storage now in place in the Semitropic-banking program and long-term storage now existing with Rosedale-Rio Bravo, CLWA is assessing southern water banking opportunities. Such banking programs enhance the reliability of both existing and planned future water supplies in the Santa Clarita Valley. As shown on **Tables 3.13-13** and **3.13-14**, CLWA's additional planned banking supplies are anticipated to be 20,000 acre-feet by 2014.

CLWA Recycled Water

As shown on **Tables 3.13-11** through **3.13-14**, above, since 2003, existing local supplies have been augmented by the initiation of recycled water deliveries from CLWA's recycled water program. CLWA currently has a contract with the Los Angeles County Sanitation District for 1,700 afy of recycled water. This supply is available in an average/normal year, a single-dry year, and in each year of a multiple-dry year period.

In addition, in the 2005 UWMP, CLWA projects an increase of 15,700 afy in recycled water by 2030. Similar to the existing recycle water supply, the 15,700 afy of planned recycled water supply is to be available in an average/normal year, a single-dry year, and in each year of a multiple-dry-year period.

CLWA Service Area Water Demand

Table 3.13-15 shows CLWA's 2005 and projected water demands based on the 2005 UWMP. CLWA's demands vary from year-to-year depending on local hydrologic and meteorologic conditions, with demands generally increasing in years of below average local precipitation and decreasing in years of above average local precipitation.

In 2001, CLWA signed the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU) on behalf of the CLWA service area. By signing the MOU, CLWA became a member of

the California Urban Water Conservation Council (CUWCC) and pledged to implement all cost-effective Best Management Practices (BMPs) for water conservation. CLWA has estimated that conservation measures within the service area can reduce the urban demand water demand by 10 percent. The BMPs include:

- System Water Audits, Leak Detection and Repair; Public Information Programs; School Education Programs
- Wholesale Agency Programs
- Conservation Pricing
- Water Conservation Coordinator
- Water survey programs for single-family residential and multi-family residential customers
- System water audits, leak detection and repair
- Metering with commodity rates for all new connections and retrofit of existing connections
- Large landscape conservation programs and incentives
- High-efficiency clothes washing machine financial incentive programs
- Conservation programs for commercial, industrial, and institutional (CII) accounts
- Water waste prohibition

Table 3.13-15
CLWA's Projected Water Demands

	Demand (af)				
	2010	**2015**	**2020**	**2025**	**2030**
All Purveyors[1]	86,100	97,100	106,500	119,400	129,300
Agricultural/Private Uses	13,950	12,300	10,650	9,000	9,000
Conservation[2]	-8,610	-9,710	-10,650	-11,940	-12,930
Total (w/conservation)	91,440	99,690	106,500	116,460	125,370

Notes:
[1] *Purveyors refer to CLWA SCWD, NCWD, VWC, and Los Angeles County Waterworks District No. 36.*
[2] *A 10 percent reduction on the urban portion of the normal year demand is estimated to result from conservation BMPs.*
Source: CLWA (October 2008)

Litigation Effects on Availability of Imported Water

For the past few years, there have been a series of litigation challenges concerning imported water supplies in the Santa Clarita Valley. The litigation challenges have given rise to claims that there is uncertainty regarding the availability and reliability of imported SWP water supplies in the Santa Clarita Valley.

The purpose of this section is to disclose these litigation challenges and their effects on the availability and reliability of imported water supplies in the Santa Clarita Valley. In summary, as discussed below, it has been determined, based on substantial evidence in the record, that the litigation challenges are not likely to affect the short-term or long-term availability or reliability of imported water supplies as projected in the *2005 UWMP* and other reports, studies, and documents cited in this EIR.

Litigation Concerning CEQA Review of the Monterey Agreement

In *Planning and Conservation League v. Department of Water Resources* (2003) 83 Cal.App.4th 892, the Court of Appeal, Third Appellate District, decertified an EIR prepared by the Central Coast Water Agency (CCWA) to address the "Monterey Agreement" (see **Appendix 3.13**). The Monterey Agreement was a statement of principles to be incorporated into an omnibus amendment of the long-term contracts between the DWR and water contractors governing the supply of water under the SWP. The Monterey Agreement was the culmination of negotiations between DWR and most of the 29 SWP Contractors to settle disputes arising out of the allocation of water during times of shortage. Of the 29 SWP Contractors, 27 executed the Monterey Amendments to their water supply contracts in 1996. The Monterey Agreement contemplated revisions in the methodology of allocating water among contractors and provided a mechanism for the permanent transfer of Table A Amounts from one contractor to another. The Monterey Agreement was implemented by the execution of legally binding contracts with DWR (Monterey Amendments).

As stated above, although the court set aside the Monterey EIR prepared by CCWA, it did not set aside, invalidate, or otherwise vacate the Monterey Agreement or the Monterey Amendments. No court has ordered any stay or suspension of the Monterey Agreement pending certification of a new EIR. DWR and the SWP Contractors continue to abide by the Monterey Agreements, as implemented by the Amendments, as the operating framework for the SWP, while the new EIR is undertaken.

Following decertification of the original Monterey EIR, the PCL litigants entered into the Monterey Settlement Agreement in 2003, designating DWR as the lead agency for preparation of the new EIR to address the Monterey Agreement. In October 2007, DWR completed the Draft EIR analyzing the

Monterey Amendments to the SWP contracts, including Kern water bank transfers and associated actions as part of the Monterey Settlement Agreement (Monterey Plus Draft EIR; SCH No. 2003011118). The Draft EIR addresses the significant environmental impacts of changes to the SWP operations that are a consequence of the Monterey Amendments and the Monterey Settlement Agreement. It also discusses the project alternatives, growth inducement, water supply reliability, as well as potential areas of controversy and concern.

The Monterey Settlement Agreement also facilitated certain water transfers between contracting agencies, including CLWA's 41,000-afy water transfer agreement (discussed further below). The 41,000-afy transfer has been recognized as a permanent transfer by DWR, but it was subject to then pending litigation in Los Angeles Superior Court challenging the EIR prepared for that transfer. (*Friends of the Santa Clarita River v. Castaic Lake Water Agency*, see discussion below.) DWR's new Draft EIR analyzes the potential environmental effects relating to the Monterey transfers, including a focused analysis of the 41,000-afy transfer, which is provided as part of a broader analysis of permanent transfers of Table A Amounts.

Litigation Concerning CEQA Review of the 41,000-afy Transfer

Over the past several years, opposition groups have claimed that a part of CLWA's SWP supplies, specifically, a 41,000-afy transfer, should not be included or relied upon because it is not final and is the subject of litigation. It was asserted that litigation challenges to the 41,000-afy transfer create uncertainty regarding the availability and reliability of such water for the Santa Clarita Valley. Other comments have claimed that DWR's preparation of a new Monterey Agreement EIR also introduced an element of potential uncertainty regarding the availability and reliability of the 41,000-afy transfer. These comments have included claims that the subsequent Monterey Settlement Agreement precluded CLWA from using or relying upon the 41,000-afy transfer until DWR has completed and certified the new Monterey Agreement EIR. As explained below, a recent published appellate court decision has resolved these claims in favor of the availability, reliability, and use of CLWA's 41,000-afy transfer.

In *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2007) 157 Cal.App.4th 149 (*SCOPE II*), the Second District Court of Appeal, Division Six, affirmed the trial court's decision upholding the validity of the EIR's water supply analysis for the West Creek development project in the Santa Clarita Valley, including the EIR's assessment and reliance upon the permanent and final 41,000 afy water transfer. In applying the four principles for a CEQA analysis of future water supplies articulated by the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412 to the 41,000 afy transfer, the Court of Appeal concluded that the transfer is permanent and final, and that with or without the Monterey Agreement and Monterey Amendments, the

transfer is valid, permanent, and final, and could be relied upon in the project EIR as part of the water supplies in the Santa Clarita Valley.

Nonetheless, for information purposes, this EIR provides a detailed description, below, of the history and background of CLWA's SWP supplies, including, specifically, the 41,000-afy transfer. Based on the *SCOPE II* decision and the information provided in this section of the EIR, it remains appropriate to rely on the 41,000-afy transfer amount as part of CLWA's 95,200 afy SWP supplies.

