Topical Response 1 Perchlorate Update

Comments have stated that facilities needed to clean up ammonium perchlorate (perchlorate) contamination found in groundwater in the East Subbasin are not in place, resulting in reduced and/or inadequate water supply for the additional housing units approved in the Santa Clarita Valley (East Subbasin). This response addresses the perchlorate-related comments received on the Revised Draft EIR, and provides an update on the progress made to date in implementing work plans for the remediation and treatment of perchlorate in the Santa Clarita Valley's groundwater supplies. The response is also based on the information presented in Section 3.13, Water Services, of the Revised Draft EIR, which is summarized below. This response also is based on updated information received from CLWA and other retail water purveyors in the East Subbasin since the Revised Draft EIR was made available for public review in November 2010. Updated information includes that presented in the 2010 Urban Water Management Plan (2010 UWMP; June 2010) recently adopted by CLWA and the recently released 2010 Santa Clarita Valley Water Report (2010 Water Report; June 2010) prepared by the Santa Clarita Valley water purveyors. Lastly, this response includes a summary of perchlorate contamination that was detected in Valencia Water Company (Valencia or VWC) Well V201 in August 2010. Well V201 is a Saugus Formation well, located near the City of Santa Clarita City Hall, which has been removed from service. Please note that this topical response addresses perchlorate contamination-related issues from the perspective of the East Subbasin (or Santa Clarita Valley) only. This is due to the fact that perchlorate contamination is known only to occur in the East Subbasin portion of the Planning Area.

Revised Draft EIR Summary

The Revised Draft EIR presented substantial information regarding perchlorate contamination, remediation, and treatment in the East Subbasin. (Please refer to Revised Draft EIR, pages 3.13-5 through 3.13-6, 3.13-45 through 3.13-64, and 3.13-138 through 3.13-145.) The Revised Draft EIR also analyzed significant impacts to water resources, including the potential for the proposed Plan to cause the migration of perchlorate in groundwater beyond the currently affected wells in the East Subbasin. (Ibid., pages 3.13-55 through 3.13-62, and 3.13-138 through 3.13-145.) In addition, the Revised Draft EIR identified a number of technical documents found in the appendices to the Revised Draft EIR, as well as other documents incorporated by reference and made available for public review that provide perchlorate-related contamination and treatment information and analysis. For example, the Revised Draft EIR used and relied upon the following documents:

(a) *Analysis of Groundwater Supplies and Groundwater Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin*, by Luhdorff & Scalmanini and GSI Water Solutions, Inc., August 2009;

(b) Summary Report to Department of Toxic Substances Control from AMEC Geomatrix regarding Former Whittaker-Bermite Facility, Santa Clarita, California, November 17, 2008;

(c) 2006, 2007, and 2008 Santa Clarita Valley Water Reports;

(d) *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;

(e) 2005 Urban Water Management Plan, prepared by CLWA and other retail water purveyors; and

(f) Interim Remedial Action Plan, prepared by Kennedy-Jenks Consultants for CLWA and approved by California Department of Toxic Substances Control (DTSC), December 2005.

(Copies of the above documents are provided in the 2010 Revised Draft EIR, Appendix 3.13.)

For the area within the East Subbasin, the portion of the Planning Area with known perchlorate contamination, the Revised Draft EIR took into account numerous factors affecting water supplies in the Planning Area, including perchlorate-impacted wells. It also accounted for the perchlorate-impacted wells in the East Subbasin[1] (i.e., both the Alluvial aquifer and the Saugus Formation as described below), and analyzed the data derived from ongoing monitoring by water purveyors, wellhead treatment, and construction of new replacement wells in areas not impacted by perchlorate.[2] After consideration of the factors discussed above, and based on information received from CLWA and other retail water purveyors in the East Subbasin, the Revised Draft EIR determined that an adequate supply of water exists in the East Subbasin to meet the needs of its residents now and in the future:[3]

> "The current water supply for the portion of the Planning Area within the CLWA service area boundary is derived from both local and imported sources. The principal components of this supply are imported water from the SWP, water purchased in Kern County, and local groundwater from both the Alluvial aquifer and the Saugus Formation

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1 As identified in DWR Bulletin 118 (2003 Update), the East Subbasin is termed the "Santa Clara River Valley Groundwater Basin, East Subbasin." The East Subbasin is comprised of two aquifer systems, the Alluvium (also referred to as the Alluvial aquifer) and the Saugus Formation. The Alluvium generally underlies the Santa Clara River and its several tributaries, and the Saugus Formation underlies practically the entire Upper Santa Clara River area.

2 At the time the Revised Draft EIR was circulated for public review in November 2010, there were only three known remaining perchlorate-impacted wells (*i.e.*, three Saugus wells [Saugus 1 and 2 and NCWD Well 11]). (The one Alluvial well [Stadium well] was abandoned, and a replacement well was installed (Valley Center well) in a non-impacted portion of the basin. The other Saugus-impacted well at that time (VWC Well 157) was abandoned and replaced by new well VWC 206 in a non-impacted portion of the basin.) In August 2010, perchlorate was detected in VWC Saugus Well V201 and remains removed from service pending planned treatment.

3 Based on existing conditions and the lack of available and responsive information, the Revised Draft EIR states that it is apparent that existing groundwater is not sufficient to provide a sustainable supply of water for all existing residents outside the CLWA service area and the East Subbasin without having to employ alternative water sources, such as the trucking in of water. Consequently, with an estimated buildout water demand of 6,000 afy in this area, significant groundwater impacts (including cumulative impacts) would result if plan implementation in this area were to increase the number of lots over the existing condition. See Revised Draft EIR pages 3.13-124 and 3.13-125.

> (i.e., within the East Subbasin). 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.
>
> 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. In the impact analysis that follows this subsection of the water supply analysis, tables are provided below that address available water supplies compared with projected water demand within the Planning Area in normal/average years, single-dry years, and multiple-dry years over a 40-year planning horizon." (See the subsection below entitled, **Water Supply and Demand**). (Ibid., pp. 3.13-93 through 3.13-94.)

The Revised Draft EIR contained a detailed description of groundwater supplies in the East Subbasin, including graphics depicting both the mapped extent of the Santa Clara River Valley East Subbasin, which is comprised of the Alluvium/Alluvial aquifer and the Saugus Formation, and the locations of the Alluvium and Saugus Formation municipal-supply well locations. (Revised Draft EIR, pp. 3.13-21 through 3.13-66.) It also described the 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 groundwater basin in a sustainable condition (*i.e.*, no long-term depletion of groundwater or interrelated surface water)." (Revised Draft EIR, pp. 3.13-31 through 3.13-32.) The groundwater operating plan addressed groundwater contamination issues in the basin, consistent with CLWA's Groundwater Management Plan (GWMP). (Revised Draft EIR, pp. 3.13-32 through 3.13-33 and pp. 3.13-2 through 3.13-3.) This operating plan quantifies annual pumping volumes (in ranges) from the Alluvium and Saugus Formation. (Revised Draft EIR, pp. 3.13-2 through 3.13-4.) Historical and projected groundwater pumping by retail water purveyor is also provided in the document. (Revised Draft EIR, pp. 3.13-34 -3.13-35 [Tables 3.13-3 and 3.13-4].)

In addition, the Revised Draft EIR identified the three factors affecting the availability of groundwater supplies under the groundwater operating plan, which 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." (Revised Draft EIR, p. 3.13-33.) The Revised Draft EIR analyzed each

factor for both the Alluvial aquifer and the Saugus Formation, as summarized below. (Revised Draft EIR, pp. 3.13-35 through 3.13-66.)

Since circulation of the Revised Draft EIR in November 2010, an updated UWMP (June 2011) and Water Report (June 2011) have been released to the public. Both documents, presented in their entirely in Revised Final EIR **Appendix F3.13**, include information updating current and projected groundwater conditions in the Santa Clarita Valley (East Subbasin). Both documents conclude that groundwater utilization in the Valley is sustainable, and is and will continue to be in accordance with the 2008 Operating Plan. For additional related information, please see 2010 Water Report Sections 3.1 Groundwater Basin Yield; 3.2 Alluvium – General; 3.3 Saugus Formation – General; and 4 Summary of 2010 Water Supply and 2011 Outlook. See also 2010 UWMP Section 3.3 Groundwater. As concluded in the 2010 UWMP,

> "Overall, the total municipal supply in this Plan includes a groundwater component that is, in turn, part of the overall groundwater supply of the Valley. As such, the municipal groundwater supply, distributed among the retail purveyors, recognizes the existing and projected future uses of groundwater by overlying interests in the Valley such that the combination of municipal and all other groundwater pumping remains within the groundwater operating plan (Table 3-5) that has been analyzed for sustainability." (2010 UWMP pages 3-35 and 3-36)

Alluvial Aquifer

For the Alluvial aquifer, the Revised Draft EIR determined that there was more than adequate pumping capacity from active wells (not contaminated by perchlorate) to meet the purveyors' groundwater operating plan, and such capacity did not include the one Alluvial well (Stadium well) that has been inactivated due to perchlorate contamination:

> "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 38,600 afy. Alluvial pumping capacity from all the active municipal supply wells is summarized in **Table 3.13-5, Pumping Rates Simulated for Individual Alluvial Aquifer Wells under the 2008 Groundwater Operating Plan**. (Ibid., p. 3.13-38.)
>
> …
>
> The locations of the various municipal Alluvial wells throughout the Basin are illustrated on **Figure 3.13-4, Municipal Alluvial Well Locations; Santa Clara River Valley, East Groundwater Subbasin**. As indicated, the pumping capacity of the SCWD Stadium well (deactivated due to the perchlorate contamination), representing another 800 afy of pumping capacity, has been transferred to the Valley Center well." (Ibid., p. 3.13-42.)

The Revised Draft EIR also analyzed the sustainability or renewability of Alluvial groundwater, finding that:

> "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." (Ibid., p. 3.13-45.)

After addressing pumping capacity and long-term sustainability of the Alluvial aquifer, the Revised Draft EIR described protection of groundwater sources (wells) from known contamination, including perchlorate, and the plans in place to ensure aquifer protection:

> "The remaining key consideration related to current and future use of the Alluvium is the impact of perchlorate contamination. Extensive investigation of the extent of perchlorate contamination, combined with the groundwater modeling previously described, has led to the current plan by CLWA and the retail purveyors, which call for restoration of impacting pumping (well) capacity and integrated control of contamination migration. In the short term, the response plan for Alluvial production wells, located down gradient of the former Whittaker-Bermite site, was to promptly install wellhead treatment to ensure adequate water supplies. This plan was effectively implemented in 2005 by Valencia Water Company through the permitting and installation of wellhead treatment at Valencia Water Company's Well Q2. After returning the well to service with wellhead treatment in October 2005, followed by nearly two years of operation with wellhead treatment, during which there was no detection of perchlorate, Valencia Water Company was authorized by the California Department of Public Health to discontinue treatment. Since that time, Well Q2 has been operating without treatment and there has been no detection of perchlorate since the wellhead treatment was discontinued. As a result, Well Q2 remains a part of the Valley's active municipal groundwater source capability.
>
> The purveyors' response plan also addressed the impacted Alluvial production well owned by SCWD (Stadium Well), which was shut down due to the detection of perchlorate in 2002. In response, SCWD recently drilled a replacement well (Valley Center Well) to the east, north-northeast of the former Whittaker-Bermite site. The Valley Center Well also will be a part the Valley's active municipal groundwater source capability.
>
> As discussed below, the long-term plan includes the CLWA groundwater containment, treatment, and restoration project to prevent further downstream migration of perchlorate, the treatment of water extracted as part of that containment process, and the recovery of lost local groundwater production from the Saugus Formation. (Ibid., p. 3.13-45.)

Saugus Formation

For the Saugus Formation, the Revised Draft EIR determined that there was more than adequate pumping capacity from active wells (not contaminated by perchlorate) to meet the purveyors' groundwater operating plan in both normal and dry years:

> "In terms of adequacy and availability, the combined active Saugus groundwater source capacity of municipal wells of up to 19,125 afy, is more than sufficient to meet the planned use of Saugus groundwater in normal years of 7,500 to 15,000 afy. 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." (Ibid., p. 3.13-47.)

The Revised Draft EIR also analyzed the sustainability or renewability of Saugus groundwater, finding the following:

> "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." (Ibid., p. 3.13-48.)

After addressing pumping capacity and long-term sustainability of the Saugus Formation, the Revised Draft EIR described protection of groundwater sources (wells) from known contamination, including perchlorate, and the plans in place to ensure aquifer protection:

> "The operating plan for the Saugus Formation accounts for historical perchlorate detections and the resulting containment and remedial response activities that are being constructed at this time. As described in further detail below, in 1997, a total of four Saugus production wells were inactivated for water supply service due to the presence of perchlorate. The four Saugus wells removed from service were as follows: (1) two Saugus production wells owned by SCWD (Saugus wells 1 and 2); (2) one Saugus production well owned by NCWD (NCWD Well 11); and (3) one Saugus production well owned by Valencia Water Company (VWC Well 157).
>
> As part of the ongoing implementation of perchlorate containment and restoration of impacted capacity, VWC Well 157 was abandoned in January 2005 and replaced by new Well VWC 206 in a non-impacted portion of the basin. Thus, the Saugus capacity analysis includes planned pumping from replacement Well VWC 206.
>
> The longer range plan of CLWA and the purveyors has been to pursue a project to contain further downstream migration of perchlorate from the former Whittaker-Bermite site, treatment and subsequent use of the pumped water from the containment process for water supply, and installation of replacement wells in non-impacted portions of the basin to restore the remainder of groundwater supply impacted by perchlorate." (Ibid., pp. 3.13-48 through 3.13-50.)

Perchlorate Contamination - VWC Well V201

As indicated above, since the circulation of the Revised Draft EIR, perchlorate was detected (in August 2010) further down gradient of previously contaminated wells in Saugus Well (V201), which is owned and operated by the Valencia. Progress continues to be made to remediate perchlorate contamination at its believed source and in local groundwater supplies. Both the 2010 Water Report and 2010 UWMP (Revised Final EIR **Appendix F3.13**) present updated information regarding perchlorate contamination, treatment, and remediation activities in the Alluvial Aquifer and Saugus Formation. See 2010 Water Report Section 3.5 Water Quality – General, Perchlorate, and 2010 UWMP Section 5, Water Quality, pages 5-2 to 5-4 and pages 5-8 to 5-13. The following summary also includes information presented in the letter from the Valencia Water Company to the County of Los Angeles, dated June 8, 2011. Both reports and this letter can be found within this Revised Final EIR in **Appendix F3.13.**

Valencia's test in August 2010 at Well V201 indicated a level of perchlorate at 5 ppb. During the last several months (late 2010 and the first several months of 2011), readings have varied from 5.7 ppb to 12 ppb in the most recent test. Although the perchlorate levels were within safe drinking water standards,

Valencia immediately took the well out of service and notified the California Department of Public Health (Department). The Department requested that Valencia test the well on a quarterly basis. Valencia continued to monitor the inactive well on a monthly basis and the latest testing has confirmed that perchlorate is still present and that wellhead treatment is needed as outlined in the 2007 settlement agreement with Whittaker. In its letter dated June 8, 2011, Valencia informed the County of Los Angeles that Valencia notified the Whittaker-Bermite property owners that Valencia will seek remediation funds to clean-up a closed well, located east of 1-5, near City Hall in Santa Clarita, following routine water quality testing that detected low levels of perchlorate. The remediation funds are being sought under a 2007 settlement agreement among Castaic Lake Water Agency (CLWA), Newhall County Water District, Santa Clarita Water Division, Valencia, and Whittaker Corporation and others to address clean-up of impacted wells from the former munitions site. Under the settlement agreement, the closed well, Well V201, is eligible for "rapid response" funding.

CLWA and the Whittaker-Bermite property owners negotiated the settlement of litigation over perchlorate contamination of a portion of the groundwater basin in April 2007. As part of the settlement, certain wells were identified as potentially threatened by perchlorate, including Valencia Well V201. As a result, the settlement included "rapid response" funding in the event that one or more of those wells were impacted by perchlorate in the future. This funding, from Whittaker, will be used to install wellhead treatment that removes perchlorate from the water, so that it meets safe drinking water standards. In April 2005, Valencia successfully worked with the Department of Public Health in implementing wellhead treatment at Well Q2, utilizing the same treatment technology contemplated for Well V201. As a result, Well Q2 was returned to water supply service by October 2005. Since then, Valencia's Well Q2 has had no perchlorate detection, and has been regularly tested and monitored as specified by the Department of Public Health.

As indicated in Valencia's June 8, 2011 letter, the removal of Well V201 from service will not have any near-term or long-term impacts on the quality or cost of water to the end users. Those costs will be addressed under the 2007 settlement agreement and the "rapid response" funding provisions in that agreement. The closing of the well also will not impact the East Subbasin water suppliers' ability to adequately provide water to customers. CLWA and the water retailers in the East Subbasin continue to ensure that all drinking water quality standards are met and solutions are put in place to address the presence of perchlorate in small portions of the Valley's groundwater aquifers.

The perchlorate detected in Valencia's Well V201 was examined in detail in both the 2010 Urban Water Management Plan and the 2010 Santa Clarita Valley Water Report. Based on the analysis already conducted for the 2010 UWMP, temporarily taking Well V20l out of service while wellhead treatment is permitted and installed, will have no impact on the Valley's water supplies, which are sufficient to meet

the current and projected water demands in the East Subbasin, even after taking into account the impacted well. Perchlorate contamination will not limit the reliability of the Valley's water supply. As indicated the 2010 UWMP,

> "Perchlorate has been a water quality concern in the Valley since 1997 when it was originally detected in four wells operated by the purveyors in the eastern part of the Saugus Formation, near the former Whittaker-Bermite facility. Subsequent monitoring well installation has been completed; and a focused study of the Saugus Formation has ultimately been incorporated into the overall groundwater remediation and perchlorate containment. All remedial action has been reviewed by the DTSC.
>
> Overall, the plans developed for groundwater operation will allow CLWA and the retail purveyors to meet near term and long term demand within the CLWA service area. Any well impacted by perchlorate will be removed from service in the near term and the loss of capacity will be met by near-term excess capacity in non-impacted wells or through the installation of replacement well(s), if necessary, until remediation alternatives, including wellhead treatment, and DPH approval is obtained for restoration of the impacted supply. The current removal of VWC Well 201 from service does not limit the reliability of the water supply since there is sufficient excess capacity in Saugus wells to meet water supply projections during the period required for its restoration. Therefore, no anticipated change in reliability or supply due to water quality is anticipated based on the present data, as is shown in Table 5-2." (See 2010 UWMP pages 5-12 and 5-13)

CLWA/Purveyor Implementation Plan for Perchlorate-Impacted Alluvial and Saugus Wells

Importantly, the Revised Draft EIR assessed the perchlorate-impacted Alluvial and Saugus wells, based on the best available information provided by CLWA and other retail purveyors in the East Subbasin. This analysis focused on the status of the implementation plan developed by CLWA and the local retail purveyors to restore well capacity impacted by perchlorate. The CLWA/retail purveyor implementation plan includes a combination of treatment facilities and replacement wells, and is underway. The Revised Draft EIR provided extensive information concerning this implementation plan and its status. For example, the Revised Draft EIR disclosed that treatment facilities have been constructed and are in operation or are close to becoming operational:

> "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 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 2010. Notable accomplishments toward implementation include completion of the Final Interim Remedial Action Plan (RAP) and associated environmental review with the adoption of a Mitigated Negative Declaration in September 2005, and various implementation activities from 2007–2009. Completion of the CLWA containment plan is expected in summer or fall 2010.