Of CLWA's 95,200 af annual Table A Amount, 41,000 afy was permanently transferred to CLWA in a water supply contract amendment approved by DWR in March 1999 by Wheeler Ridge-Maricopa Water Storage District, a member unit of the Kern County Water Agency. CLWA prepared an EIR in connection with the 41,000-afy water transfer, which was challenged in *Friends of the Santa Clara River v. Castaic Lake Water Agency* (Los Angeles County Superior Court, Case No. BS056954). The original trial court decision was in favor of CLWA. On appeal, the Court of Appeal, Second Appellate District, held that since CLWA's original EIR tiered from the Monterey EIR that was later decertified (see above, *Planning and Conservation League v. Dept. of Water Resources* (2000) 83 Cal.App.4th 892), CLWA also would have to decertify its EIR and prepare a revised EIR. The court refused, however, to enjoin CLWA from using any part of the 41,000 af pending preparation of a new EIR.

The original EIR for the 41,000 afy transfer having been decertified, CLWA prepared and circulated a revised Draft EIR for the 41,000 afy transfer, received and responded to public comments regarding the revised Draft EIR, and held two separate public hearings concerning the revised Draft EIR. CLWA approved the revised EIR for the 41,000-afy transfer on December 22, 2004, and lodged the certified EIR with the Los Angeles Superior Court as part of its return to the trial court's writ of mandate in *Friends*. Thereafter, the petitioners voluntarily dismissed the *Friends* action in February 2005.

In January 2005, two new legal actions were brought to the same project (i.e., the 41,000-afy transfer agreement), which challenged CLWA's revised EIR under CEQA. These actions were filed in the Ventura County Superior Court by the Planning and Conservation League and California Water Impact Network. The cases were consolidated and transferred to Los Angeles County Superior Court (*Planning and Conservation League, et al. v. Castaic Lake Water Agency, et al.*, Los Angeles County Superior Court No. BS098724). As stated above, on May 22, 2007, after a hearing, the trial court issued a final Statement of Decision, which included a determination that the 41,000-afy transfer is valid and cannot be terminated or unwound. The trial court, however, also found one defect in CLWA's 2004 EIR and ordered CLWA to correct the defect and report back to the court. The defect did not relate to the environmental conclusions reached in the 2004 EIR; rather, CLWA is required to better establish the basis for selecting three

alternative scenarios covered in the 2004 EIR. As a result, the trial court entered Judgment against CLWA and another writ of mandate issued directing CLWA to set aside its certification of the 2004 EIR. The writ, however, specifically stated that it did not call for CLWA to set aside the 41,000-afy transfer. In July 2007, the petitioners appealed the trial court's Judgment, and cross-appeals have since been filed by CLWA and other parties.

The new pending legal challenges to the adequacy of CLWA's revised EIR for the 41,000 afy transfer, and DWR's completion of the new Monterey EIR, arguably, introduce an element of potential uncertainty regarding the 41,000 afy transfer; although based on a review of all the surrounding circumstances, these events do not significantly affect the availability or reliability of the transfer amount, and, therefore, for the reasons stated below, it is still appropriate to include the transfer amount as part of CLWA's 95,200 afy Table A Amount.

First, the 41,000-afy transfer was completed in 1999 in a DWR/CLWA water supply contract amendment approved by DWR. Since 2000, DWR has allocated and annually delivered the water in accordance with the completed transfer.[35] In connection with that transfer, CLWA paid approximately $47 million for the additional 41,000 afy Table A supply, the monies have been accepted by the Wheeler Ridge-Maricopa Water Storage District, the sale price has been financed through the sale of CLWA tax-exempt bonds, and, as noted, DWR has expressly approved and amended CLWA's long-term water supply contract to reflect the increase in CLWA's SWP Table A Amount and the permanent transfer/reallocation of SWP Table A supply between SWP Contractors. This contract has never been set aside and continues in full force and effect.

Second, the Court of Appeal held that the only defect in the 1999 CLWA EIR was that it tiered from the Monterey EIR, which was later decertified. This defect was remedied by CLWA in the revised EIR that did not tier from the Monterey EIR.

Third, the Monterey Settlement Agreement expressly authorized the operation of the SWP in accordance with the Monterey Amendments. The Monterey Amendments, which are still in effect and have not been set aside by any court, authorized SWP Contractors to transfer unneeded SWP supply amounts to other contractors on a permanent basis. Specifically, the Monterey Agreement provisions authorized 130,000 af of agricultural SWP contractors' entitlements to be available for sale to urban SWP contractors. CLWA's 41,000-af acquisition was a part of the 130,000 af of SWP Table A supply that was transferred, consistent

35 This contract was never legally challenged and, therefore, is considered permanent and in full force and effect.

with the Monterey Amendments. The DWR is still in the process of completing the EIR to address the Monterey Amendments; however, the court in the PCL litigation refused to set aside the Monterey Agreement or the Monterey Amendments pending preparation of that EIR.

Fourth, the Court of Appeal in *Friends* refused to enjoin the 41,000 afy transfer, and instead required CLWA to prepare a revised EIR, which EIR CLWA has now completed and certified. This EIR is subject to further litigation, which is currently at the appellate court stages. However, as stated above, the trial court in that litigation determined that the 41,000-afy transfer was valid and could not be terminated or unwound. The trial court also issued a writ directing CLWA to set aside its certification of the 2004 EIR, but specifically stated that it did not require CLWA to invalidate, void, or set aside the 41,000-afy transfer. Thus, the water from the transfer remains available and continues to be used to serve water demands in the Santa Clarita Valley.

Fifth, CLWA's amended water supply contract documenting the 41,000 afy transfer remains in full force and effect, and no court has ever questioned the validity of the contract or enjoined the use of this portion of CLWA's Table A Amount.

Sixth, a recent published appellate court decision has confirmed that the 41,000-afy transfer is permanent and final, and that with or without the Monterey Agreement and Monterey Amendments, the transfer can legally occur and will continue to exist. Please refer to *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2007) 157 Cal.App.4th 149 (*SCOPE II*). In applying the four principles for a CEQA analysis of future water supplies articulated by the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412 to the 41,000 afy transfer, the Court of Appeal concluded that the transfer is permanent and final, and that with or without the Monterey Agreement and Monterey Amendments, the transfer is valid, permanent, and final, and could be relied upon in the project EIR as part of the water supplies in the Santa Clarita Valley.

For all the above reasons, it is reasonable to include the 41,000-afy transfer in the calculation of CLWA's available imported water supplies. Furthermore, based on the above, it is reasonable to conclude that even if a court finds the CLWA revised EIR legally deficient, that court, like all others before it, will again refuse to enjoin the 41,000 afy transfer, and instead require further revisions to that EIR. Therefore, the pending legal challenges to the 41,000-fy transfer should have no impact on the amount of SWP water available to CLWA as a result of the completed and permanent 41,000-afy transfer.

With respect to the new Monterey EIR, CLWA has concluded that its use of the 41,000 afy is not legally bound to the Monterey Agreement litigation or to DWR's new EIR for the Monterey Agreement and may

occur independently of that Agreement. That DWR did not oppose CLWA's completion and certification of the new EIR for the water transfer, independent of DWR's new Monterey Agreement EIR, supports this view. Thus, the pending legal challenges to CLWA's revised EIR and DWR's preparation of a new Monterey EIR are not expected to impact the amount of water available to CLWA as a result of the completed 41,000-afy transfer.

The CLWA 41,000 afy transfer also has been the subject of recent court decisions. The first court case involved a published appellate court decision in litigation entitled, *California Oak Foundation v. City of Santa Clarita* (2005) 133 Cal.App.4th 1219. In the *California Oak Foundation* decision, the Court of Appeal invalidated an EIR under CEQA for the Gate-King project located in the City of Santa Clarita, because the EIR did not explain how demand for water would be met if the 41,000 afy transfer were set aside, *or* why it is appropriate to rely on the 41,000 afy transfer in any event.[36] After issuance of the *California Oak* appellate court decision, the City of Santa Clarita revised the Gate-King EIR by preparing an additional environmental analysis responsive to the appellate court's decision. The City then certified the additional environmental analysis in 2006 and re-approved the Gate-King project. In 2007, the Los Angeles County Superior Court found that the revised Gate-King EIR met the requirements of CEQA, and entered judgment in favor of the City. Specifically, the trial court found that substantial evidence supported the City's conclusion that the 41,000-afy transfer was permanent and that it would continue to exist with or without the Monterey Agreement/Amendments. The trial court's decision was appealed in November 2007 (*California Water Impact Network, et al. v. Newhall County Water District, et al.*, Appellate Case No. B203781). On May 13, 2009, the Second Appellate District, Division Eight, issued a decision affirming the trial court's judgment. Specifically, the Court of Appeal confirmed that the City reasonably concluded, based on substantial evidence presented in the EIR, that the 41,000 afy transfer to CLWA is a reliable source of SWP water to the Santa Clarita Valley for planning purposes. (*California Water Impact Network v. Newhall County Water District*, Second Appellate District, Division Eight, Case No. B203781, May 13, 2009.) While the Court of Appeal's opinion was not ordered published, it, nonetheless, represents an additional analysis of the reasons supporting the City's ultimate conclusion that the 41,000 afy transfer can and should be relied upon for planning purposes in Santa Clarita Valley.