In light of the preceding, as to the adequacy of groundwater as the local component of water supply for the Santa Clarita Valley, the impacted capacity of the three wells will remain unavailable into 2010, during which time the non-impacted groundwater supply will be sufficient to meet near-term water requirements as described above. With the restoration of the wells, 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." (Ibid., pp. 3.13-139 through 3.13-141.)

As indicated in the 2010 UWMP, "the design of the CLWA treatment facilities and related pipelines was completed in 2007. Construction of the treatment facility and pipelines began in November 2007 and treatment of water began in 2010. Since January 2011 when DPH issued a permit for CLWA to serve this water, CLWA has included this water as part of its supply and has been delivering this water to purveyors." (see 2010 UWMP page 5-3)

In addition, the Revised Draft EIR disclosed that substantial funding for perchlorate remediation/treatment is currently in place:

> "In May 2007, the Water Purveyors announced a settlement of their lawsuit against Whittaker to contain and remove perchlorate from the Santa Clarita Valley's groundwater aquifers. The Water Purveyors estimate this settlement provides up to $100 million to address the problem. The underlying litigation was dismissed by the US District Court in August 2007. See Revised Draft EIR **Appendix 3.13** which contains the following documents: (1) *Castaic Lake Water Agency Litigation Settlement Agreement*, (2) *Order Granting Joint Motion for Court Approval, Good Faith Settlement Determination and Entry of Consent Order* July 16, 2007, and (3) *Stipulation to Dismiss Plaintiffs' Claims and Defendants' Counterclaim*, August 20, 2007.
>
> The Settlement Agreement provides funding to construct replacement wells, pipelines, and a treatment plant to remove perchlorate. The Settlement Agreement also provides funds to operate and maintain the treatment system for up to 30 years, which is estimated to cost as much as $50 million over the life of the project. The treatment plant has been designed by CLWA and the Settlement Agreement provides $1.7 million to reimburse CLWA for past expenditures. In addition, a $10 million "rapid response fund" will be established to allow the water purveyors to immediately treat threatened wells that could become impacted by perchlorate contamination in the future. VWC received a total of $3.5 million under the Settlement Agreement, which included $2.5 million for past environmental claims and $1.0 million to close and abandon V-157 and drill replacement well V-206.
>
> Following the settlement of the litigation, VWC and the other water purveyors entered into two separate agreements, each formally prepared as a Memorandum of Understanding (MOU). These MOUs were necessary to implement the various obligations under the Settlement Agreement. The first MOU sets forth the rights among the water purveyors to receive payments pursuant to the Settlement Agreement and clarifies project administration that includes such things as project modification, future perchlorate detections, monitoring, payment of ongoing legal fees, dispute resolution and other provisions described in the Settlement Agreement. The second MOU sets forth the operational plan and financial arrangements to deliver certain quantities of groundwater from the perchlorate treatment system and a future replacement well field that, in total, would restore the water supply capacity impacted by perchlorate to SCWD and NCWD. Both MOUs are incorporated into this Revised Draft EIR by reference and are available for review at the Valencia Water Company." (Ibid., p. 3.13-52.)

Regarding funding, the 2010 UWMP states, "VWC and CLWA are pursuing the funding for evaluating remediation alternatives, including wellhead treatment of contaminated water from VWC Well 201 through the final settlement agreement." (see 2010 UWMP page 5-3)

Further, the Revised Draft EIR analyzed the groundwater quality of both the Alluvial aquifer and the Saugus Formation, including perchlorate contamination and that analysis did not identify any significant

impacts associated with the perchlorate-impacted wells in the Santa Clarita Valley (East Subbasin). (Ibid., pp. 3.13-54 through 4.3-66.) It also identified the perchlorate treatment technology, which is effective in treating perchlorate in water in order to meet drinking water standards. (Ibid., pp. 3.13-62 through 3.13-64.) Based on the results of CLWA's investigation of perchlorate removal technologies, approval of ion exchange treatment technology in other settings by the California Department of Health Services (DHS), and the successful wellhead treatment installed at Valencia Water Company's Well Q2, the Revised Draft EIR further disclosed that CLWA is currently utilizing the ion exchange technology for the restoration of impacted capacity (wells) in accordance with the permitting, testing, and installation process as described in the 2005 UWMP and other published reports issued by CLWA. (Ibid., pp. 3.13-63 through 3.13-64.)

In the discussion of impacts of the proposed Plan, the Revised Draft EIR also identified significance criteria specific to the proposed Plan and its alternatives as it relates to the presence of perchlorate in groundwater supplies. The significance criteria used in the Revised Draft EIR stated that, given the presence of perchlorate created by other land uses in the East Subbasin (former Whittaker-Bermite site), impacts to water resources would be significant if implementation of the proposed Plan would:

- result in the spreading of perchlorate in groundwater beyond the wells currently affected by perchlorate. " (Ibid., p. 3.13-112.)

The Revised Draft EIR then analyzed the Plan impacts on water supplies based on the above significance criteria. (Ibid., pp. 3.13-138 through 3.13-145.) The Revised Draft EIR determined, based on modeling analysis, that:

> "The groundwater 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**), and is summarized in the 2009 Basin Yield Update (**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 DPH.
>
> Based on the information presented, and the progress made to date identifying, containing and treating perchlorate impacted water, implementation of the 2008 Operating Plan and buildout of the OVOV Plan would not result in the spread of perchlorate in the Basin beyond the currently impacted wells. Therefore, no significant perchlorate-related impacts (including cumulative impacts) would occur with respect to this significance threshold." (Ibid., p. 3.13-142.)

Perchlorate Remediation and Treatment in The Santa Clarita Valley (East Subbasin)

Additionally, progress has been made in terms of perchlorate remediation/treatment in the Santa Clarita Valley, all of which has been conducted in cooperation with CLWA, local retail water purveyors, City of Santa Clarita, the U.S. Army Corps of Engineers (Corps), California Department of Public Health (DPH), DTSC, Los Angeles County Department of Public Works (DPW), community groups, Whittaker Corporation, and numerous consultants, contractors, supplies and others.

For example, in September 2009, CLWA, in partnership with other local retail purveyors and the City of Santa Clarita, completed construction of CLWA's Rio Vista Intake Pump Station, which is CLWA's new perchlorate treatment facility. The facility is designed to restore groundwater production capacity impacted by perchlorate contamination and stop migration of perchlorate from the former Whittaker-Bermite site. The new plant is in operation. As indicated in the 2010 Water Report (page ES-5), work toward the ultimate remediation of perchlorate contamination, including the restoration of impacted groundwater supply, continued to progress in 2010, with focus on construction of facilities to implement a jointly developed plan to "pump and treat" contaminated water from two of the originally impacted wells to stop migration of the contaminant plume, and to deliver treated water for municipal supply to partially replace impacted well capacity. Environmental review of the project was completed with adoption of a Mitigated Negative Declaration in September 2005. The Final Interim Remedial Action Plan was completed and approved by DTSC in January 2006. Construction of facilities and pipelines necessary to implement the pump and treat program and to also restore inactivated well capacity began in November 2007. In May 2010, the $13 million treatment facility near Bouquet Canyon Road and the Santa Clara River came on line to treat perchlorate in groundwater emanating from the Whittaker-Bermite property site. This treatment facility is part of a larger regulatory program that includes the restoration of two perchlorate-impacted wells to extract contaminated groundwater and control the migration of perchlorate in the Saugus Formation aquifer. The cost of that "pump and treat" system also is covered under the 2007 settlement agreement, which protects the public from paying for the remediation costs.

DPH issued an amendment to CLWA's Operating Permit in December, 2010, and two of the originally impacted Saugus wells (Saugus 1 and 2) were placed back in service in January, 2011. Through this reactivation, Castaic Lake Water Agency's Saugus Perchlorate Treatment Facility (SPTF) is now online and numerous monitoring tests are performed each week in order to ensure the safety of the water leaving the plant. The Purveyors continue to have sufficient pumping capacity to meet the planned normal range of Saugus pumping as described in the 2010 UWMP. (2010 Water Report page ES-5)

In addition and as indicated in the 2010 Water Report (page ES-4), on-site cleanup and control activities that began in 2006, and continued through 2010, include continuation of soil cleanup on the Whittaker-Bermite site, and continuation of pumping and treatment in the Northern Alluvium on the Whittaker-Bermite site. Expanded pumping and treatment, intended to effect perchlorate containment in the Northern Alluvium, became operational in October 2007. Under the direction of the State Department of Toxic Substances Control (DTSC), Whittaker has submitted a comprehensive site-wide remediation plan for the contaminants of concern in soil and groundwater detected on the site. A Draft Remedial Action Plan for Operable Units 2 through 6, focused on soil remediation, was submitted to DTSC in 2009. In January, 2011, Whittaker also completed a Draft Feasibility Study for Operable Unit 7 to identify and select treatment technologies for both on-site and off-site groundwater. DTSC approved the Remedial Action Plan for contaminated soils in Operable Units 2 through 6 on December 6, 2010 and Preparation of the Remedial Design documents is underway. Field implementation of the soil remediation is expected to begin in fall 2011. (Also, see Revised Draft EIR, Appendix 3.13 [Progress Letter Report from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, dated September 15, 2009].)

Comments also state that perchlorate contamination and the lack of "clean up" facilities has precluded the water purveyors from providing the amount of groundwater required to meet the needs of existing and future East Subbasin residents. As indicated above, however, the Revised Draft EIR, the 2010 UWMP and the 2010 Water Report have reported that an adequate supply of existing and planned water exists to meet the needs of Santa Clarita Valley (East Subbasin) residents now and in the future, despite the loss in capacity due to the three remaining perchlorate-impacted wells. This is achieved through an available and varied water supply portfolio. As indicated above, two of the originally impacted Saugus wells (Saugus 1 and 2) were placed back in service in January 2011, restoring approximately 3,544 af of water supply in a normal year (2010 UWMP Table 3-9). The contaminated Stadium Well and Valencia Water Company Well 157 have been replaced and the pumping capacity lost due to that contamination has been restored with two new replacement wells in non-impacted portions of the basin. Based on this information, conclusions in the Revised Draft EIR, 2010 UWMP and 2010 Water Report indicating that groundwater from existing and replacement wells will be available to assist in meeting the current and projected water demands in the Santa Clarita Valley (East Subbasin) is reasonable.

Past comments have generally referenced the litigation brought in 2000 by CLWA and other local retail purveyors against prior and current owners of the former Whittaker-Bermite facility in order to recover clean-up costs for perchlorate-impacted wells in the basin. The Revised Draft EIR provides the following summary of the litigation as well as the Settlement Agreement reached in that action:

> In November, 2000 Castaic Lake Water Agency (CLWA), NCWD, SCWD, and VWC (collectively, "Plaintiffs") filed a complaint against past owner Whittaker and current owners Whittaker, Santa Clarita, LLC., (SCLLC) and Remediation Financial, Inc., (RFI) (SCLLC and RFI are collectively referred to as "Defendants") in the California Central District Court asserting that hazardous substances (including perchlorate) released from the Whittaker Bermite site contaminated some of Plaintiffs' water production wells. In July 2002, Plaintiffs moved the Court for partial summary judgment that Defendants were liable for response costs under the Comprehensive Environmental Response, Compensation, and Recovery Act (CERCLA). At the same time, Whittaker moved the Court to establish Plaintiffs' liability under CERCLA. In July 2003, the Court granted (in part) Plaintiffs' motion and found that Whittaker and SCLLC were liable for CERCLA response costs and denied Whittaker's motion. Castaic Lake Water Agency v. Whittaker Corporation, 272 F.Supp.2d 1053 (2003).
>
> In September 2003, the parties entered into an interim settlement agreement that stayed litigation to allow the parties to, *inter alia*, develop an engineering solution to contain and abate the groundwater contamination and negotiate a final settlement agreement. As a condition for staying litigation activities, Defendants were required to reimburse CLWA for past monitoring and investigation costs and fund the development of the engineering solution. While the parties developed a groundwater abatement/containment plan, they were unable to reach a final settlement agreement. The interim settlement agreement expired on January 31, 2005.
>
> In July 2004, Defendants SCLLC and RFI, the current owners of the Whittaker property filed a petition for chapter 11 bankruptcy protection and were subject to the automatic stay of litigation. The SCLLC and RFI bankruptcy filing complicated settlement negotiations because any proposed settlement offer that involved SCLLC and RFI insurance proceeds—a substantial and important source of settlement funds - required bankruptcy court approval.
>
> The stay of litigation lapsed on January 31, 2005, without a final settlement and on March 23, 2005, the Court ordered the parties to mediate the matter before the Honorable Eugene Lynch (ret.). On April 19, 2005, Plaintiffs and Defendants reached an agreement in principle on damages that was subject to Defendants reaching a settlement funding agreement with their insurance carriers. During the April 2005 mediation, VWC informed Defendants of the perchlorate contamination found in VWC's groundwater well Q2. Whittaker agreed to provide $500,000 for the installation of a well head treatment unit. All capital as well as operating and maintenance costs for this treatment unit were funded by insurance companies representing the current and past owners of the property. Utilizing these funds, VWC installed a perchlorate removal system utilizing ion exchange technology. After only six months from the initial detection of perchlorate in the well, Q2 was returned to active service on October 12, 2005. Subsequently in

October 2007, the California Department of Public Health approved a request by VWC to remove the treatment system as a result of two years of continuous operation without a detection of perchlorate in the untreated groundwater produced by Q2. Currently, Q2 remains in operation without any requirement for well head treatment.

In July 2005, the parties reported that settlement negotiations between Plaintiffs and Defendants had not progressed because Defendants and their insurance carriers had not reached an agreement on funding the settlement. The Court ordered the parties to resume litigation activities on August 16, 2005. In November 2005, Defendants and their insurance carriers reached an agreement on the allocation of environmental insurance proceeds for the site and funding of a potential settlement with the Plaintiffs and submitted the proposed settlement agreement to the bankruptcy court for approval. The Bankruptcy court approved the settlement agreement involving the insurance proceeds and in January 2006, Defendants provided Plaintiffs with a draft plan to utilize the insurance proceeds to settle Plaintiffs' groundwater contamination claims.

In May 2007, the Water Purveyors announced a settlement of their lawsuit against Whittaker to contain and remove perchlorate from the Santa Clarita Valley's groundwater aquifers. The Water Purveyors estimate this settlement provides up to $100 million to address the problem. The underlying litigation was dismissed by the US District Court in August 2007. See Revised Draft EIR **Appendix 3.13** which contains the following documents: (1) *Castaic Lake Water Agency Litigation Settlement Agreement*, (2) *Order Granting Joint Motion for Court Approval, Good Faith Settlement Determination and Entry of Consent Order* July 16, 2007, and (3) *Stipulation to Dismiss Plaintiffs' Claims and Defendants' Counterclaim*, August 20, 2007.

The Settlement Agreement provides funding to construct replacement wells, pipelines, and a treatment plant to remove perchlorate. The Settlement Agreement also provides funds to operate and maintain the treatment system for up to 30 years, which is estimated to cost as much as $50 million over the life of the project. The treatment plant has been designed by CLWA and the Settlement Agreement provides $1.7 million to reimburse CLWA for past expenditures. In addition, a $10 million "rapid response fund" will be established to allow the water purveyors to immediately treat threatened wells that could become impacted by perchlorate contamination in the future. VWC received a total of $3.5 million under the Settlement Agreement, which included $2.5 million for past environmental claims and $1.0 million to close and abandon V-157 and drill replacement well V-206.

Following the settlement of the litigation, VWC and the other water purveyors entered into two separate agreements, each formally prepared as a Memorandum of Understanding (MOU). These MOUs were necessary to implement the various obligations under the Settlement Agreement. The first MOU sets forth the rights among the water purveyors to receive payments pursuant to the Settlement Agreement and clarifies project administration that includes such things as project modification, future perchlorate detections, monitoring, payment of ongoing legal fees, dispute resolution and other provisions described in the Settlement Agreement. The second MOU sets forth the operational plan and financial arrangements to deliver certain quantities of groundwater from the perchlorate treatment system and a future replacement well field

> that, in total, would restore the water supply capacity impacted by perchlorate to SCWD and NCWD. Both MOUs are incorporated into this Revised Draft EIR by reference and are available for review at the Valencia Water Company." (Ibid., pp. 3.13-50 through 3.13-52.)

In summary, work continues on multiple levels to address groundwater contaminated by perchlorate stemming from past manufacturing activities on the former Whittaker-Bermite site. CLWA and the local retail purveyors are proceeding to restore the production capacity of the few remaining groundwater supply wells contaminated by perchlorate, while working on the objectives of containing the downgradient migration of perchlorate. For technical information regarding these up-to-date activities, please refer to the following documents in Appendix 3.13 of the Revised Draft EIR: (a) letter from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, dated June 8, 2009; (b) CLWA News Release, dated September 14, 2009; (c) Progress Letter Report from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, dated September 15, 2009; and (d) CLWA Memorandum from Brian J. Folsom to CLWA Board of Directors, dated October 1, 2009. Also, see Revised Final EIR **Appendix F3.13**, which includes the 2010 UWMP and 2010 Water Report.

Based on the information presented in the Revised Draft EIR, and the updated information provided in this response, it is appropriate to conclude that substantial progress continues to be made in responding to perchlorate contamination resulting from the former Whittaker-Bermite site and that the facilities needed for perchlorate remediation/treatment are in place and actively monitored by CLWA, local retail purveyors, and several regulatory agencies including DTSC.

Topical Response 2 2010 Urban Water Management Plan

This topical response updates information found in the Revised Draft EIR, Section 3.13, Water Service. The source of the updated information is the 2010 Urban Water Management Plan (UWMP), which was adopted by the Castaic Lake Water Agency (CLWA) and the retail water purveyors in June 2011. Information presented in the 2010 UWMP supports the conclusion in the Revised Draft EIR that an adequate and sustainable supply of local and imported water is available to meet all future water supply needs of the Santa Clarita Valley, including buildout of the proposed Area Plan within the CLWA service area and East Subbasin, without creating significant environmental impacts. Impacts outside the East Subbasin would remain significant. The 2010 UWMP is found in the Revised Final EIR, **Appendix F3.13**.

Introduction

The California Urban Water Management Planning Act (UWMP Act) requires that urban water suppliers assess water supply reliability that compares total projected water use with the expected water supply over the next 20 years in five-year increments. The UWMP Act also requires an assessment for a single dry year and multiple dry years. It is the stated goal of CLWA and the retail water purveyors to deliver a reliable and high quality water supply for their customers, even during dry periods. Water suppliers are permitted to work together to develop a regional plan for the CLWA service area. This approach has been adopted by CLWA and the retail water suppliers in the Santa Clarita Valley (Valley), which jointly sponsored the 2010 UWMP.

In this topical response, emphasis is made to the 2010 UWMP's description of water reliability planning (2010 UWMP, Section 6), including an update to water supplies and water demand for the Santa Clarita Valley. In addition to reliability planning, the 2010 UWMP includes specific sections addressing the following topical areas:

- **Section 2:** Water Use (including historical and projected water use)
- **Section 3:** Water Resources (including local and imported water supplies)
- **Section 4:** Recycled Water
- **Section 5:** Water Quality (including information regarding perchlorate and chlorides)
- **Section 7:** Water Demand Management Measures (including water conservation objectives), and
- **Section 8:** Water Shortage Contingency Planning (in response to potential water shortages and water supply disruptions)

These sections of the 2010 UWMP are summarized below. For detailed information regarding these topics, please see the full text of the 2010 UWMP, found in the Revised Final EIR, **Appendix F3.13**.

In summarizing the water reliability planning portion of the 2010 UWMP, certain tables presented in the 2010 UWMP have been reproduced in this topical response. The tables presented here have not been renumbered to maintain consistency with the adopted 2010 UWMP.

Water Supplies, Water Demand, and Reliability Planning (2010 UWMP, Section 6)

Reliability of Water Supplies

Each water supply source has its own reliability characteristics. In any given year, the variability in weather patterns around the state may affect the availability of supplies to the Valley differently. For example, from 2000 through 2002, Southern California experienced dry conditions in all three years. During the same period, Northern California experienced one dry year and two normal years. The Valley is typical in terms of water management in Southern California; local groundwater supplies are used to a greater extent when imported supplies are less available due to dry conditions in the north, and larger amounts of imported water supplies are used during periods when Northern California has wetter conditions. This pattern of "conjunctive use" has been in effect since State Water Project (SWP) supplies first came to the Valley in 1980. SWP and other imported water supplies have supplemented the overall supply of the Valley, which previously depended solely on local groundwater supplies. While each of the Valley's available supply sources has some variability, the variability in SWP supplies has the largest effect on overall supply reliability.

As discussed in the 2010 UWMP, Section 3.2, each SWP contractor's Water Supply Contract contains a Table A Amount that identifies the maximum amount of Table A water that contractor may request each year. However, the amount of SWP water actually allocated to contractors each year is dependent on a number of factors than can vary significantly from year-to-year. The primary factors affecting SWP supply availability include the availability of water at the source of supply in Northern California, the ability to transport that water from the source to the primary SWP diversion point in the southern Delta, and the magnitude of total contractor demand for that water. In many years, the availability of SWP supplies to CLWA and the other SWP contractors is less than their maximum Table A Amounts, and can be significantly less in very dry years.

The Department of Water Resources (DWR) has completed the 2009 State Water Project Delivery Reliability Report, prepared biennially (2009 Reliability Report). The 2009 Reliability Report assists SWP contractors and local planners in assessing the reliability of the SWP component of their overall supplies. In its Reliability Reports, DWR presents the results of its analysis of the reliability of SWP supplies, based on model studies of SWP operations. In general, DWR model studies show the anticipated amount of SWP supply that would be available for a given SWP water demand, given an assumed set of physical facilities and operating constraints, based on 82 years of historic hydrology. The results are interpreted as

the capability of the SWP to meet the assumed SWP demand, over a range of hydrologic conditions, for that assumed set of physical facilities and operating constraints.

DWR's 2009 Reliability Report presents the results of model studies for years 2009 and 2029. In these model studies, DWR assumed existing SWP facilities and operating constraints for both 2009 and 2029. The primary differences between the two studies are an increase in projected SWP contractor demands, an increase in projected upstream demands (which affects SWP supplies by reducing the amount of inflows available for the SWP), and the inclusion in the 2029 study of potential impacts on historic hydrology of the effects of climate change and accompanying sea level rise. In the report, DWR presents the SWP delivery capability resulting from these studies as a percentage of maximum contractor Table A Amounts. To estimate supply capability in intermediate years between 2009 and 2029, DWR interpolates between the results of those studies.

Table 3-2 below shows CLWA's contractor-specific SWP supplies projected to be available in average/normal years (based on the average delivery over the study's historic hydrologic period from 1922 through 2003). Table 3-2 also summarizes estimated SWP supply availability in a single dry year (based on a repeat of the worst-case historic hydrologic conditions of 1977) and over a multiple dry year period (based on a repeat of the historic four-year drought of 1931 through 1934).

Table 3-2
SWP Table A Supply Reliability (af)(a)(b)

Wholesaler (Supply Source)	2010	2015	2020	2025	2030-2050
Average Water Year(c)					
DWR (SWP)					
Table A Supply	58,300	58,100	57,900	57,600	57,400
% of Table A Amount(d)	61%	61%	61%	61%	60%
Single Dry Year(e)					
DWR (SWP)					
Table A Supply	12,800	11,900	11,000	10,000	9,100
% of Table A Amount	13%	12%	12%	11%	10%
Multi-Dry Year(f)					
DWR (SWP)					
Table A Supply	32,800	32,900	32,900	33,000	33,000
% of Table A Amount	34%	35%	35%	35%	35%

Notes:
Supplies to CLWA provided by DWR from detailed delivery results from the analyses presented in DWR's "2009 SWP Delivery Reliability Report." As indicated in the 2009 Reliability Report, the supplies are based on existing SWP facilities and current regulatory and operational constraints.
Table A supplies include supplies allocated in one year that are carried over for delivery the following year.
Based on average deliveries over the study's historic hydrologic period of 1922 through 2003.
Supply as a percentage of CLWA's Table A Amount of 95,200 af.
Based on the worst case historic single dry year of 1977.
Supplies shown are annual averages over four consecutive dry years, based on the historic four-year dry period of 1931–1934.

Normal, Single-Dry, and Multiple-Dry Year Planning

The water suppliers have various water supplies available to meet demands during normal, single-dry, and multiple-dry years. The following sections elaborate on the different supplies available to the water suppliers including groundwater, recycled water, and imported supplies.

Groundwater: In accordance with the groundwater operating plan for the Santa Clara River Valley Groundwater Basin, East Subbasin (basin), groundwater supplies from the Alluvial Aquifer are planned to be in the range 30,000 to 40,000 acre-feet per year (afy) in average years and 30,000 to 35,000 afy in dry years; supplies from the Saugus Formation are projected to be 7,500 to 15,000 afy in average years and 15,000 to 35,000 afy in dry years. The 2009 Basin Yield Update concluded pumping in those ranges to be sustainable. While there is sufficient Alluvial pumping capacity to achieve the Alluvial groundwater supply (2010 UWMP, Table 3-8), it is planned that the Valencia Water Company (Valencia) will develop some future capacity as it constructs municipal supply wells to replace existing agricultural wells when planned development converts existing agricultural land use to municipal land use. Existing Saugus pumping capacity is sufficient to achieve about 27,000 afy (2010 UWMP Table 3-9), or about 77 percent of

the upper end of the Saugus operating plan. Hence, it is planned that restored capacity (Valencia Well 201) and future Saugus pumping capacity (new wells) will be added to achieve the full range of the Saugus operating plan.

The existing and planned groundwater supplies used in the 2010 UWMP are generally the pumping rates, within the operating plan ranges, that were analyzed in the Basin Yield update. As such, they tend toward the upper ends of the respective ranges except for normal year Saugus pumping, which is closer to mid-range of the Saugus operating plan. For the multiple-dry year period, it was assumed that pumping from the Saugus Formation would be governed by the groundwater operating plan summarized in 2010 UWMP Table 3-5, with average pumping over the 4-year dry period of about 21,500 afy. Total projected Alluvial and Saugus pumping, including pumping by the purveyors and by agricultural and other users, is shown by year type in Tables 3-7 to 3-12 in the 2010 UWMP, Section 3. As shown there, total pumping in each year type remains within the pumping ranges in the groundwater operating plan.

Recycled Water: Recycled water is available from the Saugus Water Reclamation Plant (WRP) and the Valencia WRP. Recycled water is also anticipated to be produced by the Newhall WRP for the Newhall Ranch Specific Plan, as described in the 2010 UWMP, Section 4.

CLWA has completed construction of Phase I of its Recycled Plan, a multi-phased program to deliver recycled water in the Valley. Phase 1 can deliver 1,700 afy of water through the Valencia system. Deliveries of recycled water began in 2003 for irrigation water supply at a golf course and in roadway median strips. In 2010, recycled water deliveries were approximately 325 af.

CLWA completed a preliminary design report in 2009 on the second phase of the Recycled Plan (Phase 2A), which will take water from the Saugus WRP and distribute it to identified users to the north, across the Santa Clara River and then to the west and east. Large irrigation customers will be served with this expansion with a collective design that will increase recycled water deliveries by 500 afy. Recycled water will be further expanded within the region with the South End Recycled Water project (Phase 2C), which will expand the existing recycled water transmission and distribution system southerly to supply recycled water to additional Valencia customers, as well as some customers served by Newhall County Water District (NCWD) and the Santa Clarita Water Division (SCWD). The project includes the planning, designing and constructing Phase 2C of the region's Recycled Plan, with recycled water improvements including various recycled water pipelines and pumping stations resulting in the use of an estimated 910 afy of recycled water.

Overall, the recycled water program is expected to ultimately deliver up to 22,800 afy of treated (tertiary) wastewater suitable for reuse on golf courses, landscaping, and other non-potable uses. Of this total, 21,300 afy is projected use by purveyor customers. This supply is assumed to be available in an average year, a single-dry year, and in each year of a multiple-dry year period.

State Water Project Table A Supply: For the 2010 UWMP, the availability of SWP supplies to CLWA was based on DWR's 2009 Reliability Report, taken from more detailed results provided by DWR from the model studies presented in the 2009 Reliability Report. For the three hydrologic conditions evaluated here, the SWP deliveries to CLWA were taken from DWR's analyses based on the following: average/normal year based on the average deliveries over the studies' 82-year historical hydrologic study period (1922 through 2003), single-dry year based on a repeat of the worst-case historical hydrologic conditions of 1977, and multiple-dry year period based on a repeat of the historical four-year drought of 1931 through 1934.

As discussed in more detail in the 2010 UWMP, Section 3 (see Section 3.2.1.2.3), a planning effort to increase long-term supply reliability for both the SWP and Central Valley Project (CVP) is taking place through the Bay Delta Conservation Plan (BDCP). While the proposed conveyance facilities that are part of the BDCP would increase SWP supply reliability, that increase is not included in the 2010 UWMP. Any of the proposed facilities that are completed would increase SWP reliability beyond the values used throughout the 2010 UWMP.

Flexible Storage Account: Under the Water Supply Contracts with DWR for SWP water, the SWP contractors that share in the repayment of Castaic Lake may access a portion of the storage in that reservoir. This accessible storage is referred to as "flexible storage." The SWP contractors may withdraw water from flexible storage, in addition to their allocated Table A supplies, on an as-needed basis. A contractor must replace any water it withdraws from this storage within five years. As one of the three contractors sharing in the repayment of Castaic Lake, CLWA has access to this flexible storage. Its share of the total flexible storage is currently 4,684 af. After negotiations with Ventura County water agencies in 2005, CLWA gained access to their 1,376 af of flexible storage for 10 years through 2015. While it is expected that CLWA and Ventura County will extend the existing flexible storage agreement beyond the 2015 term, in the 2010 UWMP, it is not assumed to be available beyond 2015.

CLWA plans to use this supply only in dry years. For the single-dry year condition, it was assumed the entire amount would be used. For the multiple-dry year condition, it was assumed that the entire amount would be used sometime during the four-year period, so the average annual supply during that period would be one fourth of the total. Any water withdrawn was assumed to be replaced in intervening average and wet years and would be available again for use in the next dry year.

Buena Vista-Rosedale: Buena Vista Water Storage District (BVWSD) and Rosedale-Rio Bravo Water Storage. District (RRBWSD), both member districts of Kern County Water Agency (KCWA), have jointly developed a program that provides both a firm water supply of 11,000 afy and a water banking component. This supply program provides a firm annual water supply available every year based on existing and longstanding Kern River water rights, which is delivered by exchange of Buena Vista's and Rosedale's SWP Table A supplies.

Nickel Water - Newhall Land: This supply is similar to Buena Vista-Rosedale supply both in regard to its source (Kern River water rights) and level of reliability. The supply from this program is up to 1,607 afy of firm supply, which is available in every year. It was acquired by the developer of the Newhall Ranch Specific Plan project to supplement groundwater and recycled water sources of supply for the Newhall Ranch Specific Plan, which is in the CLWA service area. In the 2010 UWMP, it is anticipated that this water supply will be available to Valencia.

Semitropic Banking Program: In 2002, CLWA stored 24,000 af of its allocated SWP Table A supply through a groundwater banking agreement with Semitropic. In 2004, CLWA stored 32,522 af of its 2003 allocated SWP Table A supply in a second Semitropic storage account. Under the terms of those agreements, and after consideration for losses within the groundwater basin, CLWA could withdraw up to 50,870 af when needed within 10 years of when the water was stored. Of this storage, CLWA withdrew 4,950 af in 2009 and 2010, leaving 45,920 af currently available for withdrawal. CLWA executed an amendment for a 10-year extension of each banking agreement with Semitropic in April 2010.

In addition to this short-term storage for CLWA, Semitropic has a long-term groundwater banking program with several other partners. The facilities that Semitropic may use in the return of CLWA's banked water supply are the same facilities that Semitropic may use to return banked water to its long-term banking program partners. As a result, there may be competition for use of those facilities in a particularly dry year, which could limit CLWA's ability to access the water in that year.

CLWA plans to use this supply only in dry years. For the single dry year, it was assumed that competition among Semitropic's banking partners for use of return facilities would limit CLWA's supply to about one third of the storage available, or about 15,000 af. For the multiple-dry year period, it was assumed that the entire amount would be accessible and used sometime during the four-year period, so the average annual supply during that period would be one fourth of the total available, or about 11,500 af. Under the agreements for this program, including the agreement for the 10-year time extension, the stored water must be withdrawn within 20 years of when it was stored. Therefore, it was assumed that this supply is available only through 2023.

Semitropic Banking Program - Newhall Land: As was the case for the Nickel water, the banking program was entered into by the developer of the Newhall Ranch Specific Plan project to firm up the reliability of the water supply for the project, which is in the CLWA service area. The storage capacity of this program is 55,000 af. Newhall Land currently has 23,167 af stored in the Semitropic program. It is anticipated that this supply will be available to Valencia.

Valencia plans to use this supply only in dry years. For the single-dry year, supplies were assumed at the program's maximum withdrawal capacity of 4,950 afy. For the multiple-dry year period, supplies in each year of the dry period were assumed at the program's maximum withdrawal capacity of 4,950 afy and that additional supplies would be banked during wetter years to allow withdrawal of this amount.

Rosedale-Rio Bravo Banking Program: RRBWSD also has developed a water banking and exchange program. CLWA has entered into a long-term agreement with RRBWSD, which provides it with storage and withdrawal capacity of 20,000 afy and up to 100,000 af of storage capacity. Withdrawals from the program can be made by exchange of Rosedale's SWP Table A supply, or by pumpback into the California Aqueduct. CLWA began storing water in this program in 2005 and has since reached the program's maximum storage capacity, with 100,000 af currently available for withdrawal.

CLWA plans to use this supply only in dry years. For the single-dry year, supplies were assumed at the program's maximum withdrawal capacity of 20,000 af. For the multiple-dry year period, it was assumed that supplies would average at least 15,000 afy over the dry period and that additional supplies would be banked during wetter years to allow withdrawal of at least this amount.

Additional Planned Banking: CLWA's 2009 update of its reliability plan identifies a need for additional banking programs to firm up the dry-year reliability of service area supplies, and includes an implementation schedule to increase both storage and pumpback capacity beginning in 2010 and incrementally increasing through 2050. While a specific banking program has not yet been identified, CLWA's plans call for development of additional groundwater banking programs with pumpback capacity of at least an additional 10,000 af by 2025, and a second additional 10,000 af by 2035. For the single-dry year, supplies were assumed at the programs' pumpback capacity. For the multiple-dry year period, it was assumed that supplies would average at least 75 percent of the pumpback capacity over the dry period.

Supply and Demand Comparisons

The available supplies and water demands for CLWA's service area were analyzed to assess the region's ability to satisfy demands during three scenarios: a normal water year, single-dry year, and multiple-dry years. The tables in this section present the supplies and demands for the various drought scenarios for

the projected planning period of 2015–2050 in five-year increments. The available supplies and water demands broken down by purveyor during the same three scenarios also were analyzed over the project planning period, and these tables are provided in the 2010 UWMP, Appendix C. **Table 6-1** reproduced below presents the base years for the development of water year data. Tables 6-2, 6-3 and 6-4, also reproduced below, summarize, respectively, Normal Water Year, Single-Dry Water Year, and Multiple-Dry Year supplies.

The reader is referred to Section 2 for development of retail purveyor demands and current and projected water supplies are developed in Sections 3 and 4.

Table 6-1
Basis of Water Year Data

Water Year Type	Base Years	Historical Sequence
Normal Water Year	Average	1922–2003
Single-Dry Water Year	1977	–
Multiple-Dry Water Years	1931–1934	–

Normal Water Year: Table 6-2, below, summarizes the water suppliers' supplies available to meet demands over the 40-year planning period during an average/normal year. As presented in the table, the water suppliers' water supply is broken down into existing and planned water supply sources, including wholesale (imported) water, local supplies and banking programs. Demands are shown with and without the urban demand reduction resulting from SBX7-7 conservation objectives.

See the 2010 UWMP, Appendix C, for the breakdown by purveyor of supplies available to meet demands over the 40-year planning period during an average/normal year.