The Court of Appeal also rejected the claim that the City's EIR for the Gate-King project was contrary to CEQA because it failed to discuss "alternative sources" of water in the event that the 41,000 afy transfer becomes "unavailable." Opponents made the claim, relying on the California Supreme Court's decision in

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[36] The above analysis in this section of the EIR explains in detail why it is appropriate to rely on the CLWA 41,000 afy transfer as part of CLWA's overall SWP water supplies.

Vineyard Area Citizens for Responsible Growth, Inc. v. City of Ranch Cordoba (2007) 40 Cal.4th 412. The Court of Appeal held that the case did not present a *Vineyard* problem because the City's EIR for the Gate-King project did not limit its assessment of water supplies to a "first stage" of the project, with a promise of "further analysis" for later stages of the project. In other words, the Court of Appeal found there was no *Vineyard* problem because the EIR analyzed the full extent of the Gate-King project's ultimate anticipated water demand and anticipated supplies.

Further, the Court of Appeal upheld the City's EIR's reliance on water supply projections from DWR, which were derived from DWR's "CalSim-II model." Specifically, the Court found that the EIR adequately summarized the shortcomings of the model and correctly determined that the model, nonetheless, provided the best available data for predicting future availability of water supplies from the SWP. Finally, the Court of Appeal rejected claims that the City's EIR violated CEQA because it did not discuss adequately the potential impact on water supplies, which may result from DWR's compliance with an order issued by the State Water Resources Control Board (SWRCB; Order No. WR2006-306). The Court found that the EIR contained an extensive discussion of the SWRCB Order and disclosed the City's reasons for its conclusion that there was a limited likelihood that measures taken by DWR and others to meet salinity standards would reduce SWP deliveries to CLWA.[37]

The second court case involved a separate legal challenge to an EIR under CEQA for the West Creek project located in Los Angeles County. This separate legal challenge was brought in Santa Barbara County Superior Court in *Santa Clarita Organization for Planning the Environment v. County of Los Angeles*, Case No. 1043805 (*West Creek* litigation). After a hearing, the Santa Barbara Superior Court issued an Order determining that the EIR prepared for the West Creek project contained substantial evidence in the record to support the County's decision to rely on the 41,000-afy transfer for planning purposes. The Order noted that substantial evidence appeared in the record to support the County's decision to rely on the 41,000-afy transfer, while acknowledging and disclosing the potential uncertainties involving the 41,000-afy transfer created by pending litigation. The Order summarized the evidence, including the fact that: (a) DWR continues to allocate and deliver the water in accordance with the amended water supply contract authorizing the 41,000 afy transfer; (b) neither the Monterey Agreement litigation, nor the Monterey Settlement Agreement set aside any of the water transfers made under the Monterey Agreement, including the 41,000 afy transfer; (c) the courts have not enjoined CLWA's use of the 41,000 af transfer; and (d) CLWA has prepared and certified a revised EIR on the 41,000 af transfer and that EIR is

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37 See **Appendix 3.13** for copy of the Court of Appeal's opinion in California Water Impact Network v. Newhall County Water District, Second Appellate District, Division Eight, Case No. B203781, May 13, 2009.

presumed adequate despite pending legal challenges. The Santa Barbara Superior Court Order in the *West Creek* litigation is provided in **Appendix 3.13** of this EIR. Thereafter, the *West Creek* decision was appealed.

As stated above, in *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2007) 157 Cal.App.4th 149 (*SCOPE II*), the Second District Court of Appeal, Division Six, affirmed the trial court's decision upholding the validity of the EIR's water supply analysis for the West Creek development project in the Santa Clarita Valley, including the EIR's assessment and reliance upon the 41,000 afy water transfer. This EIR, **Appendix 3.13**, includes the published Court of Appeal decision, *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2007) 157 Cal.App.4th 149 (*SCOPE II*).

The third court case involved another challenge to an EIR under CEQA for the Riverpark project located in the City of Santa Clarita, County of Los Angeles. This legal challenge was brought in Los Angeles County Superior Court in *Sierra Club, et al. v. City of Santa Clarita*, Case No. BS 098722 (Riverpark litigation).

After a hearing in the Riverpark litigation, the Los Angeles County Superior Court issued a decision determining that the City had properly relied on the 41,000 afy water transfer for planning purposes, and rejected petitioners' claims that legal uncertainties surrounding the 41,000 afy transfer due to other litigation (e.g., *Planning and Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892; *Friends of Santa Clara River v. CLWA* (2002) 95 Cal.App.4th 1373; and *California Oak Foundation v. City of Santa Clarita* (2005) 133 Cal.App.4th 1219) precluded the City from relying on water from that transfer for planning purposes. The court also determined that the 41,000-afy transfer was sufficiently certain and that the Monterey Settlement Agreement did not preclude the City from relying on the transfer in its EIR for the Riverpark project pending DWR's preparation of its Monterey Agreement EIR. Finally, the court found that substantial evidence in the EIR and record supported the City's decision that water from the 41,000-afy transfer could be relied on as part of CLWA's supplies. The Los Angeles County Superior Court decision in the Riverpark litigation is provided in **Appendix 3.13** of this EIR.

The Riverpark trial court decision was appealed, and the appellate court decision was issued on January 29, 2008 (see this EIR, **Appendix 3.13**, for a copy of this appellate court decision, *Sierra Club et al. v. City of Santa Clarita, et al.* (Appellate Case No. B194771). In *Sierra Club*, the Second Appellate District, Division Three, affirmed the trial court's judgment, and held that the Riverpark EIR's water supply analysis was adequate under CEQA. Although *Sierra Club* was not a published decision, it provides further reasoned analysis supporting Los Angeles County's determination that the 41,000-afy transfer

may be relied upon for planning purposes, while acknowledging and disclosing the potential uncertainty of that supply created by litigation, as well as DWR's ongoing environmental review of the Monterey Agreement/Amendments.

Summary of the County's Conclusions about Effect of Litigation on Sufficiency of Water Supplies

Based on the above analysis, this EIR acknowledges that multiple court challenges have been filed challenging the sufficiency of water supplies. Based on the status of these challenges, their likely outcome, and the fact that no court has yet set aside any of the water transfers or other physical activities approved under any of the challenged documents, substantial evidence exists in this EIR and record to support the conclusions in the *2005 UWMP and* the 2007 Water Report that there is sufficient water to serve the buildout of the County's Planning Area and the OVOV Planning Area. As a result, buildout under the County's Area Plan will not contribute to any significant cumulative impacts on Santa Clarita Valley's water supplies.

Summary of Current Drought Conditions

In February 2008, Governor Arnold Schwarzenegger asked the Legislature for a plan to achieve a 20 percent reduction in per capita water use statewide by 2020, explaining that conservation is one of the key ways to provide water for Californians and to protect and improve the Delta ecosystem. In June 2008, after two consecutive years of below-average rainfall, low snowmelt runoff, and court-ordered water transfer restrictions, Governor Schwarzenegger announced a statewide drought and issued an Executive Order (S-06-08), which takes immediate action to address current drought conditions. The Executive Order directed DWR to, among other things: (1) facilitate water transfers to respond to shortages across the state due to drought conditions; (2) work with local water districts and agencies to improve local coordination; and (3) expedite existing grant programs to assist local water districts and agencies. The Executive Order also encourages local water districts and agencies to promote water conservation. Specifically, they are encouraged to work cooperatively on the regional and state level to take immediate action to reduce water consumption locally and regionally for the remainder of 2008 and prepare for potential worsening drought conditions in 2009.

In response to the Governor's Executive Order, DWR is implementing a number of actions to address the 2008/2009 drought conditions. For example, to help facilitate the exchange of water throughout the state, DWR has established a 2009 Drought Water Bank. To implement the 2009 Drought Water Bank, DWR will purchase water from willing sellers, primarily from water suppliers, upstream of the Sacramento-San

Joaquin Delta. This water will be transferred using SWP or Central Valley Project (CVP) facilities to water suppliers that are at risk of experiencing water shortages in 2009 due to drought conditions and that require supplemental water supplies to meet anticipated demands. Please refer to DWR's website, http://www.water.ca.gov/drought/docs/2009drought_actions.pdf (accessed December 8, 2008) for further information about the 2008/2009 drought conditions and DWR's response to those conditions.

Also in response to the Governor's Executive Order, in June 2008, the Metropolitan Water District of Southern California (MWD) issued a "Water Supply Alert" in Southern California urging local agencies to aggressively pursue conservation measures. On August 5, 2008, the County Board of Supervisors approved a resolution declaring a Countywide "water supply and conservation alert." The Board's resolution, among other things, urged intensification of water conservation efforts to achieve a 15 to 20 percent reduction in overall demand; requested local water purveyors and cities to accelerate and intensify public outreach campaigns to communicate the need for water conservation to the general public; and urged cities to update and adopt water wasting ordinances and prepare for enforcement of the ordinances, if necessary. The actions at the state, regional, and local level are likely to result in future regulatory action to strengthen the existing framework for water conservation.

Beginning with the first Strategic Growth Plan in 2006, the Governor called for a comprehensive plan to address California's water needs. The Governor renewed that call in his 2008–09 budget by proposing an $11.9 billion water bond for water management investments that will address population growth, climate change, water supply reliability, and environmental needs. Specifically, the bond includes:

- **Water Storage:** $3.5 billion dedicated to the development of additional storage.
- **Delta Sustainability:** $2.4 billion to help implement a sustainable resource management plan for the Delta.
- **Water Resources Stewardship:** $1.1 billion to implement river restoration projects.
- **Water Conservation:** $3.1 billion to increase water use efficiency.
- **Water Quality Improvement:** $1.1 billion for efforts to reduce the contamination of groundwater.
- **Other Critical Water Projects:** $700 million for water recycling, hillside restoration for areas devastated by fire and removal of fish barriers on key rivers and streams.

To address California's third consecutive drought year, on February 27, 2009, Governor Schwarzenegger also proclaimed a state of emergency and ordered immediate action to manage California's water supplies. In the proclamation, the Governor used his authority to direct all state government agencies to

utilize their resources, implement a state emergency plan, and provide assistance for people, communities, and businesses impacted by the drought. The proclamation:

- Requests that all urban water users immediately increase their water conservation activities in an effort to reduce their individual water use by 20 percent;
- Directs DWR to expedite water transfers and related efforts by water users and suppliers;
- Directs DWR to offer technical assistance to agricultural water suppliers and agricultural water users, including information on managing water supplies to minimize economic impacts and implementing efficient water management practices;
- Directs DWR to implement short-term efforts to protect water quality or water supply, such as the installation of temporary barriers in the Delta or temporary water supply connections;
- Directs the Labor and Workforce Development Agency to assist the labor market, including job training and financial assistance;
- Directs DWR to join with other appropriate agencies to launch a statewide water conservation campaign calling for all Californians to immediately decrease their water use;
- Directs state agencies to immediately implement a water use reduction plan and take immediate water conservation actions and requests that federal and local agencies also implement water use reduction plans for facilities within their control.

The proclamation also directs that by March 30, 2009, DWR must provide an updated report on the state's drought conditions and water availability. According to the proclamation, if the emergency conditions have not been sufficiently mitigated, the Governor will consider additional steps. These could include the institute of mandatory water rationing and mandatory reductions in water use; reoperation of major reservoirs in the state to minimize impacts of the drought; additional regulatory relief or permit streamlining as allowed under the Emergency Services Act; and other actions necessary to prevent, remedy, or mitigate the effects of the extreme drought conditions.

DWR and California's Department of Food and Agriculture will also recommend, within 30 days, measures to reduce the economic impacts of the drought, including but not limited to water transfers, through-Delta emergency transfers, water conservation measures, efficient irrigation practices, and improvements to the California Irrigation Management Information System.

The current drought conditions present significant short-term challenges to the provision of water supplies locally and statewide. Nonetheless, the current drought conditions are part of the historic and ongoing hydrologic cycle that occurs in California and CLWA and local retail purveyors have developed various contingencies in order to minimize short-term impacts on water supplies due to drought

conditions. Such actions include voluntary/mandatory conservation measures, public outreach programs promoting efficient water use and conservation, water transfers, and use of "banked" water supplies, if necessary to meet demands in drought conditions.

However, this water analysis assesses overall water supply availability and reliability over the long-term (i.e., the 20-year horizon called for by the Urban Water Management Planning Act), and includes the effects of normal/average, dry, and multi-dry weather years from the historic record as modified for potential climate change impacts in reliance on DWR modeling estimates. (See DWR's *State Water Project Delivery Reliability Report 2007*, August 2008.) Based on that information, this analysis concludes that there is adequate water supplies for the proposed Area Plan buildout in addition to the existing and planned uses in the Santa Clarita Valley.

REGULATORY FRAMEWORK

Federal

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires a variety of actions to protect drinking water and its sources. SDWA authorizes the U.S. Environmental Protection Agency (US EPA) to set national health-based standards for drinking water to protect against both naturally occurring and manmade contaminants that may be found in drinking water. The USEPA, state agencies, and water purveyors work together to ensure that SDWA standards are met.

State

California Drinking Water Regulations

California's drinking water standards (Maximum Contaminant Levels [MCLs]) must be met by all public drinking water systems to which they apply. Primary MCLs are found in Title 22 California Code of Regulations Sections 64431-64444. Secondary MCLs address the taste, odor, or appearance of drinking water and are found in Title 22 California Code of Regulations Section 64449.

Urban Water Management Planning Act (UWMP Act)

The UWMP Act requires most urban water suppliers to update and submit to the California Department of Water Resources (DWR) an Urban Water Management Plan (UWMP) every five years. The UWMP is required in order for a water supplier to be eligible for the DWR-administered state grants, loans, and drought assistance. The UWMP provides information on water use, water resources, recycled water, water quality, reliability planning, demand management measures, best management practices, and water shortage contingency planning for a specified service area or territory.

Porter-Cologne Water Quality Control Act

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) power to protect water quality and is the primary vehicle for implementing California's responsibilities under the federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority to adopt plans and policies, to regulate discharges of waste to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Porter-Cologne Water Quality Control Act – Basin Plan

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region. The Basin Plan must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its state water policy. To implement state and federal law, the Basin Plan establishes beneficial uses for surface and groundwater in the region, and sets forth narrative and numeric water quality standards to protect those beneficial uses. The applicable Basin Plan (RWQCB, 1994, as amended) provides quantitative and narrative criteria for a range of water quality constituents applicable to certain receiving water bodies and groundwater basins within the Los Angeles Region. Specific water quality criteria are provided for the larger, designated water bodies and groundwater basins within the region, as well as general criteria or guidelines for ocean waters, bays and estuaries, inland surface waters, and groundwaters.

Local

CLWA Groundwater Management Plan

In 2001, as part of legislation authorizing CLWA to provide retail water service to individual municipal customers, Assembly Bill (AB) 134 (2001) included a requirement that CLWA prepare a groundwater management plan in accordance with the provisions of Water Code Section 10753.

CLWA adopted the Groundwater Management Plan (GWMP) on December 10, 2003. The GWMP contains four management objectives for the Basin, including: (1) development of an integrated surface water, groundwater and recycled water supply to meet existing and projected demands for municipal, agricultural and other water uses; (2) assessment of Basin conditions to determine a range of operational yield values that use local groundwater conjunctively with supplemental SWP supplies and recycled water to avoid groundwater overdraft; (3) preservation of groundwater quality, and active characterization and resolution of groundwater contamination problems, including perchlorate; and (4) preservation of interrelated surface water resources, which includes managing groundwater in a manner that does not adversely impact surface and groundwater discharges or quality to downstream basins.

In 2001, prior to adoption of the GWMP, a local Memorandum of Understanding (MOU) process among CLWA, the purveyors, and United Water Conservation District (UWCD) in neighboring Ventura County had produced the beginning of local groundwater management, now embodied in the GWMP. The MOU is a collaborative and integrated approach to several of the aspects of water resource management included in the GWMP. UWCD manages surface water and groundwater resources in seven groundwater basins, all located in Ventura County, downstream of the Basin. As a result of the MOU, the cooperating agencies have undertaken the following measures: (1) integrated their database management efforts; (2) developed and utilized a numerical groundwater flow model for analysis of groundwater basin yield and containment of groundwater contamination; and (3) continued to monitor and report on the status of Basin conditions, as well as on geologic and hydrologic aspects of the overall stream-aquifer system.