Table 6-2
Projected Average/Normal Year Supplies and Demands

	2015	2020	2025	2030	2035	2040	2045	2050
Existing Supplies								
Existing Groundwater[a]								
Alluvial Aquifer	24,000	24,000	24,000	25,000	25,000	25,000	25,000	25,000
Saugus Formation[b]	9,225	10,225	10,225	10,225	10,225	10,225	10,225	10,225
Total Groundwater	**33,225**	**34,225**	**34,225**	**35,225**	**35,225**	**35,225**	**35,225**	**35,225**
Recycled Water[c]	325	325	325	325	325	325	325	325
Imported Water								
State Water Project(d)	58,100	57,900	57,600	57,400	57,400	57,400	57,400	57,400
Flexible Storage Accounts	-	-	-	-	-	-	-	-
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607
Total Imported	**70,707**	**70,507**	**70,207**	**70,007**	**70,007**	**70,007**	**70,007**	**70,007**
Banking Programs[e]								
Rosedale Rio-Bravo	-	-	-	-	-	-	-	-
Semitropic	-	-	-	-	-	-	-	-
Semitropic - Newhall Land	-	-	-	-	-	-	-	-
Total Banking	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total Existing Supplies	**104,257**	**105,057**	**104,757**	**105,557**	**105,557**	**105,557**	**105,557**	**105,557**
Planned Supplies								
Future Groundwater(f)								
Alluvial Aquifer	-	1,000	2,000	3,000	4,000	5,000	6,000	7,000
Saugus Formation	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375
Total Groundwater	**1,375**	**2,375**	**3,375**	**4,375**	**5,375**	**6,375**	**7,375**	**8,375**

	2015	2020	2025	2030	2035	2040	2045	2050
Recycled Water(c)	975	2,725	5,225	7,775	10,275	13,775	17,275	20,975
Banking Programs(e)	-	-	-	-	-	-	-	-
Total Planned Supplies	**2,350**	**5,100**	**8,600**	**12,150**	**15,650**	**20,150**	**24,650**	**29,350**
Total Existing and Planned Supplies	**106,607**	**110,157**	**113,357**	**117,707**	**121,207**	**125,707**	**130,207**	**134,907**
Demand w/o Conservation(g)	80,070	88,484	96,898	105,312	113,726	122,140	130,554	138,968
20x2020 Reduction(h)	9,027	19,626	21,166	22,770	24,342	25,914	27,486	29,058
Reduction from Recycled Water(i)	1,300	3,050	5,550	8,100	10,600	14,100	17,600	21,300
Reduction from Water Conservation(j)	7,727	16,576	16,662	16,748	16,833	16,919	17,005	17,091
Demand w/Conservation(k)	72,343	71,908	80,236	88,564	96,892	105,220	113,549	121,877

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater anticipated to be pumped with existing wells. As indicated in Tables 3-8 and 3-9 and Tables 3-4 and 3-5 of the 2009 Groundwater Basin Yield Analysis, individual purveyors may have well capacity in excess of quantities shown in this table. As indicated in Table 3-10, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(b) SCWD's existing Saugus 1 and Saugus 2 wells resumed production in 2011 with the completion of the perchlorate treatment facility.

(c) Recycled water projections from Table 4-3.

(d) SW P supplies are based on the Department of Water Resources "2009 State Water Project Delivery Reliability Report."

(e) Not needed in average/normal years.

(f) Planned groundwater supplies represent new groundwater well capacity that may be required by an individual purveyor's production objectives in the Alluvial Aquifer and the Saugus Formation. As indicated in Table 3-10, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3- 5

(g) Demand w/o Conservation data from Table 2-2.

(h) 20x2020 Reduction for the Region from Table 2-22.

(i) Recycled Water Reduction for the Region from Table 2-22; does not include demands from Honor Rancho.

(j) Reduction from Water Conservation calculation for Region from Table 2-22.

(k) Demand w/Conservation is Demand w/o Conservation minus Reduction from Water Conservation.

Single-Dry Year: The water supplies and demands for the water suppliers over the 40-year planning period were analyzed in the event that a single-dry year occurs, similar to the drought that occurred in California in 1977. Table 6-3, below, summarizes the existing and planned supplies available to meet demands during a single-dry year. Base demand (demand without conservation) during dry years was assumed to increase by 10 percent. Demands also are shown with the urban demand reduction resulting from SBX7-7 conservation objectives.

See the 2010 UWMP, Appendix C, for the breakdown by purveyor of supplies available to meet demands over the 40-year planning period during a single-dry year.

Table 6-3
Projected Single-Dry Year Supplies and Demands

	2015	2020	2025	2030	2035	2040	2045	2050
Existing Supplies								
Existing Groundwater[a]								
Alluvial Aquifer	20,300	20,250	20,200	21,050	21,050	21,025	21,000	20,650
Saugus Formation	20,400	20,400	20,400	20,400	20,400	20,400	20,400	20,400
Total Groundwater	**40,700**	**40,650**	**40,600**	**41,450**	**41,450**	**41,425**	**41,400**	**41,050**
Recycled Water[b]	325	325	325	325	325	325	325	325
Imported Water								
State Water Project[c]	11,900	11,000	10,000	9,100	9,100	9,100	9,100	9,100
Flexible Storage Accounts[d]	6,060	4,680	4,680	4,680	4,680	4,680	4,680	4,680
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607
Total Imported	**30,56**	**28,287**	**27,287**	**26,387**	**26,387**	**26,387**	**26,387**	**26,387**
Banking Programs								
Rosedale Rio-Bravo[e]	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Semitropic[f]	15,000	15,000	-	-	-	-	-	-
Semitropic - Newhall Land[g]	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950
Total Banking	**39,950**	**39,950**	**24,950**	**24,950**	**24,950**	**24,950**	**24,950**	**24,950**
Total Existing Supplies	**111,542**	**109,212**	**93,162**	**93,112**	**93,112**	**93,087**	**93,062**	**92,712**
Planned Supplies								
Future Groundwater[h]								
Alluvial Aquifer	200	1,250	2,300	3,850	4,850	5,875	6,900	7,750
Saugus Formation (Restored Well)	825	3,777	3,777	3,777	3,777	3,777	3,777	3,750
Saugus Formation (New Wells)	2,875	9,923	9,923	9,923	9,923	9,923	9,923	9,950
Total Groundwater	**3,900**	**14,950**	**16,000**	**17,550**	**18,550**	**19,575**	**20,600**	**21,450**

	2015	2020	2025	2030	2035	2040	2045	2050
Recycled Water[b]	975	2,725	5,225	7,775	10,275	13,775	17,275	20,975
Banking Programs[i]	-	-	10,000	10,000	20,000	20,000	20,000	20,000
Total Planned Supplies	**4,875**	**17,675**	**31,225**	**35,325**	**48,825**	**53,350**	**57,875**	**62,425**
Total Existing and Planned Supplies	**116,417**	**126,887**	**124,387**	**128,437**	**141,937**	**146,437**	**150,937**	**155,137**
Demand w/o Conservation[j]	88,077	97,332	106,588	115,843	125,099	134,354	143,609	152,865
20x2020 Reduction[k]	9,027	19,626	21,166	22,770	24,342	25,914	27,486	29,058
Reduction from Recycled Water[l]	1,300	3,050	5,550	8,100	10,600	14,100	17,600	21,300
Reduction from Water Conservation[m]	7,727	16,576	16,662	16,748	16,833	16,919	17,005	17,091
Demand w/Conservation[n]	80,350	80,757	89,926	99,096	108,265	117,434	126,604	135,773

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater anticipated to be pumped with existing wells. As indicated in Tables 3-8 and 3-9 and Tables 3-4 and 3-5 of the 2009 Groundwater Basin Yield Analysis, individual purveyors may have well capacity in excess of quantities shown in this table. As indicated in Table 3-11, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5. SCWD's existing Saugus 1 and Saugus 2 wells resumed production in 2011 with the completion of the perchlorate treatment facility.

(b) Recycled water projections from Table 4-3.

(c) SW P supplies are based on the Department of Water Resources "2009 State Water Project Delivery Reliability Report."

(d) Includes both CLWA and Ventura County entities flexible storage accounts. Initial Term of agreement with Ventura County entities expires after 2015.

(e) CLWA has a maximum withdrawal capacity of 20,000 afy and a storage capacity of 100,000 af. As of 6/1/2011, there is 100,000 af of recoverable water.

(f) CLWA has 45,920 af of recoverable water as of 6/1/2011.

(g) Newhall Land has a maximum withdrawal capacity of 4,950 afy and a storage capacity of 55,000 af. As of 6/1/2011 there is 18,892 af of recoverable water [23,167 af is now in storage]. Delivery of stored water from the Newhall Land's Semitropic Water Banking and Exchange Program is assumed available to Valencia.

(h) Planned groundwater supplies represent new groundwater well capacity that may be required by an individual purveyor's production objectives in the Alluvial Aquifer and the Saugus Formation, including 3,777 afy of restored capacity from Valencia Well 201 and approximately 10,000 afy of new Saugus Formation well capacity. When combined with existing purveyor and non-purveyor groundwater supplies, total groundwater production is consistent with the 1977 single dry-year levels identified in Table 3-8 of the 2009 Groundwater Basin Yield Analysis. As indicated in Table 3-11, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(i) Includes banking programs with 10,000 af of additional pumpback capacity by 2025 and a second additional 10,000 af by 2035.

(j) Demand w/o Conservation data from Table 2-2. Includes a 10 percent increase in demand during dry years.

(k) 20x2020 Reduction for the Region from Table 2-22.

(l) Recycled Water Reduction for the Region from Table 2-22; does not include demands from Honor Rancho.

(m) Reduction from Water Conservation calculation for Region from Table 2-22.

(n) Demand w/ Conservation is Demand w/o Conservation minus Reduction from Water Conservation.

Multiple-Dry Year: The water supplies and demands for the water suppliers' water supply over the 40-year planning period were analyzed in the event that a four-year multiple-dry year event occurs, similar to the drought that occurred during the years 1931 to 1934. Table 6-4, below, summarizes the existing and planned supplies available to meet demands during multiple-dry years. Base demand during dry years was assumed to increase by 10 percent. Demands also are shown with the urban demand reduction resulting from SBX7-7 conservation objectives.

See the 2010 UWMP, Appendix C, for the breakdown by purveyor of supplies available to meet demands over the 40-year planning period during a multiple-dry year.

Table 6-4
Projected Multiple-Dry Year Supplies and Demands

	2015	2020	2025	2030	2035	2040	2045	2050
Existing Supplies								
Existing Groundwater[a]								
Alluvial Aquifer	20,425	20,425	20,425	21,825	21,825	21,825	21,825	21,325
Saugus Formation	19,700	19,700	19,700	19,700	19,700	19,700	19,700	19,700
Total Groundwater	**40,125**	**40,125**	**40,125**	**41,525**	**41,525**	**41,525**	**41,525**	**41,025**
Recycled Water[b]	325	325	325	325	325	325	325	325
Imported Water								
State Water Project[c]	32,900	32,900	33,000	33,000	33,000	33,000	33,000	33,000
Flexible Storage Accounts[d]	1,510	1,170	1,170	1,170	1,170	1,170	1,170	1,170
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607
Total Imported	**47,017**	**46,677**	**46,777**	**46,777**	**46,777**	**46,777**	**46,777**	**46,777**
Banking Programs								
Rosedale Rio-Bravo[e]	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Semitropic[f]	11,500	11,500	-	-	-	-	-	-
Semitropic - Newhall Land[g]	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950
Total Banking	**31,450**	**31,450**	**19,950**	**19,950**	**19,950**	**19,950**	**19,950**	**19,950**
Total Existing Supplies	**118,917**	**118,577**	**107,177**	**108,577**	**108,577**	**108,577**	**108,577**	**108,077**
Planned Supplies								
Future Groundwater[h]								
Alluvial Aquifer	-	1,000	2,000	3,000	4,000	5,000	6,000	7,000
Saugus Formation (Restored Well)	2,375	1,625	1,500	1,400	1,275	1,125	1,000	875
Saugus Formation (New Wells)	2,250	10,325	10,450	10,550	10,675	10,825	10,950	11,075
Total Groundwater	**4,625**	**12,950**	**13,950**	**14,950**	**15,950**	**16,950**	**17,950**	**18,950**

	2015	2020	2025	2030	2035	2040	2045	2050
Recycled Water[b]	975	2,725	5,225	7,775	10,275	13,775	17,275	20,975
Banking Programs[i]	-	-	7,500	7,500	15,000	15,000	15,000	15,000
Total Planned Supplies	**5,600**	**15,675**	**26,675**	**30,225**	**41,225**	**45,725**	**50,225**	**54,925**
Total Existing and Planned Supplies	**124,517**	**134,252**	**133,852**	**138,802**	**149,802**	**154,302**	**158,802**	**163,002**
Demand w/o Conservation[j]	88,068	97,325	106,582	115,838	125,095	134,352	143,608	152,865
20x2020 Reduction[k]	9,027	19,626	21,166	22,770	24,342	25,914	27,486	29,058
Reduction from Recycled Water[l]	1,300	3,050	5,550	8,100	10,600	14,100	17,600	21,300
Reduction from Water Conservation[m]	7,727	16,576	16,662	16,748	16,833	16,919	17,005	17,091
Demand w/ Conservation[n]	80,342	80,749	89,920	99,091	108,261	117,432	126,603	135,773

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater anticipated to be pumped with existing wells. As indicated in Tables 3-8 and 3-9 and Tables 3-4 and 3-5 of the 2009 Groundwater Basin Yield Analysis, individual purveyors may have well capacity in excess of quantities shown in this table. As indicated in Table 3-12, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5. SCWD's existing Saugus 1 and Saugus 2 wells resumed production in 2011 with the completion of the perchlorate treatment facility.

(b) Recycled water projections from Table 4-3.

(c) SWP supplies are based on the Department of Water Resources "2009 State Water Project Delivery Reliability Report."

(d) Includes both CLWA and Ventura County entities flexible storage accounts. Initial Term of agreement with Ventura County entities expires after 2015.

(e) CLWA has a maximum withdrawal capacity of 20,000 afy and a storage capacity of 100,000 af. As of 6/1/2011, there is 100,000 af of recoverable water.

(f) CLWA has 45,920 af of recoverable water as of 6/1/2011.

(g) Newhall Land has a maximum withdrawal capacity of 4,950 afy and a storage capacity of 55,000 af. As of 6/1/2011 there is 18,892 af of recoverable water [23,167 af is now in storage]. Delivery of stored water from the Newhall Land's Semitropic Water Banking and Exchange Program is assumed available to Valencia.

(h) Planned groundwater supplies represent new groundwater well capacity that may be required by an individual purveyor's production objectives in the Alluvial Aquifer and the Saugus Formation, including 3,777 afy of restored capacity from Valencia Well 201 and approximately 10,000 afy of new Saugus Formation well capacity. When combined with existing purveyor and non-purveyor groundwater supplies, total groundwater production is consistent with the 1931-1934 multiple dry-year levels identified in Table 3-8 of the 2009 Groundwater Basin Yield Analysis. As indicated in Table 3-12, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(i) Includes banking programs with 10,000 af of additional pumpback capacity by 2025 and a second additional 10,000 af by 2035.

(j) Demand w/o Conservation data from Table 2-2. Includes a 10 percent increase in demand during dry years.

(k) 20x2020 Reduction for the Region from Table 2-22.

(l) Recycled Water Reduction for the Region from Table 2-22; does not include demands from Honor Rancho.

(m) Reduction from Water Conservation calculation for Region from Table 2-22.

(n) Demand w/Conservation is Demand w/o Conservation minus Reduction from Water Conservation.

Summary of Comparisons: As shown in the analyses above, CLWA and the retail purveyors have adequate supplies to meet CLWA service area demands during normal, single-dry, and multiple-dry years throughout the 40-year planning period.

Water Use Overview (2010 UWMP, Section 2)

This section describes historic and current water usage and the methodology used to project future demands within CLWA's service area. Water usage is divided into sectors such as residential, industrial, commercial, landscape, agricultural, and other purposes. To undertake this evaluation, existing land use data and new housing construction information were compiled from each of the retail water purveyors and projections evaluated from each retailer's master planning documents. This information was then compared to historic trends for new water service connections and customer water usage information. In addition, weather and water conservation effects on historical water usage were considered in the evaluation.

Several factors can affect demand projections, including:

- Land use revisions
- New regulations
- Consumer choice
- Economic conditions
- Transportation needs
- Highway construction
- Environmental factors
- Conservation programs
- Building and plumbing codes

The foregoing factors affect the amount of water needed, as well as the timing of when it is needed. During an economic recession, there is a major downturn in development and a subsequent slowing of the projected demand for water. The projections in the 2010 UWMP do not attempt to forecast recessions or droughts. Likewise, no speculation is made about future building and plumbing codes or other regulatory changes. However, the projections include water conservation consistent with new legislative requirements calling for a 20 percent reduction in per capita demand by 2020 (SBX7-7).

An analysis was performed that combined growth projections with water use data to forecast total water demand in future years. Water uses were broken out into specific categories and assumptions made about each to more accurately project future use. Three separate data sets were collected and included in the model: historical water use by land use type, current population, and projected population.

Water Resources Overview (2010 UWMP, Section 3)

This section describes the water resources available to CLWA and the purveyors for the next 40 years. The suppliers' existing water resources include wholesale (imported) supplies, local groundwater, recycled water, and water from existing groundwater banking programs. Planned supplies include new groundwater production as well as additional banking programs. These existing and planned supplies are summarized in Table 3-1, below, and discussed in more detail in the 2010 UWMP, Section 3.

Table 3-1
Summary Of Current And Planned Water Supplies and Banking Programs[a]

		2010	2015	2020	2025	2030	2035	2040	2045	2050
Existing Supplies										
Existing Groundwater[b]										
Alluvial Aquifer		24,385	24,000	24,000	24,000	25,000	25,000	25,000	25,000	25,000
Saugus Formation[c]		6,725	9,225	10,225	10,225	10,225	10,225	10,225	10,225	10,225
	Total Groundwater	**31,110**	**33,225**	**34,225**	**34,225**	**35,225**	**35,225**	**35,225**	**35,225**	**35,225**
Recycled Water[d]	**Total Recycled**	**325**	**325**	**325**	**325**	**325**	**325**	**325**	**325**	**325**
Imported Water										
State Water Project[e]		58,300	58,100	57,900	57,600	57,400	57,400	57,400	57,400	57,400
Flexible Storage Accounts[f]		6,060	6,060	4,680	4,680	4,680	4,680	4,680	4,680	4,680
Buena Vista-Rosedale		11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land		1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607
	Total Imported	**76,967**	**76,767**	**75,187**	**74,887**	**74,687**	**74,687**	**74,687**	**74,687**	**74,687**
Existing Banking Programs[g]										
Rosedale Rio-Bravo		20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Semitropic		15,000	15,000	15,000	-	-	-	-	-	-
Semitropic - Newhall Land		4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950
	Total Banking	**39,950**	**39,950**	**39,950**	**24,950**	**24,950**	**24,950**	**24,950**	**24,950**	**24,950**
Planned Supplies										
Future Groundwater[h]										
Alluvial Aquifer		-	-	1,000	2,000	3,000	4,000	5,000	6,000	7,000
Saugus Formation		-	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375
	Total Groundwater	**-**	**1,375**	**2,375**	**3,375**	**4,375**	**5,375**	**6,375**	**7,375**	**8,375**

	2010	2015	2020	2025	2030	2035	2040	2045	2050
Recycled Water[i]	-	975	2,725	5,225	7,775	10,275	13,775	17,275	20,975
Planned Banking Programs	-	-	-	10,000	10,000	20,000	20,000	20,000	20,000

Notes:

(a) The values shown under "Existing Supplies" and "Planned Supplies" are projected to be available in average/normal years. The values shown under "Existing Banking Programs" and "Planned Banking Programs" are the maximum capacity of program withdrawals.