The adopted GWMP includes 14 elements intended to accomplish the Basin management objectives listed above. In summary, the plan elements include:

- monitoring of groundwater levels, quality, production and subsidence;
- monitoring and management of surface water flows and quality;

- determination of basin yield and avoidance of overdraft;
- development of average and dry-year emergency water supply;
- continuation of conjunctive use operations;
- long-term salinity management;
- integration of recycled water;
- identification and mitigation of soil and groundwater contamination, including involvement with other local agencies in investigation, cleanup, and closure;
- development and continuation of local, state and federal agency relationships;
- groundwater management reports;
- continuation of public education and water conservation programs;
- identification and management of recharge areas and wellhead protection areas;
- identification of well construction, abandonment, and destruction policies; and
- provisions to update the groundwater management plan.

Work on a number of the GWMP elements has been ongoing. An important aspect of this work was completion of the 2005 Basin Yield Report. The primary determinations made in that report are that: (1) both the Alluvial aquifer and the Saugus Formation are sustainable sources at the operational plan yields stated in the 2005 UWMP over the next twenty-five years; (2) the yields are not overstated and will not deplete or "dry up" the groundwater basin; and (3) there is no need to reduce the yields shown in the 2005 UWMP. Additionally, the 2005 Basin Yield Report concluded that neither the Alluvial aquifer nor the Saugus Formation is in an overdraft condition, or projected to become overdrafted.

UWMP

In December 2005, the CLWA and three local retail purveyors, the Santa Clarita Water Division of CLWA (SCWD), Newhall County Water District (NCWD), and Valencia Water Company (VWC), completed preparation of the 2005 UWMP for the CLWA service area. The 2005 UWMP builds upon previous documents, specifically, the 2000 UWMP and the 2005 Groundwater Perchlorate Contamination Amendment and Other Amendments to the 2000 UWMP. The focus of the 2005 Amendment was on updating the significant progress made by CLWA, the local water purveyors, federal and state regulatory agencies, and others in responding to the perchlorate-contaminated groundwater in portions of the

Saugus Formation and Alluvial aquifer, the two aquifer systems that comprise the local Santa Clara River Valley East Groundwater Subbasin, which is the source of the local groundwater used to meet portions of the Santa Clarita Valley's potable water supply.

The 2005 UWMP presents updated information on historic and current water usage and the methodology used to project future water demands within the CLWA service area. In addition, the 2005 UWMP describes the water supplies available to CLWA and the local retail purveyors from 2005 to 2030, the 25-year period covered by the plan. The 2005 UWMP also assesses water supply reliability over the next 25-year period in 5-year increments in average, dry, and multiple-dry years.

THRESHOLDS OF SIGNIFICANCE

The *State CEQA Guidelines* identify certain criteria for determining whether any significant impact will result with the implementation of the proposed Area Plan. The criteria listed below are based on Appendix G of the *CEQA Guidelines*. The proposed Area Plan would normally have a significant impact on water resources if it would:

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or
- Have insufficient water supplies available to serve the project from existing entitlements and resources, or new or expanded entitlements are needed.

In addition to the above criteria, and given the presence of ammonium perchlorate created by other land uses in the Santa Clarita Valley, impacts to water resources would be significant if implementation of the proposed project would:

- Result in the spreading of perchlorate in groundwater beyond the wells currently affected by perchlorate.

IMPACT ANALYSIS

This impact analysis section evaluates the potential effects of the proposed Area Plan policies on water services within the County's Planning Area using the *State CEQA Guidelines* thresholds of significance. Additionally, the potential impact of spreading of perchlorate in groundwater beyond the wells currently affected by perchlorate is addressed.

Impact 13.1-1 **Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).**

Groundwater Supply

Supplying water to the City as it builds out under the proposed General Plan would not substantially deplete groundwater supplies, because the previous discussion in this section of available local groundwater supplies. As discussed previously, there are sufficient local groundwater supplies in conjunction with SWP supplies to support the planned land uses, in addition to existing and future cumulative development in the Valley. As stated above, groundwater supplies were evaluated in the *2005 UWMP* and the 2005 *Basin Yield Report*. This evaluation resulted in the following findings: (a) Both the Alluvial aquifer and the Saugus Formation are reasonable and sustainable sources of local water supplies at the yields stated in the *2005 UWMP* over the next 25 years; (b) The yields are not overstated and will not deplete or "dry-up" the groundwater basin; and (c) There is no need to reduce the yields for purposes of planning, as shown in both the *2005 UWMP* and the 2005 *Basin Yield Report* (see Appendix 3.13, for the *2005 UWMP* and the *2005 Basin Yield Report*). In addition, both the *2005 UWMP* and 2005 *Basin Yield Report* determined that neither the Alluvial aquifer nor the Saugus Formation is in an overdraft condition, or projected to become overdrafted.

Groundwater Recharge Impacts

Supplying water to the County's proposed buildout would not interfere substantially with groundwater recharge, because the best available evidence shows that no adverse impacts to the recharge of the Basin have occurred due to the existing or projected use of local groundwater supplies, consistent with the CLWA/purveyor groundwater operating plan for the Basin (see this EIR, **Appendix 3.13** [*2005 Basin Yield Report*]). In addition, based on the memorandum prepared by CH2MHill (*Effect of Urbanization on Aquifer Recharge in the Santa Clarita Valley*, February 22, 2004; **Appendix 3.13**), no significant project-specific or cumulative impacts would occur to the groundwater basin with respect to aquifer recharge. This is because urbanization in the Santa Clarita Valley has been accompanied by long-term stability in pumping and groundwater levels, and the addition of imported SWP water to the Valley, which together have not reduced recharge to groundwater, nor depleted the amount of groundwater in storage within the local groundwater basin. Proposed Area Plan **Policy CO 4.2.4** requires the identification and protection of

areas with substantial groundwater recharge, and the promotion of recharge of groundwater basins throughout the watershed (excluding the riverbed).

Specific to the recharge of the Saugus Formation, a technical memorandum was prepared by Luhdorff & Scalmanini Consulting Engineers in March 2006 in response to a condition required by the Newhall Ranch Specific Plan. This technical memorandum is entitled *Evaluation of Groundwater Recharge Methods for the Saugus Formation in the Newhall Ranch Specific Plan Area* and included in **Appendix 3.13** of this EIR. The technical memorandum evaluated the need for identifying land areas within the Specific Plan area for recharge of the Saugus Formation. It concluded that there was no need to set aside land area for artificial recharge of the Saugus Formation within the Specific Plan area. This conclusion is based on the following findings:

- Saugus Formation is generally recharged in the east to central portion of the basin, well east of the Newhall Ranch Specific Plan area. Groundwater flow in the basin is generally east to west with resulting groundwater discharge at the western end of the basin.
- The Specific Plan area overlies a small portion of the Saugus Formation at the far western end of the basin, where the basin is discharging water that flows downstream toward Ventura County.
- Historical observations for several decades have shown that there have been no long-term changes in groundwater storage or levels and that natural recharge processes have sustained groundwater levels, including long-term, essentially constant, high groundwater levels—without the need for artificial recharge operations to augment natural recharge to the basin.
- The future operating plan for the basin has been evaluated in both the *2005 UWMP* and the 2005 *Basin Yield Report* and neither document calls for attempts to artificially recharge the basin.
- If artificial recharge of the Saugus Formation were to become desirable for some reason in the future, while there is no need for artificial recharge in the western part of the basin, recharge to the Saugus Formation is hydrogeologically feasible through injection wells. This mechanism, if needed in the future, would alleviate the need to set aside land area for artificial recharge purposes, and would likely occur in the eastern portion of the Saugus Formation, not within the Newhall Ranch Specific Plan area.

Proposed Areal Plan Policies

Policy CO 4.2.4: Identify and protect areas with substantial potential for groundwater recharge, and promote recharge of groundwater basins throughout the watershed (excluding the river bed).

Effectiveness of Proposed Area Plan Policies

The above Area Plan policy promotes the availability of a clean and adequate water supply for the County as well as implementation of water conservation measures in the Santa Clarita Valley. The above policy would promote groundwater recharge in the Valley along with recharge of groundwater basins. This policy in conjunction with oversight by the CLWA for controlled pumping of groundwater in the Valley would reduce impacts on groundwater supplies and groundwater recharge to less than significant.

Impact 3.13-2 **Have insufficient water supplies available to serve the project from existing entitlements and resources, or new or expanded entitlements are needed.**

As stated above, and as shown in this water analysis and in the CLWA Data Document (2008) there would be an adequate supply of water available to meet the demands for buildout of the County's proposed Area Plan. The supply available to meet the County's projected potable water demand will be met by existing groundwater supplies from the Alluvial and Saugus aquifers and SWP water supplied by the CLWA water purveyors.