(b) Existing groundwater supplies represent the quantity of groundwater anticipated to be pumped with existing wells. As indicated in Tables 3-8 and 3-9 and Tables 3-4 and 3-5 of the 2009 Groundwater Basin Yield Analysis, individual purveyors may have well capacity in excess of quantities shown in this table. As indicated in Table 3-10, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(c) SCWD's existing Saugus 1 and Saugus 2 wells resumed production in 2011 with the completion of the perchlorate treatment facility.

(d) Represents recycled water being delivered in 2010 with existing facilities. CLWA currently has 1,700 afy under contract.

(e) SWP supplies are based on the Department of Water Resources "2009 State Water Project Delivery Reliability Report."

(f) Includes both CLWA and Ventura County entities flexible storage accounts. Initial term of agreement with Ventura County entities expires after 2015.

(g) Supplies shown are annual amounts that can be withdrawn and would typically be used only during dry years.

(h) Planned groundwater supplies represent new groundwater well capacity that may be required by an individual purveyor's production objectives in the Alluvial Aquifer and the Saugus Formation. When combined with existing purveyor and non-purveyor groundwater supplies, total groundwater production remains within the sustainable ranges identified in Table 3-8 of 2009 Groundwater Basin Yield Analysis. As indicated in Table 3-10, existing and planned groundwater pumping remain within the basin operating plan shown on Table 3- 5.

(i) See Table 4-3. Total Purveyor and Non-Purveyor Recycled Water less Existing Supply.

Recycled Water Overview (2010 UWMP, Section 4)

This section of the 2010 UWMP describes the existing and future recycled water opportunities available to the CLWA service area. The description includes estimates of potential recycled water supply and demand for 2010 to 2050 in five-year increments, as well as CLWA's proposed incentives and implementation plan for recycled water.

In normal years, approximately 55 percent of the demands within CLWA's service area are met with imported water. However, the reliability of the imported SWP supply is variable (due in part to its dependence on current year hydrology in Northern California and prior year storage in SWP reservoirs). When sufficient imported water is not available, the balance is met with local groundwater provided by the purveyors and from water banking programs.

It is anticipated that water demands will continue to increase. Accordingly, additional reliable sources of water are necessary to meet projected water demands. CLWA recognizes that recycled water is an important and reliable source of additional water. Recycled water enhances reliability in that it provides an additional source of supply and allows for more efficient utilization of groundwater and imported water supplies. Draft Recycled Water System Master Plans for the CLWA service area were completed in 1993 and 2002. These master plans considered significant developments affecting recycled water sources, supplies, users and demands so that CLWA could develop a cost-effective recycled water system within its service area. In 2007, CLWA completed California Environmental Quality Act (CEQA) analysis of the 2002 Recycled Water Master Plan (Recycled Plan). This analysis consisted of a Program Environmental Impact Report (EIR) covering the various phases for a recycled water system as outlined in the Recycled Plan. The Program EIR was certified by the CLWA Board in March 2007.

CLWA has constructed Phase I of the Recycled Plan, which can deliver 1,700 afy of water to the Valencia service area. Deliveries of recycled water began in 2003 for irrigation water supply at a golf course and in roadway median strips. In 2009, recycled water deliveries were 328 af.

Overall, the Recycled Plan, along with the Newhall Ranch Specific Plan project, is expected to ultimately recycle up to 22,800 af of treated (tertiary) wastewater suitable for reuse on golf courses, landscaping, and other non-potable uses.

In 2009, CLWA completed a preliminary design report on the second phase of the Recycled Plan (Phase 2A) that will take water from the Saugus WRP and distribute it to identified users to the north, across the Santa Clara River and then to the west and east. Customers included in the Phase 2A expansion will be Santa Clarita Central Park and the Bridgeport and River Village developments. Large irrigation

customers will be served with this expansion with a collective design that will increase recycled water deliveries by 500 afy.

Recycled water will be further expanded with the South End Recycled Water project (Phase 2C). Valencia has initiated project design expanding the existing recycled water transmission and distribution system southerly to supply recycled water to additional customers as well as to potentially supply a source of recycled water to customers of adjacent water agencies. Phase 2C of the Recycled Plan will result in the use of 910 afy of recycled water.

Water Quality (2010 UWMP, Section 5)

This section provides a description of the water quality of the supplies within the Valley, aquifer protection and a discussion of potential water quality effects on the reliability of these supplies. It should be noted that the topic of perchlorate contamination and treatment, including information regarding perchlorate recently discovered in Valencia Well 201 in 2010, is addressed in both the 2010 UWMP and the 2010 Santa Clarita Valley Water Report. The information presented in these reports is summarized in the Revised Final EIR in **Topical Response 1: Perchlorate Treatment Update**.

The quality of any natural water is dynamic in nature. During periods of intense rainfall or snowmelt, routes of surface water movement are changed and new constituents are mobilized and enter the water while other constituents are diluted or eliminated. The quality of water changes over the course of a year. These same basic principles apply to groundwater. Depending on water depth, groundwater will pass through different layers of rock and sediment and leach different materials from those strata. Water depth is a function of local rainfall and snowmelt. During periods of drought, the mineral content of groundwater increases. Water quality is not a static feature of water, and these dynamic variables must be recognized.

Water quality regulations also change. This is the result of the discovery of new contaminants, changing understanding of the health effects of previously known as well as new contaminants, development of new analytical technology and the introduction of new treatment technology. All water suppliers are subject to drinking water standards set by the U.S. Environmental Protection Agency (USEPA) and the state Department of Public Health (DPH). Additionally, investor-owned water utilities, such as Valencia, are subject to water quality regulation by the California Public Utilities Commission (PUC). CLWA provides imported water from the SWP and other sources, while local retail water purveyors combine local groundwater with treated imported water from CLWA for delivery to their customers. (While LACWWD 36 currently exclusively takes imported water from CLWA, it anticipates bringing a groundwater well into production). An annual Consumer Confidence Report (CCR), or Water Quality Report, is provided to all Valley residents who receive water from CLWA and one of the four retail water

purveyors. That report includes detailed information about the results of quality testing of the water supplied during the preceding year (Water Quality Report 2010). Water quality also is addressed in the annual Santa Clarita Valley Water Report, which describes the current water supply conditions in the Valley and provides information about the water requirements and water supplies of the Santa Clarita Valley. The most recent version of the Water Report (2010) is summarized in the Revised Final EIR, **Topical Response 3**: **2010 Santa Clarita Valley Water Report**.

The quality of water received by individual customers will vary depending on whether they receive imported water, groundwater, or a blend. Some will receive only imported water at all times, while others will receive only groundwater. Others may receive water from one well at one time, water from another well at a different time, different blends of well and imported water at other times, and only imported water at yet other times. These times may vary over the course of a day, a week, or a year.

Water Demand Management Measures (2010 UWMP, Section 7)

This section describes the water Demand Management Measures (DMMs) implemented by CLWA and the retail purveyors as a part of the effort to reduce water demand in the Valley.

CLWA and the retail purveyors are subject to the UWMP Act, AB1420, and SBX7-7, in addition to the commitment of compliance with the Best Management Practices (BMPs) as signatories to the Memorandum of Understanding Regarding Water Conservation in California (MOU). In the CLWA service area, demand management is addressed at both the local (retail agency) and regional (Santa Clarita Valley-wide) levels.

The MOU and BMPs were revised by the California Urban Water Conservation Council (CUWCC) in 2008. The revised BMPs now contain a category of "Foundational BMPs" that signatories are expected to implement as a matter of their regular course of business. These include Utility Operations (metering, water loss control, pricing, conservation coordinator, wholesale agency assistance programs, and water waste ordinances) and Public Education (public outreach and school education programs). The remaining "Programmatic" BMPs have been placed into three categories: Residential, Large Landscape, and Commercial, Industrial, Institutional (CII) Programs and are similar to the original quantifiable BMPs. These revisions are reflected in the CUWCC reporting database starting with reporting year 2009 and the 2010 UWMP's DMM compliance requirements. The new category of foundational BMPs is a significant shift in the revised MOU. For CLWA and other wholesalers, however, these changes do not represent a substantive shift in requirements.

A key intent of the recent MOU revision was to provide retail water agencies with more flexibility in meeting requirements and allow them to choose program options most suitable to their specific needs.

Therefore, as alternatives to the traditional Programmatic BMP requirements, agencies may also implement the MOU Flex Track or gallons per capita per day (GPCD) options.

Under the Flex Track option, an agency is responsible for achieving water savings greater than or equal to those it would have achieved using only the BMP list items. The CUWCC has developed three Flex Track Menus – Residential, CI I, and Landscape – and each provides a list of program options that may be implemented in part or any combination to meet the water savings goal of that BMP. Custom measures can also be developed and require documentation on how savings were realized and the method and calculations for estimating savings.

The GPCD option sets a water use reduction goal of 18 percent reduction by 2018. The MOU defines the variables involved in setting the baseline and determining final and interim targets. The GPCD option and requirements track well with the requirements of SBX7-7. All three retail suppliers – SCWD, Valencia, and NCWD – have chosen to implement the GPCD compliance option.

Signatories to the urban MOU are allowed by Water Code Section 10631(j) to include their biennial CUWCC BMP reports in an UWMP to meet the requirements of the DMM sections of the UWMP Act. The retail suppliers have chosen to comply with the requirements of the UWMP Act by providing the information required by the DMMs in this section of the 2010 UWMP instead of attaching the 2009 and 2010 BMP Reports. CLWA has filed its 2009 and 2010 BMP reports (attached as Appendix E).

As a wholesaler MOU signatory, CLWA assists SCWD, Valencia, and NCWD with BMP implementation and reporting. LACWWD 36 BMP implementation and reporting is done by the County of Los Angeles on behalf of all of its Waterworks Districts.

As the water wholesaler for the region, CLWA is responsible for the implementation of a subset of the BMPs. However, CLWA, in partnership with the retail water purveyors, has taken a leadership role in the implementation and support of a number of the BMPs that extend beyond a wholesaler's responsibilities in the MOU.

Water Shortage Contingency Planning (2010 UWMP, Section 8)

Water supplies may be interrupted or reduced significantly in a number of ways, such as a drought that limits supplies, an earthquake that damages water delivery or storage facilities, a regional power outage or a toxic spill that affects water quality. The 2010 UWMP, Section 8, describes how CLWA and the retail water purveyors plan to respond to such emergencies promptly and equitably.

To date, both a Water Shortage Contingency Plan and a Drought Emergency Water Sharing Agreement have been prepared by CLWA and the retail purveyors. Prohibitions, penalties, and financial impacts of shortages have been developed by SCWD, NCWD, and Valencia and are summarized in Section 8 of the 2010 UWMP.

Topical Response 3 2010 Santa Clarita Valley Water Report

This topical response updates information found in the Revised Draft EIR, Section 3.13, Water Service. The source of the updated information is the 2010 Santa Clarita Valley Water Report (Water Report), June 2011, prepared by the Santa Clarita Valley water purveyors. The Water Report is found in **Appendix F3.13** of the Revised Final EIR. Information presented in the 2010 Water Report supports the conclusion in the Revised Draft EIR that an adequate and sustainable supply of local and imported water is available to meet all future water supply needs of the Santa Clarita Valley, including buildout of the proposed Area Plan within the CLWA service area and East Subbasin, without creating significant environmental impacts. Impacts to water resources outside the East Subbasin would remain significant.

Introduction

In June 2011, the Santa Clarita Valley water purveyors released the annual update of the Santa Clarita Valley Water Report. This report, which is the 13th in a series of reports that began in 1998, provides current information about the water requirements and water supplies of the Santa Clarita Valley. The report was prepared for the imported water wholesaler, Castaic Lake Water Agency (CLWA), and for the four local retail water purveyors that serve the Santa Clarita Valley: CLWA Santa Clarita Water Division, Los Angeles County Waterworks District 36, Newhall County Water District, and Valencia Water Company. These water agencies/entities, in coordination with the City of Santa Clarita, and the County of Los Angeles, manage the water supply, demand, reliability, and related contingency/conservation planning for the Santa Clarita Valley.

The 2010 Water Report provides information about local groundwater resources, State Water Project (SWP) and other imported water supplies, water conservation, and recycled water. The report reviews the sufficiency and reliability of water supplies in the context of existing demand, with a focus on actual conditions in 2010, and it provides a short-term outlook of water supply and demand for 2011. The Revised Draft EIR, Section 3.13, Water Service, presented information from the prior Water Reports.

2010 Water Requirements and Supplies

In 2010, total water requirements in the Santa Clarita Valley were about 80,200 acre-feet (af), of which about 64,100 af (80 percent) were for municipal use and the remainder (16,100 af) was for agricultural and other (miscellaneous) uses, including individual domestic uses. Total demand in 2010 was about 7.4 percent lower than in 2009, less than what was estimated in the 2009 Water Report, and water requirements in 2010 were lower than the average projected in the 2005 Urban Water Management Plan (UWMP) (but closer to the projection in the 2005 UWMP with conservation). The majority of the decreased water demand is attributable to a significant (8 percent) decrease in municipal water use from 2009. Total water requirements in 2010 were met by a combination of about 49,300 af from local

groundwater resources (about 33,200 af for municipal and about 16,100 af for agricultural and other uses), about 30,600 af of SWP and other imported water, and about 300 af of recycled water.

The Revised Draft EIR presents information regarding groundwater production in the Santa Clarita Valley on pages 3.13-31 to 3.13-35. As indicated in the 2010 Water Report, of the 49,300 af of total groundwater pumping in the Valley in 2010, about 41,200 af was pumped from the Alluvium and about 8,100 af was pumped from the underlying, deeper Saugus Formation. Alluvial pumping represented about a 1,200 af increase from 2009, and Saugus pumping was slightly higher than in 2009, by about 400 af. Neither pumping volume resulted in any notable overall change in groundwater conditions (e.g., water levels, water quality, etc.) in either aquifer system. The delivery of imported water into the Santa Clarita Valley and to groundwater storage facilities outside the Valley is addressed in the Revised Draft EIR, Section 3.13, Water Service, pages 3.13-68 to 3.13-73 and 3.13-92 to 3.13-97. As stated in the 2010 Water Report, imported water deliveries to the Santa Clarita Valley water purveyors decreased by about 8,000 af from the previous year. Water uses and supplies in 2010 are summarized in the following Table 1. Additional information regarding 2010 water supply is found in Chapter 4 of the 2010 Water Report (See, Revised Final EIR **Appendix F3.13**).

Table 1
Santa Clarita Valley
Summary of 2010 Water Supplies and Uses
(acre-feet)

Municipal		
SWP and other Imported		30,578
Groundwater (Total)		33,152
Alluvium	*25,984*	
Saugus	*7,168*	
Recycled Water	336	
Subtotal		**64,066**
Agriculture/Miscellaneous		
SWP and other Imported		–
Groundwater (Total)		16,099
Alluvium	*15,175*	
Saugus	*924*	
Subtotal		**16,099**
Total		***80,165***

Notable details about each component of water supply in the Valley and the water supply outlook for 2011, are provided below.

Alluvial Aquifer

The characteristics and current and projected conditions of the Alluvial Aquifer are addressed in the OVOV Revised Draft EIR, Section 3.13, pages 3.13-35 to 3.13-45. The 2010 UWMP presents an update to the information presented in Section 3.13.

Based on an updated evaluation of the groundwater basin yield, completed in 2009, the groundwater operating plan in the 2010 UWMP includes Alluvial pumping in the range of 30,000 to 40,000 acre-feet per year (afy) following average/normal years, and slightly reduced pumping (30,000 to 35,000 afy) following dry years. Pumping from the Alluvium in 2010 was about 41,200 af, which is slightly above the upper end of the operating plan range for the Alluvium. No adverse effects on groundwater levels and storage in the basin were found. On average, pumping from the Alluvium has been about 32,600 afy since supplemental imported water became available in 1980. That average rate remains near the lower end of the range of operational yield.

On a long-term basis, continuing through 2010, there is no evidence of any historic or recent trend toward permanent water level or storage decline. In general, throughout a large part of the basin, Alluvial groundwater levels have generally remained near historic highs during the last 30 years. Above-average precipitation in late 2004 and 2005 resulted in significant water level recovery in the eastern part of the basin, and through the recent multi-year dry period (2006 through 2009); water level declines have leveled off and remained within their historic range, continuing the overall trend of fluctuating groundwater levels within a generally constant range over the last 30 years. These ongoing data indicate that the Alluvium remains in good operating condition and can continue to support pumping in the operating range included in the 2010 UWMP, or slightly higher, without adverse results (e.g., long-term water level decline or degradation of groundwater quality.)

Based on an integration of water quality records from multiple wells completed in the Alluvium, there have been historical fluctuations in groundwater quality, typically associated with variations in precipitation and streamflow. However, like groundwater levels, there has been no long-term trend toward groundwater quality degradation; groundwater produced from the Alluvial aquifer remains a viable municipal and agricultural water supply. See 2010 Water Report Chapter 3, Water Supplies, for additional information regarding the Alluvial Aquifer (see, Revised Final EIR, **Appendix F3.13**).

Saugus Formation

The characteristics and current and projected conditions of the Saugus Formation are addressed in the Revised Draft EIR, Section 3.13, Water Service, pages 3.13-31 to 3.13-34 and 3.13-46 to 3.13-50. The groundwater operating plan in the 2010 UWMP includes pumping from the Saugus in the range of 7,500 to 15,000 afy in average/normal years; it also includes planned dry-year pumping from the Saugus

of 21,000 to 35,000 afy for one to three consecutive dry years. As with the operation plan for the Alluvium, the ranges of Saugus pumping are based on the updated evaluation of the groundwater basin yield, completed in 2009, which found those ranges of pumping to be sustainable on a long-term basis.

Pumping from the Saugus Formation was about 8,100 af in 2010, on average, Saugus pumping has been slightly more than 6,800 afy since 1980. Both rates remain near the lower end of the ranges included in the groundwater operating plans and the 2010 UWMP. As a result of long-term relatively low pumping from the Saugus Formation, groundwater levels in that aquifer have remained generally constant to slightly increasing over the last 40 to 45 years; those trends continued in 2010. See 2010 Water Report Chapter 3, Water Supplies, for additional information regarding the Saugus Formation (see, Revised Final EIR, **Appendix F3.13**).