The availability of non-potable water is not presently sufficient to meet all of the present and future demands but will become increasingly available as demands for potable water increase and supporting infrastructure is constructed during the County's buildout[38] (**Policy CO 4.2.1**). Current non-potable supplies include recycled water from the existing Valencia WRP and from the approved Newhall Ranch WRP. The ability of CLWA to use wastewater effluent is limited by various state water laws, codes, and court decisions. CLWA has been approved to use 1,700 afy; however, only "foreign" water such as imported SWP supplies can be used for recycling purposes.

The proposed Area Plan includes policies to promote the use of recycled water. **Policy CO 4.2.5** encourages the participation and cooperation with other agencies to develop and implement an Integrated Regional Water Management Plan to build a diversified portfolio of water supply, water quality, and resource stewardship priorities for the Santa Clarita Valley. Other policies require new development to provide the infrastructure needed for the delivery of recycled (**Policy CO 4.2.2**); and promote the installation of rainwater capture and gray water systems in new buildings for irrigation (**Policy CO 4.2.3**).

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38 *Castaic Lake Water Agency Data Document Proposed 2008 Facility Capacity Fees*, 2008. pp. 4–5

Although this water analysis has determined that adequate and reliable water supplies exist to serve the County's proposed buildout, in addition to other existing and planned uses in the Santa Clarita Valley, the current 2008–2009 drought conditions illustrate the need for improved water efficiency and conservation. As a result, this EIR recommends that water efficiency and conservation measures be proposed by CLWA and the local retail purveyors in the Valley for incorporation as conditions of approval for land use entitlement(s) granted by the County. The County also supports improved water efficiency and water conservation as a critical component of ensuring adequate water supply for Santa Clarita Valley residents and businesses (**LU Policy 7.2.2**). **Policy CO 4.1.1** encourages coordination with applicable water suppliers to adopt and implement a water conservation strategy for public and private development. **Policy LU 7.2.1** stipulates that the County should monitor growth and coordinate with the water districts as needed to ensure that long-range needs for potable and reclaimed water will be met.

Area Plan policies promote the provision of informational materials to applicants and contractors on the Castaic Lake Water Agency's Landscape Education Program (**Policy CO 4.1.4**); examples of water conservation in landscaping through the use of xeriscape or low water use landscaping in public spaces (**Policy CO 4.1.2**; promote low water use landscaping in new residential subdivisions and other private development projects including a reduction in the amount of turfgrass and use of native California plant materials and evapotranspiration (smart) irrigation systems (**Policy CO 4.1.3, LU 7.4.1**).

Other Area Plan policies directed at water conservation promote the use of low-flow and/or waterless plumbing fixtures (**Policies CO 4.1.5, LU 7.4.2**), support amendments to the County Building Code to promote upgrades to water and energy efficiency when issuing permits for renovations or additions on existing buildings **(Policy CO 4.1.6);** apply water conservation policies to all pending development including tentative subdivision maps to the extent permitted by law; encourage water conservation in construction and landscape design **(Policy CO 4.1.7);** and upon the availability of non-potable water services discourage and consider restrictions on the use of potable water for washing outdoor surfaces (**Policy CO 4.1.8**).

Proposed Area Plan Policies

Policy CO 4.1.1: In coordination with applicable water suppliers, adopt and implement a water conservation strategy for public and private development.

Policy CO 4.1.2: Provide examples of water conservation in landscaping through use of low water use landscaping in public spaces such as parks, landscaped medians and parkways, plazas, and around public buildings.

Policy CO 4.1.3: Promote low water use landscaping in new residential subdivisions and other private development projects, including a reduction in the amount of turf-grass.

Policy CO 4.1.4: Provide informational materials to applicants and contractors on the Castaic Lake Water Agency's Landscape Education Program, and/or other information on xeriscape, native California plants, and water-conserving irrigation techniques as materials become available.

Policy CO 4.1.5: Promote low-flow and/or waterless plumbing fixtures and appliances in all new non-residential development and residential development of five or more dwelling units.

Policy CO 4.1.6: Support amendments to the County Building Code that would promote upgrades to water and energy efficiency when issuing permits for renovations or additions to existing buildings.

Policy CO 4.1.7: Apply water conservation policies to all pending development projects, including approved tentative subdivision maps, to the extent permitted by law; where precluded from adding requirements by vested entitlements, encourage water conservation in construction and landscape design.

Policy CO 4.1.8: Upon the availability of non-potable water services, discourage and consider restrictions on the use of potable water for washing outdoor surfaces.

Policy CO 4.2.1: In cooperation with the Sanitation District and other affected agencies, seek to expand opportunities for use of recycled water for the purposes of landscape maintenance, construction, water recharge, and other uses as appropriate.

Policy CO 4.2.2: Require new development to provide the infrastructure needed for delivery of recycled water to the property for use in irrigation, even if the recycled water main delivery lines have not yet reached the site, where deemed appropriate by the reviewing authority.

Policy CO 4.2.3: Promote the installation of rainwater capture and gray water systems in new buildings for irrigation, where feasible and practicable.

Policy CO 4.2.5: Participate and cooperate with other agencies to complete, adopt, and implement an Integrated Regional Water Management Plan to build a diversified portfolio

of water supply, water quality, and resource stewardship priorities for the Santa Clarita Valley.

Policy LU 7.2.1: Monitor growth, and coordinate with water districts as needed to ensure that long-range needs for potable and reclaimed water will be met.

Policy LU 7.2.2: If water supplies are reduced from projected levels due to drought, emergency, or other unanticipated events, take appropriate steps to limit, reduce, or otherwise modify growth permitted by the Area Plan in consultation with water districts to ensure adequate long-term supply for existing businesses and residents.

Policy LU 7.4.1: Require the use of drought tolerant landscaping, native California plant materials, and evapotranspiration (smart) irrigation systems.

Policy LU 7.4.2: Require the use of low-flow fixtures in all non-residential development and residential development with five or more dwelling units, which may include but are not limited to water conserving shower heads, toilets, waterless urinals and motion-sensor faucets, and encourage use of such fixtures in building retrofits as appropriate.

Effectiveness of Area Plan Policies

As stated above, and as shown in this water analysis and in the CLWA Data Document (2008) there would be an adequate supply of water available to meet the demands for buildout of the County's proposed Area Plan. The above policies promote water conservation thereby ensuring efficient use of available water resources. Water conservation planning has become an increasingly important factor in water supply planning throughout California, especially with continuing drought conditions and the Delta issues. One of the greatest opportunities for water conservation is reduction of landscape irrigation through greater efficiency and use of native, drought-tolerant plants, which the above policies address. In other water conservation measures, CLWA and the retail water purveyors in the Valley have been implementing demand management measures and best management practices including public outreach, residential ultra low flush toilet replacement, large landscape conservation, and residential retrofit. The above policies reflect many of these initiatives and would effectively support water conservation measures underway in the County. Implementation of the above policies in combination with oversight from the CLWA and the local water purveyors relative to future development projects would reduce potential impacts on existing entitlements and supplies to less than significant.

Impact 3.13-3 **Result in the spreading of perchlorate in groundwater beyond the wells currently affected by perchlorate.**

Perchlorate Impacts on Groundwater Supply

The detection of perchlorate in local groundwater supplies has raised concerns over the reliability of local groundwater supplies, in particular the Saugus Formation, where four wells have been removed from active service as a result of perchlorate contamination. As discussed in both this EIR and the *2005 UWMP*, Chapter 5 and Appendix D, planning for remediation of the perchlorate and restoration of the impacted well capacity is substantially underway. While that work is being completed, non-impacted production facilities can be relied upon for the quantities of water projected to be available from the Alluvial aquifer and Saugus Formation during the time necessary to restore perchlorate-impacted wells. CLWA, the local retail water purveyors, the DTSC, and the USACE continue to monitor and work closely on the remediation of perchlorate-impacted wells. The following text presents a summary of the status of perchlorate remediation and restoration of perchlorate-impacted groundwater supply. (A discussion of pertinent events related to perchlorate contamination, containment, remediation, and water supply restoration is included in the *2005 UWMP*, Appendix D [**Appendix 3.13**].) This information illustrates that work toward the ultimate remediation of the perchlorate contamination, including the reactivation of impacted groundwater supply wells, has progressed on several integrated fronts over the last five years. As discussed, work continues on multiple tasks to address perchlorate-impacted wells stemming from past manufacturing activities on the former Whittaker-Bermite site. CLWA and local retail purveyors are proceeding to restore the production capacity of the groundwater supply wells contaminated by perchlorate, while working on the objectives of containing the downgradient migration of perchlorate and recovering costs incurred in responding to the perchlorate contamination. The proposed Area Plan **Policy CO 4.4.2** supports the efforts to eliminate perchlorate contamination through the cooperative efforts of property owners and appropriate agencies.

Perchlorate Impacted Water Purveyor Wells

As discussed above, perchlorate was detected in four Saugus Formation production wells near the former Whittaker-Bermite site in 1997. As a result, these wells (SCWD's Wells, Saugus 1 and Saugus 2, NCWD's Well NC-11, and VWC's Well V-157) were removed from service. In 2002, perchlorate was detected in the SCWD Stadium well, located in the Alluvial aquifer, directly adjacent to the former Whittaker-Bermite site. This Alluvial well also has been removed from service.

Since the detection of perchlorate and resultant inactivation of impacted wells, the purveyors have been conducting regular monitoring of active wells near the Whittaker-Bermite site. In April 2005, that monitoring detected the presence of perchlorate in Valencia Water Company's Well Q2, an Alluvial well located immediately northwest of the confluence of Bouquet Creek and the Santa Clara River. The location of this well is shown on **Figures 3.13-6** and **3.13-7**. As a result of the detection and confirmation of perchlorate in its Well Q2, Valencia Water Company removed the well from active service and pursued rapid permitting and installation of wellhead treatment in order to return the well to water supply service. In October 2005, Valencia Water Company restored the pumping capacity of Well Q2 with the start-up of wellhead treatment designed to effectively remove perchlorate.

In January 2005, Valencia Water Company permanently closed well V-157 and, in September 2005, completed the construction of new Saugus well V-206 located in an area of the Saugus Formation not impacted by perchlorate. Valencia Water Company's V-206 is operational and replaces the pumping capacity temporarily impacted by the detection of perchlorate at former well V-157. In summary, three Saugus wells (Saugus 1 and 2 and NC-11) and one Alluvial well (SCWD Stadium well) remain off-line due to perchlorate contamination. The CLWA Santa Clarita Water Division is in the process of constructing a replacement well for the SCWD Stadium well, which is to be located east of the former Whittaker-Bermite property.

Locations of the impacted wells and other nearby non-impacted wells, relative to the Whittaker-Bermite site are shown on **Figures 3.13-6** and **3.13-7**.

Restoration of Perchlorate Impacted Water Supply

Since the detection of perchlorate in the four Saugus wells in 1997, CLWA and the retail water purveyors have recognized that one element of an overall remediation program would most likely include pumping from impacted wells, or from other wells in the immediate area, to establish hydraulic conditions that would control the migration of contamination from further impacting the aquifer in a downgradient (westerly) direction. Thus, CLWA and the retail water purveyors report that the overall perchlorate remediation program includes dedicated pumping from some or all of the impacted wells, with appropriate treatment, such that two objectives could be achieved. The first objective is control of subsurface flow and protection of downgradient wells, and the second is restoration of some or all of the contaminated water supply. Not all impacted capacity is required for control of groundwater flow. The remaining capacity would be replaced by construction of replacement wells at non-impacted locations.

In cooperation with state regulatory agencies and investigators working for Whittaker-Bermite, CLWA and the local retail water purveyors developed an off-site plan that focuses on the concepts of groundwater flow control and restored pumping capacity and is compatible with on-site and possibly other off-site remediation activities. Specifically relating to water supply, the plan includes the following:

- Constructing and operating a water treatment process that removes perchlorate from two impacted wells such that the produced water can be used for municipal supply.
- Hydraulically containing the perchlorate contamination that is moving from the Whittaker-Bermite site toward the impacted wells by pumping the wells at rates that will capture water from all directions around them.
- Protecting the downgradient non-impacted wells through the same hydraulic containment that results from pumping two of the impacted wells.
- Restoring the annual volumes of water pumped from the impacted wells before they were inactivated and also restoring the wells' total capacity to produce water in a manner consistent with the retail water purveyors' operating plan for groundwater supply described above.

The current status of the activities associated with the perchlorate contamination program is outlined on **Table 3.13-16, Preliminary Perchlorate Contamination Program Implementation Status**.

The two key activities that comprise the majority of effort required for implementation of the plan are general facilities-related work (design and construction of well facilities, treatment equipment, pipelines, etc.) and permitting work. Both activities are planned and scheduled concurrently, resulting in planned completion (i.e., restoration of all impacted capacity) in 2009. Notable accomplishments toward implementation include completion of the Final Interim Remedial Action Plan (RAP) in December 2005, completion of environmental review with the adoption of a Mitigated Negative Declaration in September 2005, and various implementation activities in 2007 and 2008, which are listed on **Figure 3.13-16**.

In light of the preceding, with regard to the adequacy of groundwater as the local component of water supply for the Santa Clarita Valley, the impacted capacity will remain unavailable through 2009, during which time the non-impacted groundwater supply will be sufficient to meet near-term water requirements as described in Chapter 3 of the *2005 UWMP*. Thereafter, the total groundwater capacity will be sufficient to meet the full range of normal and dry-year conditions as provided in the CLWA/retail water purveyor groundwater operating plan for the Basin.

Returning the contaminated Saugus wells to municipal water supply service by installing treatment requires issuance of permits from DHS before the water can be considered potable and safe for delivery

to customers. The permit requirements are contained in DHS Policy Memo 97-005 for direct domestic use of impaired water sources.

Before issuing a permit to a water utility for use of an impaired source as part of the utility's overall water supply permit, DHS requires that studies and engineering work be performed to demonstrate that pumping the wells and treating the water will be protective of public health for users of the water. The 97-005 Policy Memo requires that DHS review the local retail water purveyor's plan, establish appropriate permit conditions for the wells and treatment system, and provide overall approval of returning the impacted wells to service for potable use. Ultimately, the CLWA/local retail water purveyor plan and the DHS requirements are intended to ensure that the water introduced to the potable water distribution system has no detectable concentration of perchlorate.

The DHS 97-005 Policy Memo requires, among other things, the completion of a source water assessment for the impacted wells intended to be returned to service. The purpose of the assessment is to determine the extent to which the aquifer is vulnerable to continued migration of perchlorate and other contaminants of interest from the Whittaker-Bermite site. The assessment includes the following:

- Delineation of the groundwater capture zone caused by operating the impacted wells
- Identification of contaminants found in the groundwater at or near the impacted wells
- Identification of chemicals or contaminants used or generated at the Whittaker-Bermite facility
- Determination of the vulnerability of pumping the impacted wells to these contaminant sources

Table 3.13-16
Preliminary Perchlorate Contamination Program Implementation Status

Task Group	Tasks	Status
Settlement Activities	Project Description	Complete.
	Final Settlement	Settlement agreement took effect on 7/13/07 with U.S. District Court approval.
DTSC Approval Activities	Remedial Investigation (RI)	DTSC approved 8/16/05.
	Feasibility Study (FS)	DTSC approved 8/16/05.
	Final RAP	Public hearing held 9/7/05. DTSC approved 1/20/06.
U.S. Army Corps of Engineers Feasibility Phase Study	Conceptual Hydrogeology Technical Memorandum	Final distributed 1/19/05. Progress report with model construction calibration distributed 10/11/05.

Task Group	Tasks	Status
DPH Approval Activities (97-005)	Source Water Assessment	Received comments on revised document from DPH 4/27/06.
	Water Quality Investigation	Received comments on revised document from DPH 4/27/06.
	Human Health Risk	Received comments on revised document from DPH 4/27/06.
	Source Protection Plan	Received comments on revised document from DPH 4/27/06.
	Effective Monitoring and Treatment	Received comments on revised document from DPH 4/27/06.
	Alternatives Evaluation	Received comments on revised document from DPH 5/10/06. Revised document will be returned to DPH with Engineer's Report.
	Engineers Report	Received final draft from consultant 5/23/08.
	CEQA	Mitigated Negative Declaration certified 9/14/05.
	Permit Application	Awaiting response from DPH.
	Public Hearing	Awaiting response from DPH.
	DPH Evaluation and Permit	Awaiting response from DPH.
Implementation Activities	Easements and Right of Way	Easement and right-of-way acquisition completed 1/08.
	Treatment Project	Notice to Proceed issued 11/14/07. Project is 75% complete.
	Pipeline Project	Notice to Proceed issued 12/14/07. Project is 35% complete.
	Start-up and Monitoring	Scheduled early 2009.
	Permit Application	Awaiting response from DPH.
	Public Hearing	Awaiting response from DPH.