Imported Water

The Revised Draft EIR, Section 3.13, Water Service, pages 3.13-68 to 3.13-73 and 3.13-92 and 3.13-97, describe available imported water supplies in the Santa Clarita Valley. As described in the Revised Draft EIR and the 2010 Water Report, historically comprised of only SWP Table A Amount, CLWA's imported water supplies now consist of a combination of SWP water and water acquired from the Buena Vista Water Storage District in Kern County. CLWA's contractual Table A Amount is 95,200 af of water from the SWP. Under the 2007 Water Acquisition Agreement with the Buena Vista Water Storage District (Buena Vista) and the Rosedale-Rio Bravo Water Storage District (Rosedale-Rio Bravo), Buena Vista's high flow Kern River entitlements (and other acquired waters that may become available) are captured and recharged within the Rosedale-Rio Bravo's service area on an ongoing basis. CLWA will receive 11,000 af of these supplies annually through either exchange of Buena Vista's and Rosedale-Rio Bravo's SWP supplies or through direct delivery of water to the California Aqueduct via the Cross Valley Canal.

CLWA's final allocation of SWP water for 2010 was 50 percent of its Table A Amount, or 47,600 af.[1] The total available imported water supply in 2010 was 90,498 af, comprised of the 47,600 af of Table A supply, 11,000 af purchased from Buena Vista/Rosedale Rio Bravo, 28,303 af of 2008 and 2009 carryover delivered in 2010, 3,300 af delivered from the Semitropic Water Banking and Exchange Program, and 295 af from the 2010 SWP Turnback Pool. CLWA deliveries to the purveyors were 30,578 af. Following disposition of available water supplies in 2010, carryover of 3,712 af from 2010 is available for 2011 water supply. Water banking in 2010 included 32,256 af delivered to the Rosedale-Rio Bravo Water Banking and Exchange Program.

1 On April 20, 2011 the California Department of Water Resources announced that the latest allocation of water from the SWP in 2011 is 80 percent of CLWA's Table A Amount, or 76,160 af.

CLWA has two groundwater banking agreements with the Semitropic Water Storage District in Kern County. In accordance with those amended agreements, over a 20-year period (until 2022/2023), CLWA could withdraw up to 50,870 af of its Table A water that was stored in 2002 and 2003 to meet future Valley demands when needed. Following the withdrawal of 4,950 af in 2009 (1,650 af utilized in 2009 and 3,300 af utilized in 2010), that balance is 45,920 af. In addition to the banking in Semitropic, CLWA finalized an agreement with the Rosedale-Rio Bravo Water Storage District in 2005 and can bank up to 100,000 afy of surplus Table A Amount in that District's Water Banking and Exchange Program. In addition to 20,000 af previously banked in both 2005 and 2006, CLWA banked 8,200 af of water in 2007, and 32,256 af of water in 2010. In accordance with the provisions of that agreement, CLWA can withdraw up to a total of 72,513 af of that water, at a rate up to 20,000 afy, to meet Valley water demands when needed. Additionally, as part of the Buena Vista Water Acquisition Agreement, CLWA is entitled to 22,000 af of water that was stored in the Rosedale Rio-Bravo Water Banking and Exchange Program in 2005 and 2006 on CLWA's behalf. As of 2011, CLWA maintains a recoverable total of 94,500 af in the Rosedale Rio-Bravo Water Banking and Exchange Program.

Since SWP water deliveries are subject to reduction when dry conditions occur in Northern California, the 2010 UWMP includes programs, like the Semitropic and Rosedale-Rio Bravo programs, for enhancing water supply reliability during such occurrences. A capital improvement program funded by CLWA has been established to provide facilities and additional water supplies needed to firm up SWP water supplies during times of drought. See 2010 Water Report Chapter 3, Water Supplies, beginning on page 3-11, for additional information regarding CLWA's imported water supplies (see, Revised Final EIR, **Appendix F3.13**).

Recycled Water

Recycled water service was initiated in the Santa Clarita Valley in July 2003 in accordance with CLWA's Draft Reclaimed Water System Master Plan (2002). Recycled water is addressed in the Revised Draft EIR, Section 3.13, Water Service, page 3.13-97. Recycled water use for irrigation purposes, at a golf course and in roadway median strips, was approximately 336 af in 2010. CLWA and the purveyors completed programmatic CEQA analysis in early 2007 for full implementation of the recycled water system as outlined in the Master Plan. CLWA and the purveyors are preparing the design of the second phase of the Recycled Water Master Plan (Phase IIA) that will take water from the Saugus Water Reclamation Plant (WRP) and distribute it to identified users to the north, across the Santa Clara River and then to the west and the east, which will include service to Santa Clarita Central Park. Another new phase of the recycled water system (Phase IIC) is in design to extend the system southward from the intersection of Valencia Boulevard and The Old Road, south along Rockwell Canyon Road, to the intersection of Orchard Village Road and Lyons Avenue, serving large irrigation customers along its proposed

alignment. Collectively, these phases will have design capacity to increase recycled water deliveries by about 1,500 afy. See 2010 Water Report Chapter 3, Water Supplies, beginning on page 3-22, for additional information regarding recycled water (see, Revised Final EIR, **Appendix F3.13**).

2011 Water Supply Outlook

The 2010 Water Report indicates that in 2011, total water demands are expected to be about 82,000 af, slightly more than actual water use last year, and consistent with the water demand projections in the 2010 UWMP. It is expected that water demands in 2011 will continue to be met with a generally similar mix of water supplies comprised of local groundwater, supplemental SWP and other imported water, and recycled water.

Announced on April 20, 2011, the latest allocation of water from the SWP in 2011 is 80 percent of CLWA's Table A Amount, or 76,160 af. Combined with local groundwater from the two aquifer systems (50,000 af), total Flexible Storage Account (6,060 af), net carryover of SWP Table A allocation from 2010 used in 2011 (3,712 af), annual acquisition through the Buena Vista Water/Rosedale Rio-Bravo Water Acquisition Agreement (11,000 af), and recycled water (500 af), the total available water supplies for 2011 are nearly 150,000 af. As a result, CLWA and the purveyors anticipate having more than adequate supplies to meet all water demands in 2011.

As described in the 2010 Water Report and the Revised Draft EIR, Section 3.13, Water Service, pages 3.13-74 to 3.13-80, in August 2007, a federal court ruled that certain operational changes were required of the SWP in order to protect the endangered Delta smelt. The court order resulted in the preparation of a new Biological Opinion (BO) requiring DWR to implement mitigation requirements with resultant impacts on SWP water supply reliability. The current SWP Delivery Reliability Report 2009, finalized in August 2010, incorporates restrictions on SWP operations according to the Biological Opinions of the U.S. Fish and Wildlife Service and the National Marine Fishery Service issued on December 15, 2008 and June 4, 2009, respectively. However, in December 2010, a federal judge overruled most of the 2008 federal biological opinion and invalidated several of the criteria that reduced SWP's water supply. The effects of this reversal are still not completely known but will probably result in some relief from SWP pumping restrictions in the long term. The current SWP Delivery Reliability Report 2009 also considers the impacts on SWP delivery reliability due to climate change, sea level rise, and vulnerability of the Delta's conveyance system and structure due to floods and earthquakes. With these factors, the Reliability Report projects long-term reliability of 60 percent during normal year hydrology. CLWA staff has assessed the impact of the effects Reliability Report on the CLWA reliability analysis, and has concluded in the 2010 UWMP that current and anticipated supplies are available to meet anticipated water supply needs through the year 2050. In terms of short-term water supply availability, the 2010 Water Report indicates

that, while current operational changes of the SWP are in effect, there are sufficient supplemental water supplies, including SWP water, to augment local groundwater and other water supplies such that overall water supplies will be sufficient to meet projected 2011 water requirements as reflected in the 2010 Water Report.

In any given year, SWP supplies may be reduced due to dry weather conditions or regulatory environmental factors. During such an occurrence, the remaining water demands are planned to be met by a combination of alternate supplies such as returning water from CLWA's accounts in the Semitropic Groundwater Storage Program and the Rosedale-Rio Bravo Water Banking and Exchange Program, deliveries from CLWA's flexible storage account in Castaic Lake Reservoir, local groundwater pumping, short-term water exchanges, and participation in DWR dry-year water purchase programs. Following the recovery of 4,950 af (with delivery of 1,650 af in 2009 and delivery of 3,300 in 2010), the banked excess 2002 and 2003 SWP Table A water in Semitropic represents nearly 46,000 af of recoverable water for drought water supply. In addition, the banked excess SWP Table A water in 2005 and 2006, augmented by banked water acquired through the Buena Vista/Rosedale-Rio Bravo Water Acquisition Agreement in 2005, 2006, 2007, and 2010, represent a total of more than 94,500 af of recoverable water for drought water supply from the Rosedale-Rio Bravo Banking and Exchange Program.

Drought periods may affect available water supplies in any single year and for a duration usually not longer than three consecutive years. It is important to note that hydrologic conditions vary from region to region throughout the state. Dry conditions in Northern California affecting SWP supply may not affect local groundwater and other supplies in Southern California, and the reverse situation can also occur (as it did in 2002 and 2003). For this reason, CLWA and the purveyors have emphasized developing a water supply portfolio that is diverse, especially in dry years. Diversity of supply is considered a key element of reliability, giving CLWA and the purveyors the ability to draw on multiple sources of supply to ensure reliable service during dry years, as well as during normal and wet years. Additional information regarding the water supply outlook for 2011 can be found in Chapter 4 of the 2010 Water Report (See, Revised Final EIR, **Appendix F3.13**).

Water Conservation

The California Urban Water Conservation Council (CUWCC) was formed in 1991 through the Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California. The urban water conservation Best Management Practices (BMPs) included in the MOU are intended to reduce California's long-term urban water demands. While the BMPs are currently implemented by the MOU signatories on a voluntary basis, they are specified as part of the Demand Management Measures section

of the Urban Water Management Planning Act. Water conservation can achieve a number of goals, such as:

- meeting legal mandates;
- reducing average annual potable water demands;
- reducing sewer flows;
- reducing demands during peak seasons;
- meeting drought restrictions; and
- reducing carbon footprint, wastewater flows, and urban runoff.

CLWA signed the urban MOU in 2001 on behalf of its wholesale service area, and pledged to implement several BMPs at a wholesale support level (listed below). NCWD signed the MOU in 2002 and VWC signed it in 2006, both on behalf of their respective retail service areas. As separate MOU signatories and in their respective roles as retailers, NCWD and VWC are committed to implementing all BMPs that are feasible and applicable in their service areas. Efforts are made to coordinate with CLWA and the other purveyors wherever possible to maximize efficiency and ensure the cost effectiveness of NCWD's and VWC's conservation program.

In coordination with the purveyors, CLWA has been implementing a series of BMPs for several years on a Valley-wide scale, some prior to signing the MOU in 2001. A discussion of the BMPs is found in the 2010 Water Report, Chapter 5 (see Revised Final EIR, **Appendix F3.13**).

In addition to these efforts, as discussed in Chapter 1 of the 2010 Water Report, CLWA installed a weather station at its headquarters adjacent to the Rio Vista Water Treatment Plant in 2006 to augment precipitation records and provide a local reference for irrigation water management.

Additional savings are occurring Valley-wide due to state interior plumbing code requirements that have been in effect since 1992, as well as changes in lot size and reduction in exterior square footage of new housing and commercial developments. The City of Santa Clarita and County of Los Angeles have also taken a more active conservation role and have begun implementing water efficient devices and practices on the properties they own and manage. All of these efforts have begun to impact overall demand in the Valley, as can be seen in the significant decline in total water demand over the last three years. The Valley's water suppliers continue to monitor water demand trends through time to assess those factors that are accounting for the reduction, and to attempt to quantify them.

More recently with regard to water conservation, CLWA and the retail water purveyors entered into an MOU in 2007 to prepare a Santa Clarita Valley Water Use Efficiency Strategic Plan (the Strategic Plan). The purpose of the Strategic Plan is to prepare a comprehensive long-term conservation plan for the Santa Clarita Valley by adopting objectives, policies, and programs designed to promote proven and cost-effective conservation practices. The Strategic Plan provides a detailed study of existing residential and commercial water use and recommends programs designed to reduce the overall Valley-wide water demand by 10 percent by 2030. The programs are designed to provide Valley residents with the tools and education to use water more efficiently. For additional information regarding the Strategic Plan and other conservation measures being implemented by CLWA and the purveyors, the County of Los Angeles, the City of Santa Clarita, and the State of California, please see 2010 Water Report, Chapter 5 (see, Revised Final EIR, **Appendix F3.13**).

Topical Response 4: Chloride

1. INTRODUCTION

Comments regarding the topic of chloride have been received subsequent to the Regional Planning Commission's action on the OVOV Plan. Upon review of these comments, the commenters make references to specific development projects within the Newhall Ranch Specific Plan area (i.e., the Landmark Village project and the Mission Village project) and the applicant for those projects, the Newhall Land and Farming Company. Consequently, it is unclear at times whether the comment is addressing the EIR prepared for Landmark Village project, the Mission Village project, or the One Valley One Vision plan. Further, it is not within the scope of this OVOV Program EIR to address specific issues related to a development project (e.g., Landmark Village project, Mission Village project, etc.). Notwithstanding this, the County has prepared this topical response in an effort to provide the public with as much information as is practical. Both the Landmark Village and Mission Village Final EIRs are incorporated by reference and are available for review at the Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, contact Sam Dea. It should also be understood that these chloride-related comments have already been provided to the County Board of Supervisors (Board) by those commenting on the OVOV EIR. These issues, which are known to the Board, were considered by the Board during its October 4, 2011 public hearing regarding the Newhall's Landmark Village project and its October 25, 2011 public hearing regarding Newhall's Mission Village project. Because comments have raised issues in reference to the Mission Village and Landmark Village projects, information presented to the Board in the project EIRs and prepared for those EIRs has, by virtue of the comments received, been made pertinent to the OVOV Plan and its EIR.

Comments claim that chloride has had a significant impact on the natural river ecosystem due to high levels of chloride in treated wastewater effluent and runoff from urban areas. The comments assert that the river ecosystem already has been impacted by high concentrations of chloride in the Santa Clara River. Further, comments state that the Mission Village Draft EIR is deficient by not eliminating future projected increases in chloride levels in the implementation of the Mission Village project.

Comments claim that an agreement between the Mission Village and Landmark Village project applicant (Newhall) and Sanitation Districts Nos. 26 and 32, later consolidated as the Santa Clarita Valley Sanitation District (SCVSD), violates the conditions of the Newhall Ranch Specific Plan, and places the Santa Clarita Valley in jeopardy of "continued non-compliance" with the chloride total maximum daily load (TMDL) under the Clean Water Act. Comments also question the cost implications of the "clean up of chlorides required to comply with the Clean Water Act." Other comments assert that high chloride levels in water supply wells and the use of State Water Project water will add to the chloride load from Water

Reclamation Plant (WRP) discharges. Comments claim that groundwater is already "contaminated" with chloride, which would be exacerbated under the proposed projects.

Further, comments claim that the only option for reducing chloride impacts is the phased or full construction of the Newhall Ranch WRP or requiring the Newhall to pay its share of the cost of providing facilities at the Valencia WRP to treat its effluent to meet the 100 milligrams per liter (mg/L) chloride objective, which is applicable to the Newhall Ranch WRP. Comments also oppose the interim use of the Valencia WRP to serve up to 6,000 dwelling units from both the Mission Village and Landmark Village projects within the Newhall Ranch Specific Plan. Comments claim that interim use of the Valencia WRP will compound its treatment problems, and make it more difficult for the SCVSD to comply with the chloride objectives in the "Alternative Water Resources Management" (AWRM) Plan (also known as the Alternative Compliance Plan or ACP). Comments claim that the SCVSD's failure to comply with the AWRM Plan, and its required timelines, will result in the imposition of the stricter 100 mg/L chloride TMDL standard. Comments infer that interim use of the Valencia WRP will not result in the construction of the Newhall Ranch WRP.

Additional comments state that the temporary discharge of Newhall Ranch wastewater to the existing Valencia WRP from the first 6,000 units in Newhall Ranch's Mission Village and Landmark Village would elevate the chloride load rather than reducing it. To address chloride in the Landmark Village and Mission Village wastewater discharges in the interim period, the Mission Village and Landmark Village applicant has committed to constructing chloride reduction facilities, as described below. Consequently, the Landmark Village project and Mission Village project would not elevate the chloride load at the Valencia WRP as suggested.

Related comments also have stated that the Mission Village project's potable water supply (the "E Wells") is often naturally high in chloride, and that due to typical chloride "pickup" levels in domestic water, the project may pose a significant impact due to its contribution of chloride in treated wastewater discharges, possibly exceeding the chloride TMDL wasteload allocation of 100 mg/L.

This topical response addresses these chloride-related comments. At the outset, some background information is appropriate for overall context.

2. WASTEWATER PLAN

Both the Mission Village Draft EIR and the Landmark Village Recirculated Draft EIR described and analyzed each project's wastewater/sewer plan, including the routing of sewer lines and the delivery system to serve each project site within the approved Newhall Ranch Specific Plan. As stated in each EIR, the long-range plan is for the Newhall Ranch WRP to be constructed to serve uses within the Specific

Plan area, and the new County sanitation district (i.e., NRSD) has been formed to implement the Newhall Ranch WRP, and to coordinate with the SCVSD, with regard to the establishment of the new Newhall Ranch sanitation district and its WRP and sewerage conveyance system. This coordination enables the County to verify that the Newhall Ranch development is consistent with the County's General Plan and Specific Plan buildout requirements. Part of this coordination involved Newhall entering into the Interconnection Agreement, dated January 9, 2002, with the Sanitation District Nos. 26 and 32, later consolidated as the SCVSD.[1]

The Interconnection Agreement sets conditions under which the first 6,000 dwelling units in Newhall Ranch may temporarily discharge wastewater to the Valencia WRP. The conditions include payment of the standard SCVSD connection fee (fair share of the cost of the existing infrastructure) and transfer of title of the 22-acre Newhall Ranch WRP site to the NRSD. Newhall Ranch residents also would pay the SCVSD an annual service charge to cover the full cost of treating their wastewater at the Valencia WRP. Temporary treatment of wastewater at the Valencia WRP would not eliminate the need for the project applicant (Newhall) to construct the Newhall Ranch WRP. Prior to building more than 6,000 dwelling units, Newhall must construct the Newhall Ranch WRP to serve Newhall Ranch development and finance the new sewerage system. In addition, the Valencia WRP has the available capacity for temporary treatment of the Newhall Ranch wastewater (up to 6,000 dwelling units); thus, no negative impact to the CSD's sewerage system is expected.[2]

The Newhall Ranch Specific Plan Revised Draft EIR (March 1999) and the Revised Additional Analysis (May 2003) evaluated the environmental impacts related to development of the Specific Plan, including construction of the Newhall Ranch WRP to a project level and the new sewerage facilities at a programmatic level to serve the Specific Plan. The County has completed further California Environmental Quality Act (CEQA) compliance of the Newhall Ranch wastewater/sewer system at the project level for both Mission Village and Landmark Village in two project EIRs. Both the Mission Village Draft EIR and the Landmark Village Revised Draft EIR note that the environmental effects of constructing and operating the Newhall Ranch WRP at buildout were evaluated at the project level in the prior certified Newhall Ranch Specific Plan environmental documentation. Both EIRs have identified options to treat wastewater generated by each project during the interim until the Newhall Ranch WRP is constructed. Specifically, both EIRs identified an option to construct a pump station at each project site

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1 A copy of the Interconnection Agreement is attached to this response.