*Source: CLWA Memorandum, October 1, 2008 and AMEC Geomatrix Progress Report, November 17, 2008 (See EIR **Appendix 3.13**.)*

CLWA worked with its consultants and local retail purveyors to complete the DHS 97-005 Policy Memo permit application. The application includes, among other things, the Source Water Assessment, Raw Water Quality Characterization, Source Protection Plan, Effective Monitoring and Treatment Evaluation, Human Health Risk Assessment, and the Alternatives Sources Evaluation. The Engineer's Report, which summarizes these six elements for the 97-005 process, was finalized on May 23, 2008. The CEQA process for the "CLWA Groundwater Containment, Treatment, and Restoration Project," for which the 97-005 process is being conducted, was certified in September 2005.[39]

39 For further information regarding this project, please refer to Appendix E of the *2005 UWMP* in **Appendix 3.13**.

As listed above, DHS 97-005 Policy Memo requires an analysis to demonstrate contaminant capture and protection of other nearby water supply wells. The development and calibration of a numerical groundwater flow model of the entire basin had been initiated as a result of a 2001 MOU among the Upper Basin Water Purveyors (CLWA, CLWA SCWD, LACWD #36, NCWD, and VWC) and the United Water Conservation District in Ventura County.

The groundwater model was initially intended for use in analyzing the operating yield and sustainability of groundwater in the Basin. However, the model was adaptable to analyze both the sustainability of groundwater under an operational scenario that includes full restoration of perchlorate-contaminated supply and the containment of perchlorate near the Whittaker-Bermite property (i.e., by pumping some of the contaminated wells). In 2004, DTSC reviewed and approved the development and calibration of the regional model. After DTSC approval, the model was used to simulate the capture and control of perchlorate by restoring impacted wells, with treatment. The results of that work are summarized in a report entitled, *Analysis of Perchlorate Containment in Groundwater Near the Whittaker-Bermite Property, Santa Clarita, California* (CH2MHill, December 2004) (see **Appendix 3.13**). The modeling analysis indicates that the pumping of impacted wells SCWD-Saugus 1 and SCWD-Saugus 2 on a nearly continual basis will effectively contain perchlorate migrating westward in the Saugus Formation from the Whittaker-Bermite property. The modeling analysis also indicates that (1) no new production wells are needed in the Saugus Formation to meet the perchlorate containment objective; (2) impacted well NCWD-11 is not a required component of the containment program; and (3) pumping at SCWD-Saugus 1 and SCWD-Saugus 2 is necessary to prevent migration of perchlorate to other portions of the Saugus Formation. This report, and the accompanying modeling analysis, was approved by DTSC in November 2004. With that approval, the model is now being used to support the source water assessment and the balance of the permitting process required by DHS.

Proposed Policies

Policy CO 4.4.2: Support the cooperative efforts of property owners and appropriate agencies to eliminate perchlorate contamination on the Whittaker-Bermite property, and eliminate the use of any industrial chemicals or wastes in a manner that threatens groundwater quality.

Effectiveness of Area Plan Policies

The above policy supports the ongoing clean up efforts on the Whittaker-Bermite property thereby assisting the County's efforts to remediate the property for future use. Additionally, this policy protects

groundwater quality by supporting the elimination of industrial chemicals or wastes in a manner than threatens groundwater quality. Implementation of this policy along with the ongoing clean up efforts at the Whittaker-Bermite site would remediate the existing perchlorate contamination from the site and the spreading of perchlorate in groundwater beyond the wells currently affected by perchlorate.

CUMULATIVE WATER DEMAND AND SUPPLY ANALYSIS

The following discussion focuses on the cumulative impacts to water availability for the Santa Clarita Valley. The analysis evaluates cumulative impacts under the following future water demand and supply scenario:

Buildout Scenario. Buildout within the CLWA service area by 2030, plus active pending General Plan Amendment requests (referred to as the Santa Clarita Valley 2030 Buildout Scenario)

Santa Clarita Valley 2030 Buildout Scenario

The Santa Clarita Valley 2030 Buildout Scenario entails buildout of lands under the current land-use designations indicated in the County's Area Plan and City of Santa Clarita's General Plan by the year 2030. **Table 3.13-17**, **Santa Clarita Valley 2030 Buildout Scenario Water Supplies**, and **Table 3.13-18**, **Santa Clarita Valley 2030 Buildout Scenario Water Demand and Supply**, summarize the cumulative water demand and supply for this buildout scenario. Under the buildout scenario, there are adequate water supplies with no significant cumulative water supply impacts occurring in either average or dry years. In fact, the two tables show that water supplies exceed demand under this scenario in average and dry years in 2030.

Dry year supplies available above demand reflect water supplies that would be called upon by CLWA and the local purveyors in dry years. CLWA and the local purveyors would typically secure water from these supplies only in amounts necessary to meet demand. For a dry year, when reliability of the SWP could be reduced, CLWA would utilize both dry year supplies available from the Saugus aquifer, and water banking and conjunctive use projects as indicated in **Table 3.13-17**, below.

Table 3.13-17
Santa Clarita Valley 2030 Buildout Scenario Water Supplies (afy)

	Average Years	Single Dry Year	Multiple Dry Years
Santa Clarita Valley Water Supplies (1)			
Local Supply			
a. Groundwater			
Alluvial Aquifer	35,000	32,500	32,500
Saugus Formation	11,000	15,000	15,000
Restored Impacted Wells		10,000	5,000
Saugus Formation (New Wells)		10,000	1,500
b. Reclaimed Water	17,400	17,400	17,400
Newhall Ranch WRP Supply	5,400	5,400	5,400
Imported Supplies			
a. SWP Table A Amount (2)	62,800	6,700	30,500
b. Newhall Nickel Water	1,607	1,607	1,607
c. Newhall Semitropic Groundwater Bank Storage		4,950	4,950
d. Additional Planned Banking		20,000	15,000
e. Buena Vista-Rosedale Transfer	11,000	11,000	11,000
f. Flexible Storage Account		4,680	1,170
g. Rosedale-Rio Bravo Groundwater Bank		20,000	15,000
Total Supply	144,207	159,237	156,027

*Source: 2005 UWMP (see **Appendix 3.13**).*

(1) SWP maximum allocation reduced in average years to approximately 77% of maximum allocation and in dry years to approximately 4 to 33% of maximum allocation.

(2) In any given year, the actual amount of SWP water deliveries could be above or below these model projections.

As depicted in **Table 3.13-18**, below, purveyors have access to an amount of water supplies that exceed demand during dry conditions. Therefore, no cumulatively significant water availability impacts would occur due to buildout of the County's proposed Area Plan.

Because cumulative water supplies exceed demand, cumulative development would not result in unavoidable significant cumulative impacts on Santa Clarita Valley water resources. This includes potential impacts on groundwater resources related to recharge potential. This is due to the fact that urbanization in the Santa Clarita Valley has been accompanied by long-term stability in pumping and groundwater levels, plus the addition of imported SWP water to the Valley, which together have not reduced recharge to groundwater, nor depleted the amount of groundwater that is in storage within the Valley. Therefore, cumulative mitigation measures are not required.

Table 3.13-18
Santa Clarita Valley 2030 Buildout Scenario Water Demand and Supply
(acre-feet)

	Buildout (year 2030)		
	Average Years	**Single Dry Years[c]**	**Multi-Dry Years**
Santa Clarita Valley Water Supplies[a]	144,207	159,237	156,027
Total Buildout Demand 2030[b]	125,400	137,900	137,900
Total Surplus	**18,807**	**21,337**	**21,337**

[a] *Source: 2005 UWMP, Newhall Ranch Additional Analysis, May 2003, Final State Water Project Delivery Reliability Report, 2008. The Castaic Lake Water Agency Data Document Proposed 2008 Facility Capacity Fees, 2008, document indicates that water demand for buildout of the Santa Clara Valley in 2050 will be equal to 138,572 af with 10 percent water conservation.*

[b] *Demand is increased by approximately 10% in dry years.*

[c] *Dry year supplies available above demand reflect water supplies that would be called upon by purveyors in dry years. Purveyors would typically secure water from these supplies only in amounts necessary to meet demand.*

MITIGATION FRAMEWORK

No mitigation measures are required.

SIGNIFICANCE OF IMPACT WITH MITIGATION FRAMEWORK

Impacts on water service would be less than significant and no mitigation measures are required.