2 Moreover, the environmental implications of the build-out of the Valencia WRP to its capacity were assessed in the SCVSD's certified EIR for the 2015 Santa Clarita Valley Joint Sewerage System Facilities Plan, which is incorporated by reference and available at http://www.lacsd.org/info/publications_n_reports/wastewater_reports/final2015scv/default.asp or upon request to SCVSD.

where wastewater would be pumped back to the existing Valencia WRP until such time as the first phase of the Newhall Ranch WRP is constructed. (See, e.g., Mission Village Draft EIR, Section 1.0, Project Description, pp. 1.0-69 through 1.0-70, and Section 4.9, Wastewater Disposal, pp. 4.9-10 through 4.9-12.)

As part of the project applicant's separate but related Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan (RMDP/SCP) project, Newhall also has committed to constructing, if needed, interim chloride reduction and demineralization facilities (proposed interim chloride facilities) to further treat Newhall Ranch project wastewater, until such time as the first phase of the Newhall Ranch WRP is constructed (i.e., up to 6,000 dwelling units per the terms of the 2002 Interconnection Agreement). The Newhall Ranch RMDP/SCP EIS/EIR, prepared jointly by CDFG and the U.S. Army Corps of Engineers (Corps), evaluated the proposed interim chloride facilities at a program level, stating that the project EIRs for Mission Village and Landmark Village would evaluate such facilities at the project level.

3. REGIONAL REGULATORY EFFORTS

The Los Angeles Regional Water Quality Control Board (RWQCB) protects groundwater and surface water quality in the Los Angeles Region, including the coastal watersheds of Los Angeles and Ventura counties, along with very small portions of Kern and Santa Barbara counties. The RWQCB adopted chloride objectives for individual reaches of the Santa Clara River as part as the Water Quality Control Plan for the Los Angeles Region (Basin Plan). The chloride objectives were established on what were assumed to be background water conditions at specific locations within the reaches and also protection of the off-stream agricultural beneficial use.

Under section 303(d) of the Clean Water Act, states are required to develop lists of waters that do not meet water quality standards even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that states develop TMDLs for these impaired waters. High levels of chloride in the Santa Clara River have caused listings for impairment, and chloride TMDLs have been developed and adopted into the Basin Plan.

The RWQCB's adopted chloride TMDL is described in the RWQCB staff report, dated November 24, 2008; RWQCB Resolution; Basin Plan Amendments; and other pertinent documents, which are available on the RWQCB's website, located at http://www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/bpa_69_2008-012_td.shtml (last accessed August 24, 2011), and incorporated by reference.

In connection with this regional effort, the RWQCB acted as the lead agency for evaluating the environmental effects of the amended chloride TMDL, adoption of conditional site-specific objectives

(SSOs) for chloride in river reaches and groundwater basins in the Upper Santa Clara River watershed, and other interim wasteload allocations (sulfate and total dissolved solids). The result of this effort led to RWQCB's completion and approval of the "Substitute Environmental Document for the Upper Santa Clara River Chloride TMDL Reconsideration and Conditional Site Specific Objectives," which was prepared under the CEQA requirements for a certified regulatory program. RWQCB's environmental documentation was based on the amended chloride TMDL that was considered and approved as an amendment to the Basin Plan. This environmental documentation is available on RWQCB's website, found at http://www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/bpa_69_2008-012_td.shtml (last accessed August 24, 2011), and incorporated by reference.

The County acknowledges the regional efforts summarized above. However, the County considers these regional efforts to be well beyond the scope of the OVOV EIR. Nonetheless, the County has made a good-faith effort to respond further below to the comments received on the OVOV, Mission Village, and Landmark Village EIRs, even though several of the comments address the broader regional chloride reduction efforts underway in the Upper Santa Clara River watershed.

4. COUNTY PLANNING EFFORTS

On March 23, 1999, and, again, on May 27, 2003, the County's Board of Supervisors (Board) certified the environmental documents for the Newhall Ranch Specific Plan and the Newhall Ranch WRP. The certified 1999 Newhall Ranch Revised Draft EIR and the Revised Additional Analysis (May 2003) evaluated the Newhall Ranch WRP at a project level, and the new sewerage facilities to serve the Specific Plan at a programmatic level. The Board also approved the Newhall Ranch WRP under Conditional Use Permit No. 94-087-(5). The Newhall Ranch WRP is to provide treatment of the wastewater generated within the Specific Plan, as well as produce recycled water for the Specific Plan area.

The Newhall Ranch WRP's certified environmental analysis is found in Section 5.0 of the Newhall Ranch Revised Draft EIR (March 8, 1999) and Section 3.0 of the Newhall Ranch Revised Additional Analysis, Volume VIII (May 2003). Section 3.0 assessed and updated various Newhall Ranch WRP alternatives, including the approved Newhall Ranch WRP site.

The 1999 Newhall Ranch Revised Draft EIR and the 2003 Revised Additional Analysis contain Mitigation Measure SP 5.0-52, requiring formation of a county sanitation district for the Newhall Ranch Specific Plan area. This requirement also is included in the adopted Mitigation Monitoring Plan for the Newhall Ranch Specific Plan. Other mitigation measures (Mitigation Measures SP 5.0-22 and SP 5.0-55) require the Newhall Ranch WRP to be designed and operated in accordance with a National Pollutant Discharge Elimination System (NPDES) permit, to be obtained from the RWQCB, Los Angeles Region.

To fulfill these mitigation requirements and establish a logical plan for development of the new district and its infrastructure, the Newhall Land and Farming Company (Newhall) and the Sanitation Districts Nos. 36 and 32, later consolidated as the SCVSD, entered into the Interconnection Agreement, dated January 9, 2002.

The Interconnection Agreement ensures that the developer (Newhall) provides the necessary land and infrastructure for the logical development and implementation of the Newhall Ranch WRP. The Agreement was considered and approved by the District 26 and District 32 Boards at their January 9, 2002 meeting, which was noticed, the subject of an agenda, and open to the public in compliance with the Brown Act. Further, the Agreement was referenced in previous County staff reports supporting formation of the new NRSD (see, for example, Department of Public Works staff report to the Board of Supervisors, dated December 1, 2005, pages 3 and 4; and the Department's staff report to the Board, dated January 18, 2011, page 3, both of which are incorporated by reference).

As explained, the Interconnection Agreement sets conditions under which the first 6,000 homes in Newhall Ranch may temporarily discharge wastewater to the SCVSD's Valencia WRP. The Interconnection Agreement also specifies that Newhall must fund construction of the Newhall Ranch WRP, which is contemplated to be constructed in stages as the Specific Plan area is developed, and it sets conditions under which the first 6,000 dwelling units in Newhall Ranch (i.e., the Mission Village and Landmark Village projects) may temporarily discharge wastewater to the Valencia WRP.

Temporarily treating wastewater from the first 6,000 Newhall Ranch dwelling units at the Valencia WRP is a practical engineering decision based on the need to build up an adequate, steady flow of wastewater before starting up the Newhall Ranch WRP. The Interconnection Agreement does not impact the SCVSD's ability to comply with the chloride TMDL. As discussed, the Valencia WRP has available capacity for interim treatment of Landmark Village and Mission Village wastewater. The SCVSD supports this interim action for these same reasons. (Please refer to the SCVSD's memorandum to the County Board of Supervisors, dated March 8, 2011, in **Appendix F3.13**.)

On December 13, 2005, the County's Board adopted a resolution of intent to form the new district to be known as the NRSD. The Board also approved an Addendum to the Newhall Ranch EIR and Additional Analysis, which evaluated the environmental effects of NRSD formation. The Addendum determined that formation of the NRSD would not result in new or substantially more severe environmental impacts than those discussed in the prior Newhall Ranch environmental documents.

Thereafter, the County initiated proceedings for the formation of the NRSD, pursuant to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000. On June 14, 2006, the Local Agency

Formation Commission (LAFCO) for Los Angeles County adopted a resolution approving formation of the NRSD. On July 27, 2006, LAFCO issued a Certificate of Completion for formation of the NRSD.

On January 18, 2011, the County's Board considered a resolution confirming formation of the NRSD. In doing so, the Board found that formation of the NRSD was within the scope of the previously certified Newhall Ranch EIR and Addendum.

5. ENVIRONMENTAL AND REGULATORY SETTING

a. Existing/Baseline Environmental Conditions

The existing water quality in Santa Clara River Reach 5 is summarized in the Mission Village Draft EIR, Section 4.22, pages 4.22-38 through 4.22-48, and Appendix 4.22, Mission Village Water Quality Technical Report, page 34, as revised in Final EIR (October 2011), Appendix F4.22. Overall, the average chloride concentrations in Santa Clara River Reach 5 during recent dry weather monitoring conducted by Newhall for the Newhall Ranch WRP NPDES permitting process ranged between 97 mg/L and 140 mg/L. The average chloride concentration observed in monitoring data collected by Los Angeles County during wet weather in the Santa Clara River at The Old Road, just upgradient of the project location, was about 43 mg/L.

b. Regulatory Background and History

(1) Chloride TMDL

As stated above, the RWQCB has developed and adopted an amended chloride TMDL. The chloride TMDL is part of the Basin Plan. Please see the Mission Village Final EIR (October 2011), Topical Response 4: Revised Project Design, for further information regarding RWQCB's adoption of the chloride TMDL.

The chloride TMDL process resulted in an alternative TMDL implementation plan that addresses chloride impairment of surface waters and degradation of groundwater. The alternative plan, the AWRMP (or the ACP), was first set forth by the Upper Basin water purveyors and United Water Conservation District (UWCD), the management agency for groundwater resources in the Ventura County portions of the Upper Santa Clara River watershed. The AWRMP increases chloride WQOs in certain groundwater basins and reaches of the Upper Santa Clara River watershed, decreases the chloride

objectives in the eastern Piru Basin, and results in an overall reduction in chloride loading as well as water supply benefits.[3]

The AWRMP, which is described in detail in the GSWI Task 2B-2 Report,[4] consists of advanced treatment for a portion of the recycled water from the Valencia WRP; construction of a well field in the eastern Piru basin to pump out higher chloride groundwater; discharging the blended pumped groundwater and advanced treated recycled water to Reach 4A at the western end of the Piru basin at a chloride concentration not to exceed 95 mg/L; and conveyance of supplemental water and advanced treated recycled water to the Santa Clara River.

For further background information, please see RWQCB's November 24, 2008, staff report found in Appendix F4.22 of the Mission Village Final EIR (May 2011) (see, specifically, "Upper Santa Clara River Chloride TMDL Reconsideration and Conditional Site Specific Objectives for Chloride and Interim Wasteload Allocations for Sulfate and Total Dissolved Solids Staff Report," RWQCB, November 24, 2008).

(2) Valencia WRP NPDES Conditions and Operating Criteria

The SCVSD discharges tertiary-treated wastewater to the Santa Clara River from the Valencia WRP pursuant to Order No. R4-2009-0074 and NPDES Permit No. CA0054216.[5] The Valencia WRP has a current design capacity of 21.6 million gallons per day (mgd) and serves an estimated population of 162,661.[6]

The Valencia WRP is part of the SCVSD's regional system that also includes the Saugus WRP. The regional system allows biosolids, solids, and excess influent flows from the Saugus WRP to be diverted to the Valencia WRP for treatment and disposal. The Valencia WRP currently receives wastewater from the City of Santa Clarita and unincorporated areas of Los Angeles County. The wastewater is a mixture of pretreated industrial and residential wastewater.

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3 Los Angeles Regional Water Quality Control Board (LARWQCB), 2008. Upper Santa Clara River Chloride TMDL Reconsideration, Conditional Site Specific Objectives for Chloride, and Interim Wasteload Allocations for Sulfate and Total Dissolved Solids Staff Report. November 24, 2008.

4 Geomatrix, 2008. Draft Task 2b-2 Report – Assessment of Alternatives for Compliance Options Using the Groundwater/Surface Water Interaction Model Upper Santa Clara River Chloride TMDL Collaborative Process.

5 Los Angeles Regional Water Quality Control Board, 2009. Order No. R4-2009-0074 (NPDES No. CA0054216), Waste Discharge Requirements for the Santa Clarita Valley Sanitation District of Los Angeles County, Valencia Water Reclamation Plant Discharge to Santa Clara River.

6 Los Angeles Regional Water Quality Control Board, 2009. Fact Sheet for Order No. R4-2009-0074 (NPDES No. CA0054216), Waste Discharge Requirements for the Santa Clarita Valley Sanitation District of Los Angeles County, Valencia Water Reclamation Plant Discharge to Santa Clara River.

Recently, however, Ventura County and the Ventura County Agricultural Water Quality Coalition have expressed concerns to the RWQCB over a perceived lack of progress by the SCVSD for compliance with the chloride TMDL. The SCVSD responded to those claims by letter to the RWQCB, dated May 9, 2011 (a copy of this letter is presented in Mission Village Final EIR (October 2011), Appendix F4.22).

Pertinent excerpts from SCVSD's May 9, 2011 letter to the RWQCB are provided below:

> "[T]he stakeholder-led process that developed the original ACP was based on the best available information at the time and was approved by the Regional Board under Resolution R4-2008-012. In the 2.5 years since then, water quality at the Los Angeles/Ventura County line where the beneficial use must be protected has been generally in compliance with the Site Specific Objective (SSO) for chloride of 117 mg/L (See [May 9, 2011 letter] Figure 2). This is especially remarkable given the fact that the period of 2007 through March 2011 was a drought.[7] This improvement can be attributed to removal of automatic water softeners and improved quality of imported water.
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> Historically, chloride levels in the Santa Clara River at this location have been much higher due in part to high levels of chloride in imported State Water Project deliveries during drought periods. The local State Water Project (SWP) water wholesaler, the Castaic Lake Water Agency (CLWA) has provided new information regarding the assumptions of future water quality in imported SWP water. CLWA has indicated that changes in SWP operation due to recent Biological Opinions for the protection of endangered species (Wanger Decision) and completion of water banking programs have and will continue to result in lower peak chloride levels in the imported water delivered to the Santa Clarita Valley. This is evidenced in the data ([May 9, 2011 letter] Figure 3) which indicate that chloride levels in imported water were as high as 140 mg/L in 1987-1992, only reach the low 80's during the most recent drought (2007-2011). This indicates that some elements of the ACP may no longer [be] needed since the original ACP was designed to provide compliance with the Chloride TMDL assuming the worst observed conditions from the 1987-1992 drought that are not likely to repeat themselves....
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> The Sanitation District has already done considerable work in developing the preliminary elements of a Revised ACP for Regional Board and Ventura County stakeholder consideration. Immediately following the service charge hearings in July 2010, during which rates to support chloride reduction facilities were not approved, the Sanitation District met with CLWA and local water agencies in order to validate the predictions of improved future SWP water quality. The Sanitation District believes this will enable compliance with the SSOs adopted by the Regional Board in 2008 under future hydrological conditions and provide a similar level of water quality and water supply benefits as the original ACP, without the need for costly and energy-intensive advanced wastewater treatment facilities (Reverse Osmosis or RO). Elimination of RO

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7 In 2008, Governor Arnold Schwarzenegger signed Executive Order S-06-08, which proclaimed a condition of statewide drought beginning in 2007. In March 2011, Governor Jerry Brown issued a proclamation declaring the statewide drought at an end.

from the ACP will also eliminate the need for associated brine disposal and RO permeate conveyance facilities. This will reduce the construction impacts and energy intensity of the compliance project. The Revised ACP is fully outlined in the Sanitation District's May 2, 2011 submittal to the Regional Board....

The Sanitation District continues to vigorously enforce the automatic water softener ban in an attempt to remove the remaining units. Furthermore, the Sanitation District is moving forward with an evaluation of future SWP water quality as suggested by the Regional Board. As you recall, the Sanitation District met with Regional Board staff to discuss conditions under which the Regional Board would consider new alternatives for compliance with the Chloride TMDL. The feedback received from the Regional Board indicated that any Chloride TMDL compliance alternative would have to provide similar benefits as the original ACP in order to justify water quality objectives in the range of the conditional SSOs adopted by the Regional Board in December 2008. The Regional Board also indicated additional scientific studies supporting the predicted improvements to future SWP water quality would be required in order for the Regional Board to consider revisions to the Chloride TMDL based on these predictions. Accordingly, the Sanitation District funded a study conducted by the CLWA to provide the required scientific basis to support the predictions of improved SWP water quality. In addition, the Santa Clarita Valley water agencies are evaluating changes in groundwater management practices that would limit chloride levels in the groundwater portion of the local water supply. In combination, these changes are likely to result in maximum chloride levels of 80-85 mg/L in the overall water supply to the community, which would enable the Sanitation District to meet the 2008 conditional SSOs through the Revised ACP proposed by the Sanitation District.

The Sanitation District expects the CLWA study to be completed by early 2012 and, if the results are favorable, the Sanitation District proposes to evaluate the Revised ACP using the GSWI Model and prepare SSO and anti-degradation studies in support. As discussed in the May 2, 2011 report, the Sanitation District proposes to confirm feasibility of the Revised ACP and establish revised regulatory requirements through a collaborative process. These steps would allow finalization of the Revised ACP, further development of the facilities plan, completion of associated CEQA analysis, and implementation of the final ACP....

[T]he SSOs adopted by the Regional Board were conditioned on implementation of the original ACP. The Chloride TMDL is clear in that if these criteria are not met, the existing water quality objectives in the Basin Plan revert back to 100 mg/L. Pending the results of the Sanitation District's studies, the Sanitation District has requested the Regional Board reopen the Chloride TMDL to incorporate the Revised ACP. This likely cannot happen until 2012 after the studies are completed and the Regional Board has reviewed them. Therefore, no action is required by the Regional Board to rescind the conditional SSOs adopted in 2008 at this time.

Further, the requests by Ventura County stakeholders to impose immediate effluent limits of 100 mg/L in the Sanitation District's NPDES permits is inappropriate as this would go far beyond the need to protect the beneficial uses of the river. The Literature Review Evaluation study conducted as part of the Chloride TMDL found that a

protective range for salt sensitive agricultural crops from 100 – 117 mg/L for chloride in irrigation water. Chloride levels in the Sanitation District's Saugus and Valencia Water Reclamation Plant discharges are typically 15-20 mg/L higher than chloride levels in the Santa Clara River near the point of compliance. It is very clear that dilution occurs between the discharges and the point of use over the long term. Failing to consider this fact would result in overstringent regulation. Specifically, imposing effluent limits of 100 mg/L for the WRPs would require large expenditures of public funds without providing additional protection to beneficial uses. This would also result in substantially more environmental impacts associated with the construction of facilities to convey and dispose of brine and the greenhouse gas emissions from the energy needed to operate the necessary treatment and disposal facilities.

Compliance with a strict 100 mg/L chloride effluent limits requires implementation of advanced treatment facilities that would require considerable time for planning, design and construction. The Sanitation District could not immediately comply and would in fact need a time extension from the 2016 date contemplated in the Chloride TMDL for compliance with 100 mg/L. The original Chloride TMDL Implementation Schedule provided an eight-year period for the planning, design and construction of the required facilities. In 2006, the Regional Board reduced the Chloride TMDL implementation period but kept intact the eight-year period required for planning, design and construction of the required facilities. In 2008, the original ACP, which included a smaller-scale advanced treatment facility and local brine disposal, allowed the Chloride TMDL implementation schedule to be revised to include only six years for planning, design and construction of the required facilities. If the Regional Board requires 100 mg/L as an effluent limit, the Sanitation District will likely need eight years to comply.

The Sanitation District must ensure sufficient funding to maintain continued operation of its existing treatment facilities to protect public health and the environment. Due to the strong public opposition to raising service charge rates to pay for implementation of Chloride TMDL compliance projects, the Sanitation District declined to adopt any increase in service charge rates as necessary to cover existing operations and maintenance costs for its facilities. In order to ensure adequate funding for these costs, it was necessary to separate the rate increase necessary for these additional expenses to facilitate public understanding of the difference between the rate increases needed for existing facilities with the rate increases needed for Chloride TMDL compliance.

The Sanitation District fully understands the necessity of future rate increases to implement Chloride TMDL compliance measures. However, as the Sanitation District continues to work on developing the Revised ACP, there remains considerable uncertainty as to cost. The Sanitation District is unable to propose increased service charge rates until additional work is completed....

As indicated above, the Sanitation District has made considerable progress in reducing chloride levels in its WRP discharges to the Santa Clara River. As shown in [the May 9, 2011 letter] Figure 1, chloride levels in the Saugus and Valencia WRPs have been reduced from approximately 190 mg/L in 2002 down to approximately 125 mg/L in 2011, a decrease of approximately 65 mg/L. During the same period, chloride in SWP water

> averaged 83 mg/L in 2002 down to 72 mg/L in 2011, a decrease of only 11 mg/L. Much of the decrease in chloride levels is a direct result of the Sanitation District's efforts.
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> Additionally, chloride levels in SWP water during the most recent drought, 2007 to 2010, averaged approximately 75 mg/L, whereas chloride levels during the previous statewide drought, 1987 to 1992, averaged nearly 110 mg/L. CLWA has indicated that this is a result of changes in SWP operation due to recent Biological Opinions for the protection of endangered species (Wanger Decision) and completion of water banking programs along the SWP." (See May 9, 2011 letter, Attachment 1, pp. A1 through A-8.)

The above information sets forth the SCVSD's progress to date since the chloride TMDL was adopted. Based on the above, the SCVSD has provided estimates and time frames for completion of the work necessary in devising a revised ACP. These efforts are ongoing.

On May 27, 2011, the Los Angeles RWQCB issued administrative Notices of Violation to SCVSD regarding the Valencia and Saugus WRPs. The RWQCB notified SCVSD by letter that it was out of compliance with the administrative requirements established in Order Nos. R4-2009-0074 (Valencia WRP) and R4-2009-0075 (Saugus WRP) for not completing Task 17(a) in Attachment K of the Orders. Task 17(a) requires completion of a Wastewater Facilities Plan and programmatic EIR for facilities to comply with final permit effluent limits for chloride. The RWQCB's letters stated that the SCVSD was to respond in writing by June 27, 2011.

On June 27, 2011, the SCVSD responded in writing to the RWQCB. In the response, the SCVSD committed to complying with all applicable legal and regulatory requirements, including completing Task 17(a) of the Upper Santa Clara River Chloride TMDL implementation schedule by recommending to its Board of Directors at the next regularly scheduled Board meeting that staff prepare a Wastewater Facilities Plan and EIR for facilities to comply with a final effluent chloride limit of 100 mg/L at the point of discharge and begin design of the facilities. On July 26, 2011, the SCVSD Board of Directors approved the staff recommendation.

As part of the June 27 SCVSD response, and in an earlier May 2, 2011 letter to the RWQCB, SCVSD stated that it believes that an alternative compliance approach that incorporates facilities different from those facilities previously identified in the AWRMP, or ACP, which respond to changed chloride conditions as of 2011 would fully protect all designated beneficial uses in the Santa Clara River watershed. The changed conditions outlined in the SCVSD response include:

- Chloride levels in the Upper Santa Clara River have improved significantly since 2009, in part as a result of court-imposed pumping restriction on State Water Project (SWP) operations, coupled with implementation of groundwater banking and pump back operations along the SWP aqueduct. Peak SWP chloride concentrations at Castaic Lake during drought conditions have been reduced from historical values exceeding 100 mg/L to a current range of 80 – 85 mg/L.

- SCVSD has achieved a significant reduction of effluent chloride levels through the water softener renewal program. As a result of this program and the improved SWP water quality, effluent chloride levels have dropped approximately 70 mg/L since 2003. Further actions by the SCVSD, including a water softener ban enforcement program which has been initiated and the commitment to upgrade the Valencia and Saugus WRPs to ultraviolet disinfection, will further lower effluent chloride levels by 10 mg/L to 15 mg/L.

- Surface water chloride levels at the County line averaged 120 mg/L in 2009, the final year of a 4-year drought, 111 mg/L in 2010, and 101 mg/L as of May 2011. The Literature Review Evaluation for the Upper Santa Clara River identified a chloride level of 117 mg/L as protective of the salt-sensitive agricultural use.

The SCVSD believes that these changed conditions will show that it is more environmentally and economically sound to implement an alternative compliance approach, rather than facilities previously identified in the AWRMP or ACP, in meeting a 100 mg/L final effluent limit. As part of this effort, the SCVSD also intends to perform the modeling and scientific and technical studies necessary to demonstrate the adequacy of an alternative compliance approach and to request reopening of the chloride TMDL at a later time based on the analysis in those studies.

Nonetheless, the SCVSD has committed to immediately initiate efforts to complete a Wastewater Facilities Plan and EIR for facilities to comply with a final effluent chloride limit of 100 mg/L and begin design of the facilities. The SCVSD also estimates that it will complete the Wastewater Facilities Plan and EIR by December 31, 2012.

In order to comply with the chloride TMDL and the final effluent chloride limit of 100 mg/L, the SCVSD will likely need to add facilities because existing treatment processes do not provide chloride removal. No decision has been made regarding how the SCVSD will achieve compliance with the chloride TMDL; however, the long-term compliance schedule established in RWQCB's revised chloride TMDL Resolution No. R4-2008-12 (December 11, 2008) allows time for attaining compliance.[8]

In the interim, at the October 4, 2011 public hearing concerning the Landmark Village project, Stephen Maguin, Chief Engineer, SCVSD, responded to Supervisor Antonovich's question as to whether the existing Valencia WRP could be temporarily used to treat the discharge from Newhall Ranch project wastewater until such time as the first phase of the Newhall Ranch WRP is constructed if SCVSD is operating under the administrative notices of violation. Mr. Maguin responded, stating that SCVSD may temporarily serve Newhall Ranch project wastewater (as anticipated by the Interconnection Agreement) and that the administrative notice of violation for the Valencia WRP was over the Wastewater Facilities

8 The WLA-based final effluent limit for chloride becomes operative 11 years after the effective date of the Upper Santa Clara River Chloride TMDL (5/4/2016).

Plan and associated EIR (CEQA document). Mr. Maguin added that there is no water quality violation currently occurring and that SCVSD is presently meeting with the RWQCB to resolve that notice of violation, but that it is unrelated to the recommended interim connection for the Newhall Ranch projects.[9]

As stated above, the SCVSD will treat the wastewater from the first 6,000 dwelling units within the Specific Plan (up to 1.6 mgd) at the Valencia WRP, as needed, pursuant to the 2002 Interconnection Agreement. This treatment would occur until such time as the first phase of the Newhall Ranch WRP is constructed.

To address chloride in the Newhall Ranch Specific Plan wastewater discharges in the interim period, the applicant has committed to constructing chloride reduction facilities. Treated effluent from the Valencia WRP would be piped to the proposed demineralization site (using reverse osmosis or equivalent). Treated effluent would be piped back to the Valencia WRP and blended with treated effluent so that up to approximately 6,000 dwelling units (approximately 1.6 mgd) of effluent generated by Newhall Ranch Specific Plan in the interim condition would be discharged at less than 100 mg/L for chloride. The brine by-product of the chloride reduction process would be piped within the project utility corridor north along The Old Road, west on Henry Mayo Drive, and north on Commerce Center Drive, to the brine disposal well facility, located in the Valencia Commerce Center, north of Castaic Creek. The piping north of the utility corridor along Commerce Center Drive also would be installed within the existing road right-of-way. The piping needed to transport effluent from the demineralization facility to the injection wells will be sized to the satisfaction of the SCVSD. The applicant has applied to USEPA for approval to construct the brine injection well facility. Please see the Mission Village Final EIR (October 2011), Topical Response 4: Revised Project Design, for a further description and analysis of the interim chloride reduction facilities.

6. EXISTING CHLORIDE CONCENTRATION AT VALENCIA WRP

The SCVSD completed a detailed and comprehensive study of the sources of chloride loading in the Santa Clarita Valley.[10] Subsequently, the RWQCB and County Sanitation Districts staff analyzed chloride

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9 Please see Meeting Transcript of the Los Angeles County Board of Supervisors, October 4, 2011, p. 40, which is available for public review and inspection upon request to the County Department of Regional Planning and incorporated by reference.

10 Sanitation Districts of Los Angeles County, *Santa Clarita Valley Joint Sewerage System Chloride Source Report*, October 2002. The year 2001 was used as a basis for the study.

sources in the Upper Santa Clara River watershed.[11] These analyses utilized mass balance techniques to identify and quantify chloride loads from imported water and residential, commercial, industrial, and WRP sources.

These reports found that the chloride in Valencia WRP effluent is comprised of two main sources: (1) chloride present in the potable water supply; and (2) chloride added by residents, businesses, and institutions in the Valencia WRP service area. Potable water in the Santa Clarita Valley is derived from two sources: imported water delivered under the State Water Project (SWP) and local groundwater. The chloride concentration in these two sources varies depending on a number of factors, most notably rainfall patterns. The chloride concentrations in Santa Clarita Valley water supplies that include SWP water are variable and, during times of extended dry weather or drought, exceed the 100 mg/L Basin Plan objective for the Santa Clara River. Chloride concentrations in Santa Clarita Valley water supplies ranged from 52 mg/L to 85 mg/L from 2002 to 2010.[12]

The chloride load added by users can be further divided into two parts: brine discharge from self-regenerating water softeners (SRWS) and all other loads added by users. Excluding chloride concentration in the water supply, non-SRWS sources of chloride include: residential, commercial, industrial, infiltration, and wastewater disinfection.

Based on the SCVSD's 2002 chloride source study, once this water was delivered to homes and businesses for interior use, the use of SRWS added an additional 78 mg/L of chloride concentration to the water supply before it was disposed of in the sewer for treatment. This high chloride addition suggested that source controls could be a significant means for improving water quality in the Santa Clara River. Based upon the results of the 2002 study, the SCVSD adopted an ordinance prohibiting the installation and use of new SRWS in 2003. Further, SCVSD implemented Automatic Softener Rebate Programs in 2005 (Phase I) and 2007 (Phase II), followed by the 2009 Ordinance that required removal and disposal of all SRWS installed in the SCVSD's service area. These efforts have resulted in significant reduction of chloride generated by SRWS. Based on the SCVSD's "2010 Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan," (November 2010), concentration of chloride produced by SRWS was 6 mg/L in the SCVSD final effluent in the first half of 2010. SCVSD's goal is to completely eliminate SRWS from the SCVSD's service area.

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11 Los Angeles Regional Water Quality Control Board (LARWQB), 2008. Upper Santa Clara River Chloride TMDL Reconsideration, Conditional Site Specific Objectives for Chloride, and Interim Wasteload Allocations for Sulfate and Total Dissolved Solids Staff Report. November 24, 2008.

12 Sanitation Districts of Los Angeles County, *2010 Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan,* November 2010, Table 3.9-2, pg.3-21.

Other residential sources of chloride include human waste, laundering, other cleaning activities, and swimming pool filter backwash; this loading adds approximately 22 mg/L of chloride in the SCVSD final effluent.[13] The combined chloride load from commercial, industrial, and hauled non-industrial waste represents approximately 7 percent of the overall chloride concentration in the SCVSD's final effluent (which corresponds to 10 mg/L chloride).[14] Disinfection practices at the SCVSD's Valencia WRP contribute about 12 mg/L, representing approximately 9 percent of the total effluent chloride concentration.[15]

7. EXPECTED CHLORIDE CONCENTRATION IN MISSION VILLAGE AND LANDMARK VILLAGE WASTEWATER

The Mission Village and Landmark Village projects are expected to produce wastewater chloride concentrations similar to those in the existing SCVSD service area. The Mission Village and Landmark Village projects will not use SWP water, but will be supplied with local groundwater from the Alluvial aquifer with an average chloride concentration of 82 mg/L (concentrations ranging from 74 to 96 mg/L have been measured in E Wells[16]), similar to the chloride concentrations in Santa Clarita Valley water supplies from 2002 to 2010.

As described in the Mission Village Draft EIR, Section 4.8, Water Service, the Mission Village project potable water demand would be met by the Valencia Water Company through the use of Newhall's rights to 7,038 acre-feet per year (afy) of groundwater from the Alluvial aquifer, which is presently used by Newhall for agricultural irrigation. In addition, due to project conditions, the amount of groundwater that will be used to meet the potable demands of the Newhall Ranch Specific Plan, including the Mission Village project, cannot exceed the amount of water historically and presently used by Newhall for agricultural uses. Therefore, no net increase in groundwater use will occur with implementation of this project pursuant to the Specific Plan.

If the Newhall Ranch WRP is not operating at the time of Mission Village project occupancy, the project's non-potable water demand would be met through the use of recycled water from the Valencia WRP. Accordingly, the proposed project's water demand would be met by relying on two primary sources of

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13 Sanitation Districts of Los Angeles County, *2010 Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan*, November 2010, Table 3.9-2, pg.3-21.

14 Sanitation Districts of Los Angeles County, *2010 Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan*, November 2010, Table 3.9-2, pg.3-21.

15 Sanitation Districts of Los Angeles County, *2010 Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan*, November 2010, Table 3.9-2, pg.3-21.

16 Mission Village Draft EIR, **Appendix 4.8** and **Appendix 4.10**.

water supply, namely, Newhall's agricultural water supplies and recycled water supplied by the Newhall Ranch WRP or the existing Valencia WRP. Because these two independent water sources meet the water needs of the proposed project, no potable water would be needed from the existing or planned water supplies of the Castaic Lake Water Agency (CLWA), including imported water from CLWA's SWP supplies.

While the Mission Village and Landmark Village projects are part of the potable water system for the entire Specific Plan, these projects would not rely on Nickel water to satisfy their potable water demands. As reported in the Newhall Ranch Revised Additional Analysis, Section 2.5, Water Resources (Volume VIII, May 2003), the Nickel water would only be needed on the Specific Plan site in years when the Newhall agricultural water has been used (i.e., 7,038 acre-feet per year), which is estimated to occur after approximately the 21st year of Newhall Ranch project construction.

Furthermore, Newhall is conditioned to prohibit "self-regenerating water softeners," or SRWS, in Newhall Ranch and SCVSD staff will recommend that the NRSD enact a ban similar to the SRWS ban in Santa Clarita Valley. Thus, this significant source of chloride will not be present in the wastewater from the Mission Village and Landmark Village projects.

As shown in Mission Village Draft EIR, Section 4.9, Table 4.9-1 Mission Village Wastewater Generation, residential land uses will generate about 73 percent of the total wastewater generated and commercial land uses would generate the remaining 27 percent. Based on the chloride concentrations identified in the *2010 Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan*, the overall chloride concentration in the Mission Village wastewater can be calculated as: (percent residential wastewater generated multiplied by residential concentration) + (percent commercial wastewater generation multiplied by commercial concentration) = total chloride concentration. The average chloride concentration in the Mission Village project's groundwater supply is approximately 82 mg/L,[17] the non-SRWS residential chloride concentration is 31 mg/L above water supply concentration, and the commercial concentration accounts for 33 mg/L above the water supply concentration.[18] Given these parameters, the concentration of chloride in the Mission Village and Landmark Village interim wastewater discharges to the Valencia WRP would be about 113 mg/L.[19] [20] After consideration of the

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17 Mission Village Draft EIR, **Appendix 4.8** and **Appendix 4.10**.

18 Sanitation Districts of Los Angeles County, *2010 Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan*, November 2010, pg.3-14.

19 [0.76*(82+31)] + [0.24*(82+33)] = 113.0 mg/L chloride

20 The concentration of chloride in the wastewater discharges for both Landmark Village and Mission Village are the same because the same relative amount of residential and non-residential land uses are proposed.

chloride concentration attributable to disinfection practices at the Valencia WRP (12 mg/L[21]), the Valencia WRP effluent concentration of treated Mission Village and Landmark Village wastewater would be approximately 125 mg/L.

In comparison, the average Valencia WRP effluent chloride concentration from 2000 through 2010 was 159 mg/L, with a maximum of 195 mg/L in 2003 and minimum of 128 mg/L in 2010.[22] Thus, the interim discharge of wastewater from the Valencia WRP due to the Mission Village and Landmark Village projects' wastewater would have similar chloride concentrations (assuming complete elimination of SRWS from SCVSD's service area), or would lower chloride concentrations in discharges from the Valencia WRP (if SRWS are not completely eliminated).

Thus, the interim discharge of wastewater from the Valencia WRP due to the Mission Village and Landmark Village projects' wastewater would have a less than significant impact on chloride in the Santa Clara River because: (a) the discharge of wastewater from the Valencia WRP has been demonstrated to be similar as between the Mission Village and Landmark Village projects' wastewater and the wastewater from existing Santa Clarita Valley communities; (b) the use of the Valencia WRP for treatment of Mission Village and Landmark Village wastewater (i.e., first 6,000 dwelling units) would be temporary until construction of the Newhall Ranch WRP; and (c) the Valencia WRP has sufficient capacity to accommodate the interim wastewater discharge from the first 6,000 dwelling units from Newhall Ranch's Mission Village and Landmark Village projects.

8. REFERENCED DOCUMENTS

The documents used in preparing this response, as referenced in the footnotes, are available for public review and inspection upon request to the County's Department of Regional Planning and are incorporated by this reference.

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21 Sanitation Districts of Los Angeles County, *2010 Chloride Source Identification/Reduction, Pollution Prevention, and Public Outreach Plan*, November 2010, Table 3.9-2, pg.3-21.

22 Data provided by Santa Clarita Valley Sanitation Districts.